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Independent Evaluation of Comprehensive Primary Care Plus (CPC+):

Third Annual Report Appendices

January 2021

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Independent Evaluation of Comprehensive Primary Care Plus (CPC+)

Third Annual Report Appendices

January 2021

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CHAPTER 3 APPENDIX

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3.A. Payer Survey

This Appendix describes the CPC+ Payer Survey used to assess the details of payer partners' involvement in Comprehensive Primary Care Plus (CPC+). It details survey fielding (Section 1), sampling methods (Section 2), survey content and measures (Section 3), and data tables (Section 4). Section 5 contains the Program Year (PY) 3 survey instrument.

3.A.1. Survey fielding

A. Timing of survey administration

Mathematica administered the first wave of the CPC+ Payer Survey during PY 1, from September through December 2017, 9 to 12 months after CPC+ began (Table 3.A.1). We administered the second and third waves of the annual survey from September through December (or the following January) of PYs 2 and 3. The survey was fielded to payers in regions that began CPC+ in 2017 and 2018, but this Appendix reports information about the surveys administered to payers partnering in the 2017 regions only.

Table 3.A.1. Survey administration dates

Program year	Survey wave	Fielding dates
PY 1	Wave 1	September–December 2017
PY 2	Wave 2	September 2018–January 2019
PY 3	Wave 3	September–December 2019

PY = Program Year.

B. Survey mode, fielding procedures, length, and incentive

Across all three survey waves, we administered the CPC+ Payer Survey as a web survey. At the start of CPC+ and annually afterwards, CMS provided Mathematica with a list of contacts—including name and email address for each CPC+ payer, typically someone from the payer's senior leadership who was knowledgeable about the organization's decision making, for example, the director of quality programs.

We administered the survey over a 13-week period. At the start of fielding, we sent the payer contacts[1] an email invitation to complete the survey and a link to access it. We conducted this initial outreach via email, and made telephone reminder calls later in the field period to any payers that had not completed the survey by Week 6 (Table 3.A.2).

The survey required 30 to 60 minutes to complete, depending on the number of questions each payer partner had to answer, and—in later rounds—how much data we could prepopulate from

[1] In PY 3, we also emailed the survey invitation to the person who completed the survey the previous year, if that was someone different from the primary payer contact for PY 3.

prior rounds.[2] Payers were informed that, although their survey responses would be shared with CMS, we would not share their survey information with any other payers or with any primary care practices. We did not offer an incentive to complete the survey. Payers were not required to complete the survey, but CMS strongly encouraged them to respond.

Table 3.A.2. Fielding procedures for PY 3 CPC+ Payer Survey[a]

Week of field period	Fielding activity
Week 1	Initial web survey email invitation mailing
Week 3	Email reminder
Week 5	Second email reminder
Week 6	Telephone reminder call
Week 8	Second telephone reminder call
Week 10	Telephone reminder calls conducted by CMS
End of Week 13	Payer survey data collection ended

[a] Similar fielding plans were used for the PY 1 and PY 2 CPC+ Payer Surveys.

3.A.2. Sampling, sample sizes, and response rates

For each survey wave, we administered the survey to all payer partners involved in CPC+ at the time of survey administration (Table 3.A.3). We obtained response rates between 84 and 95 percent in each wave.

Table 3.A.3. CPC+ Payer Survey sample sizes and response rates

	PY 1	PY 2	PY 3
Number of CPC+ payer partners			
Partnering in CPC+ at the time of the survey[a]	63	64	60
Sent surveys	63	64	60
Returned surveys	52[b]	59	55
In analysis sample[c]	60[b]	54	53
Response rate (percentage, unweighted)	95.2	84.3	88.3

[a] One payer partners in eight CPC+ regions and fills out only one survey because they follow a common approach in all eight regions. During data cleaning, we duplicate survey responses for each region in which this payer partners, and we count them separately.

[b] Only 52 of 60 payer partners responded to the PY 1 survey. However, we interviewed all payer partners in PY 1 and used responses to these interviews to impute survey responses for the 8 payers that did not respond to the survey; 3 other payers withdrew from CPC+ before we conducted the interviews.

[c] Our analysis sample excludes payers that had zero attributed lives in each program year and therefore could not provide CPC+ supports.

CPC+ = Comprehensive Primary Care Plus; PY = Program Year.

[2] To reduce respondent burden for payers that responded to the PY 1 survey, we prepopulated their PY 2 survey with their previous answers, instructing them to review their prefilled answers, correct any that had changed, and answer any new survey questions. Similarly, in the PY 3 survey we prepopulated the answers previously submitted by any payer that had responded to the PY 1 or PY 2 survey.

3.A.3. Survey content

The CPC+ Payer Survey instrument was developed by Mathematica specifically for the purpose of this data collection effort. The PY 3 CPC+ Payer Survey content was largely the same as the PY 2 survey, and it built on the PY 1 survey with some key changes. The changes for the PY 2 survey included (1) refinements to how we described the payment approaches throughout many of the questions, as we learned from interviews that payer partners used different terminology to describe their approaches; and (2) seven additional questions focused on data feedback and concurrent primary care transformation initiatives. We made these changes to address the relatively large amount of missing data in the PY 1 survey. The PY 3 survey included questions regarding four general concepts (Table 3.A.4 details the questions in each of the survey's four sections):

1. **Payer partnership in CPC+.** Questions about how the payer is contracting with CPC+ practices and attributing members to CPC+ practices.
2. **Payers' approach to CPC+ payments**. Questions about the payers' payment approaches for CPC+ and primary care generally—including the type of payments the payers use for primary care practices, the extent to which payers provide care management fees and performance-based incentive payments to CPC+ practices, and the extent to which payers provide other types of payments such as shared savings, enhanced payments, and alternative to FFS payments to CPC+ and non-participating practices.
3. **Payers' approach to using and providing quality measures, data feedback, and technical assistance to primary care practices**. Questions about the extent to which payers use quality measures to calculate primary care payments and provide data feedback and technical assistance to CPC+ and non-participating primary care practices.
4. **How supports for primary care practices may have changed since partnering in CPC+.** Questions about whether payers have made changes to their primary care practice supports (e.g., the amount or frequency of payments to practices) since the start of CPC+, and if so, how much those changes may have been influenced by partnering in CPC+. This section was newly added to the PY 3 survey.

Table 3.A.4 lists the survey sections, survey question content, and number of survey questions per section.

Table 3.A.4. Content of the PY 3 CPC+ Payer Survey

Survey section	Content	Number of questions
A	**Payer partnership in CPC+** • Lines of business offered • Whether payers attribute or assign members to CPC+ practices • Length of lookback period • Payers' primary claims-based attribution methodology and the frequency with which payers rerun CPC+ attribution • Proportion of self-insured clients who participate in CPC+ and how they are recruited	9
B	**Payment approaches for CPC+** **Questions asked about all payment approaches:** • For each type of CPC+ payment (care management fees, performance-based incentive payments, shared savings payments, enhanced FFS payments, and alternative to FFS payments): – The proportion of practices that receive each payment – The regions in which each payment is provided to practices not participating in CPC+ – The lines of business in which payers offer each payment – Whether payers have different approaches to providing each payment to different practices or lines of business – Whether payers impose restrictions on how practices can use each payment – Whether there are expenses practices are not allowed to spend each payment on **Care management fees:** • Whether payers adjust care management fees based on patient factors, and, if so, which patient factors payers use to adjust care management fees • Whether care management fees are tied to practice performance factors, and, if so, which practice metrics or accreditation standards payers use to determine eligibility or adjust fees • Average per member per month (PMPM) care management payment and adjusted PMPM care management payment by tier for Track 1 and Track 2 **Performance-based incentive payments:** • Whether payers provide upfront performance-based incentive payments to CPC+ practices • Whether practices are subject to payment recoupments the following year if they do not meet prespecified quality or efficiency benchmarks • Whether payers have finalized performance-based incentive payment calculations based on practices' performance the previous year • Proportion of practices that qualified for performance-based incentive payments based on their performance the previous year	69

Table 3.A.4 *(continued)*

Survey section	Content	Number of questions
B (continued)	**Shared savings:** • Whether payers have finalized shared savings payments based on practices' performance the previous year • Proportion of practices that received shared savings payments based on their performance the previous year • Whether payers include downside risk sharing • The typical maximum percentage of savings and losses payers would share or pass on to practices • Whether payers use a minimum savings rate, and, if so, the rate they use • Whether payers made significant changes to their shared savings approach from the previous year, and if so, the significant changes payers made **Enhanced FFS** • Whether payers provide enhanced FFS payments based on practices' performance the previous year • Adjustments payers make when calculating enhanced FFS rates or alternative payment amounts for practices • The percentage by which payers adjust the FFS rate for participation in CPC+ or another primary care transformation initiative • The percentage by which payers adjust FFS payments for performance on utilization, cost, or quality metrics **Alternative to FFS:** • Whether payers receive prospective, alternative payments instead of some or all FFS payments for all, some, or no primary care services • The primary care-specific episodes for which practices are receiving prospective, alternative payments instead of some or all FFS payments • The primary care-specific episodes for which practices are receiving alternative or bundled payments • The maximum adjustment amount for alternative payments based on the following: participation in CPC+ or another primary care transformation initiative; utilization, cost, or quality metrics; and practices' tracks or tiers • The percentage of payments to primary care practices that are paid through FFS versus an alternative to FFS payment approach	

Table 3.A.4 *(continued)*

Survey section	Content	Number of questions
C	**Quality measures, data feedback, and technical assistance** • The metrics payers use to calculate primary care payments and risk-adjust those payments • The primary care-specific episodes payers use to calculate the amount of CPC+ payments or to determine if practices qualify for performance-based incentive payments • Whether payers share data feedback on cost, use, or quality with primary care practices, and the types of data included in their data feedback • The frequency with which payers provide data at the system, practice, practitioner, and patient levels, and the format payers use to share data feedback • Proportion of practices not participating in CPC+ that receive data feedback on their system, practice, practitioners, or patients • Regions in which practices not selected for CPC+ receive data feedback • How data feedback provided under other primary care programs compares to data feedback for CPC+ practices • Whether payers offer CPC+ practices technical assistance or practice coaching, and the types of assistance payers offer • Whether payers coordinate technical assistance for CPC+ practices with their regional learning network, and the regions in which this is done • Proportion of practices not participating in CPC+ that receive technical assistance, and how it differs from the technical assistance CPC+ practices receive • The supports or services payers offer to CPC+ practices and to CPC+ attributed patients • The types of alternative visits for which payers provide FFS reimbursement to primary care practices	15
D	**Prior and concurrent initiatives** • The changes payers have made to the primary care practice supports, and how much those changes were influenced by partnering in CPC+	2
Total number of questions	**--**	**95**

FFS = fee-for service; PY = Program Year.

3.A.4. Data cleaning and data tables

A. Data cleaning steps

In addition to standard data entry quality control and data quality checks, Mathematica also executed a few additional cleaning steps for the CPC+ Payer Survey each wave. The data cleaning steps for PY 3 included:

1. *Duplicated payers' responses to ensure payers operating in multiple regions had a completed survey for each region.* In PY 3, one payer operating in multiple regions requested to complete one survey to represent their responses for all regions in which they are partnering. We duplicated this payer's responses for each region. All other payers were asked to complete one survey for each region in which they were partnering.
2. *Revised responses for payers whose involvement in CPC+ was only as a Medicaid managed care organization (MCO).* In two regions, the Medicaid agencies set the payment policy for Medicaid MCOs in their respective states. If a payer was only participating in CPC+ as an MCO in these regions, we overwrote their responses to payment-related questions with the responses we received from the state Medicaid agencies, because the state Medicaid agencies predetermined all CPC+ payments related to participation for the MCOs.
3. *Revised responses for payers that made errors in their responses.* We reviewed each completed survey and compared responses to previous years' surveys. In some instances, we identified potential errors in payers' responses. In those cases, we reached out to the payer via email (1) to confirm our understanding of their response and suggest ways to change the response, or (2) to schedule a brief interview to discuss multiple responses. After a payer agreed with our suggested change, we updated the survey.
4. *Backcoding other responses.* A few survey questions allowed payers to provide "other" (free-text) responses if they felt they would like to elaborate on their approach beyond the response options in the survey. In many instances, we recoded those "other" responses because they did fit into one of the response options.

B. Software

We conducted all data cleaning using SAS version 9.4.

C. Data tables

This section presents data tables showing the responses of 53 of the 60 CPC+ payer partners that partnered with 2017 regions, were participating in CPC+ in PY 3, and responded to the PY 3 CPC+ Payer Survey. In the data tables, we present the number of payer partners that selected each response option and the relevant data statistics (e.g., percentage of payers, median response) for most questions in the PY 3 CPC+ Payer Survey. The exceptions were (1) questions that had fewer than 11 respondents due to fewer practices qualifying to respond to that question based on their responses to earlier questions, and (2) questions that asked payer partners to report the average per member per month care management payments by tiers and lines of business and

their minimum savings rate because we found that payer partners inconsistently interpreted the questions.

- Table 3.A.5 presents payer partners' responses to questions in Section A of the survey "Payer Partnership in CPC+".
- Tables 3.A.6 – 3.A.14 present payer partners' responses to questions in Section B of the survey "Payment approaches for CPC+".
- Tables 3.A.15 – 3.A.17 present payer partners' responses to questions in Section C of the survey "Quality Measures, Data Feedback, and Technical Assistance".
- Table 3.A.18 presents payer partners' responses to questions in Section D of the survey "Prior and Concurrent Initiatives".

D. Payer partnership in CPC+

Table 3.A.5. CPC+ payer partner participation: lines of business, attribution and self-insurance, Program Year 3

	n	%
Percentage of payers offering the following line(s) of businesses in 2019 (*select all that apply*)		
Commercial Insurance Plan(s)	34	64
Health Insurance Marketplace Plan(s)	22	42
State/Federal High-Risk Pools	3	6
Third Party Administrator (TPA) / Administrative Services Only (ASO)	30	57
Medicare Advantage	32	60
Medicaid/CHIP Managed Care Plan(s)	31	58
Medicaid Managed Care Organization (MCO) only	8	15
Medicaid/CHIP fee-for-service (FFS)	16	30
N	53	
How do you attribute or assign members to CPC+ practices? *(select all that apply)*		
Members select or are assigned to a primary care provider (typically at enrollment)	36	68
Members are attributed to a CPC+ practice using a claims-based attribution methodology	41	77
Other	15	28
N	53	

	n	Number of months
Among payers with claims-based attribution, how many months do you use for the look back period to attribute members to CPC+ practices?		
Primary look back period (1-48 months)		
Median		21
Minimum		6
Maximum		27
N	40	
If no visits during primary look back period, secondary look back period (0-48 months)		
Median		12
Minimum		0
Maximum		48
N	21	

	n	%
Among payers with claims-based attribution, what is your primary claims-based attribution methodology?		
Members are attributed to the primary care practice they visited most frequently during the look back period (i.e., plurality of visits)	30	75
Members are attributed to the primary care practice they last visited during the look back period	9	23
Other	1	3
N	40	
Among payers with claims-based attribution, how frequently do you rerun CPC+ attribution?		
Monthly	20	50
Quarterly	11	28
Twice a year	2	5
Yearly	7	18
Other	0	0
N	40	

Table 3.A.5 *(continued)*

	n	%
Among payers with claims-based attribution, can CPC+ practices appeal attribution of certain members?		
No	22	55
Yes	18	45
N	40	
Among payers with self-insured lines of business, how many self-insured clients participate in CPC+?		
All self-insured clients	4	14
Most self-insured clients	6	21
Some self-insured clients	15	54
No self-insured clients	3	11
N	28	
Among payers with self-insured lines of business, percentage of payers using given strategy for recruiting self-insured clients to participate in CPC+		
All self-insured clients are required to participate in CPC+	2	7
Self-insured clients are enrolled in CPC+ unless they opt out of participation	13	48
Self-insured clients can opt into CPC+ participation	12	44
N	27	

Source: Mathematica's analysis of the independent evaluation's PY 3 CPC+ Payer Survey.

Note: n = number of payers that selected each response option to the question; N = total number of respondents.

FFS = fee-for-service. MCO = managed care organization.

E. Payment approaches for CPC+

Table 3.A.6. CPC+ payer partner payments overview: payment approaches and payment metrics, Program Year 3

	n	%
Percentage of payers using a payment approach for any CPC+ practices in 2019 *(select all that apply)*		
Care management fees	51	96
Performance-based incentive payments or pay for performance	43	81
Shared savings model	32	60
Enhanced FFS payments	4	8
CPCP payments or capitation (partial or full) or global payments	12	23
Prospective bundled payments for primary-care focused episodes of care	0	0
Other	5	9
N	53	
Percentage of payers planning to use a payment approach for any CPC+ practices in 2020 *(select all that apply)*		
Care management fees	49	92
Performance-based incentive payments or pay for performance	42	79
Shared savings model	32	60
Enhanced FFS payments	6	11
CPCP payments or capitation (partial or full) or global payments	20	38
Prospective bundled payments for primary-care focused episodes of care	2	4
Other	5	9
N	53	
Percentage of payers providing…		
Any CPC+ payments	53	100
Any CPC+ payments for participation (care management fees)	52	98
Any performance-based CPC+ payments (performance-based incentive payment or pay for performance, shared savings model, and performance-adjusted enhanced FFS payments)	52	98
Any alternative to FFS payment in current year (CPCP payments, capitation or global payments, prospective bundled payments for primary-care focused episodes of care)	12	23
Any alternative to FFS payment planned for next year	20	38
N	53	
Among payers providing any CPC+ payments for participation, percentage of payers providing any CPC+ payments for participation with…		
CPC+ care management fees not tied to performance factors	32	62
CPC+ care management fees where practices have to meet performance benchmarks to be eligible for CMF	18	35
CPC+ care management fees where practices have to meet performance benchmarks to determine amount of CMF	6	12
CPC+ enhanced FFS adjusted based on participation in CPC+ or another primary care transformation	3	6
N	52	
Among payers providing any CPC+ payments for performance, percentage of payers providing any CPC+ payments for performance with performance-adjusted enhanced FFS		
Performance-adjusted enhanced FFS	1	2
N	52	
Among payers providing any alternative to FFS payments to CPC+ practices, percentage of payers offering pilot or full alternative to FFS CPC+ payment programs in 2019 based on information from 2019 payer interviews		
Pilot alternative to FFS	3	25
Full alternative to FFS	9	75
N	12	

Table 3.A.6 *(continued)*

	n	%
Are you using these metrics to calculate primary care payments? *(select all that apply)*		
Claims-based cost and utilization measures	48	91
Average cost for primary care specific episodes	1	2
Claims-based quality measures	40	75
Electronic Clinical Quality Measures (eCQMs)	23	43
Patient experience measures (e.g., CAHPS)	12	23
Other	3	6
N	53	
Among payers using each metric to calculate primary care payments, do you risk-adjust any of the following metrics?		
Claims-based cost and utilization measures	30	63
N	48	
Average cost for primary care specific episodes	s.s	s.s
N	s.s	
Claims-based quality measures	10	26
N	39	
Electronic Clinical Quality Measures (eCQMs)	1	5
N	22	
Patient experience measures (e.g., CAHPS)	s.s	s.s
N	s.s	
Other	s.s	s.s
N	s.s	
Among payers using average cost for primary care specific episodes to calculate primary care payments, what primary care-specific episodes are you using to calculate the amount of CPC+ payments or to determine if practices qualify for performance-based incentive payments in 2019? *(select all that apply)*		
Urinary tract infection	s.s	s.s
Cellulitis	s.s	s.s
HIV	s.s	s.s
Hepatitis C	s.s	s.s
Bronchiolitis and RSV pneumonia	s.s	s.s
Hemophilia	s.s	s.s
CAD and angina	s.s	s.s
Sickle cell	s.s	s.s
Hypotension	s.s	s.s
Dermatitis/urticarial	s.s	s.s
Upper respiratory infection (outpatient)	s.s	s.s
Attention-deficit/hyperactivity disorder (ADHD)	s.s	s.s
Oppositional defiant disorder (ODD)	s.s	s.s
Otitis Media	s.s	s.s
Depression	s.s	s.s
Anxiety	s.s	s.s
Headache	s.s	s.s
Low back pain	s.s	s.s
Asthma	s.s	s.s
Chronic obstructive pulmonary disease (COPD)	s.s	s.s
Perinatal care	s.s	s.s
Other	s.s	s.s
N	s.s	

Source: Mathematica's analysis of the independent evaluation's PY 3 CPC+ Payer Survey.

Note: n = number of payers that selected each response option to the question; N = total number of respondents. s.s. = Small sample. Cells with fewer than 11 responses have been suppressed.

CPCP = Comprehensive Primary Care Payments. FFS = fee-for-service. CAHPS = Consumer Assessment of Healthcare Providers and Systems.

Table 3.A.7. Proportion of primary care practices receiving care management fees from payers, among payers offering care management fees, Program Year 3

	CPC+ Track 1		CPC+ Track 2		Non-CPC+ primary care practices	
	n	%	n	%	n	%
How many practices are receiving care management fees?						
None	1	2	2	4	9	18
Some	3	6	2	4	26	51
Most	8	16	8	16	8	16
All	39	76	39	76	8	16
N	51		51		51	

Source: Mathematica's analysis of the independent evaluation's PY 3 CPC+ Payer Survey.

Note: n = number of payers that selected each response option to the question; N = total number of respondents.

Table 3.A.8. CPC+ payers' approach to care management fees, among payers offering care management fees to CPC+ practices, Program Year 3

	n	%
Among payers providing care management fees to both CPC+ and non-CPC+ practices, do you have a different approach to providing care management fees for CPC+ practices versus other primary care practices that are not participating in CPC+?		
Yes	5	12
No	37	88
N	42	
Among payers providing care management fees to both CPC+ Track 1 and Track 2 practices, do you have a different approach to providing care management fees for Track 1 CPC+ practices versus Track 2 CPC+ practices?		
Yes	15	31
No	33	69
N	48	
In 2019, for which line(s) of business are you offering your CPC+ care management fees? *(select all that apply)*		
Commercial Insurance Plan(s)	30	59
Health Insurance Marketplace Plan(s)	17	33
State/Federal High-Risk Pools	0	0
Third Party Administrator (TPA) / Administrative Services Only (ASO)	21	41
Medicare Advantage	17	33
Medicaid/CHIP Managed Care Plan(s)	26	51
Medicaid/CHIP fee-for-service (FFS)	6	12
N	51	
Among payers providing care management fees across multiple lines of business, do your 2019 CPC+ care management fees for CPC+ practices differ by line of business?		
Yes	21	68
No	10	32
N	31	
Do you adjust your care management fees based on any patient factors such as demographics, patient risk score, patient category, or patient health status?		
Yes	26	51
No	25	49
N	51	
Among payers adjusting care management fees based on patient factors, what patient factors do you use to adjust your care management fees? *(select all that apply)*		
Adjust for demographic characteristics (such as age or sex)	3	12
Adjust for patient risk score (such as Hierarchical Condition Category [HCC] risk score, 3M Clinical Risk Groups [CRG], Milliman Advanced Risk Adjusters [MARA], or DxCG)	23	88
Adjust for patients' prior cost or service use	0	0
Other	6	23
N	26	
In addition to CMS CPC+ requirements, do you use any factors tied to practice or practitioner performance to determine… *(select all that apply)*		
If practices are eligible to receive any care management fees	18	35
The amount of care management fees a practice may receive	6	12
None of the above	32	63
N	51	

Table 3.A.8 *(continued)*

	n	%
Among payers using practice or practitioner performance factors to determine practice eligibility to receive care management fees, which metrics or accreditation standards do you use to determine practice eligibility to receive care management fees? *(select all that apply)*		
Practice performance on utilization metrics	11	61
Practice performance on cost metrics	10	56
Practice performance on quality metrics	13	72
Achieving Patient-Centered Medical Home (PCMH) recognition or by PCMH tier	4	22
Other	2	11
N	18	
Among payers using practice or practitioner performance factors to determine the amount of care management fees a practice may receive, which metrics or accreditation standards do you use to adjust the specific care management fee amount a practice receives? *(select all that apply)*		
Practice performance on utilization metrics	s.s	s.s
Practice performance on cost metrics	s.s	s.s
Practice performance on quality metrics	s.s	s.s
Achieving Patient-Centered Medical Home (PCMH) recognition or by PCMH tier	s.s	s.s
Other	s.s	s.s
N	s.s	
Among payers using practice or practitioner performance factors to determine the amount of care management fees a practice may receive, percentage of 2019 care management fees dependent on practice performance for a typical CPC+ practice		
Median	s.s	s.s
Minimum	s.s	s.s
Maximum	s.s	s.s
N	s.s	
Among payers providing care management fees to both CPC+ Track 1 and Track 2 practices, are your 2019 care management fees different for Track 1 and Track 2 CPC+ practices?		
Yes	27	56
No	21	44
N	48	
Do you impose any restrictions on how practices can use the CPC+ care management fees you provide them?		
Yes	1	2
No	50	98
N	51	
Among payers that impose restrictions on how practices use care management fees, what expenses are practices NOT allowed to spend CPC+ care management fees on? *(select all that apply)*		
Our restrictions are identical to CMS (all the options below are NOT allowed)	s.s	s.s
Bonus payments to primary care practitioners or staff	s.s	s.s
Payments to specialists	s.s	s.s
Contracted services without practice oversight, such as from a care management company	s.s	s.s
Health information technology	s.s	s.s
Fees for accreditation	s.s	s.s
Durable medical equipment	s.s	s.s
Diagnostic and imaging equipment	s.s	s.s
Medications	s.s	s.s
Practitioner or staff training or continuing medical education credits	s.s	s.s
Income and business tax payments	s.s	s.s
Other	s.s	s.s
N	s.s	

Table 3.A.8 *(continued)*

	n	%
Among payers providing care management fees to CPC+ Track 1 and non-CPC+ practices, how do your care management fee payment levels for other non-CPC+ practices compare to your payments for Track 1 CPC+ practices?		
Payments under other programs are generally higher than CPC+ payments for Track 1	2	6
Payments under other programs are about the same as CPC+ payments for Track 1	30	88
Payments under other programs are generally lower than CPC+ payments for Track 1	2	6
N	34	

Source: Mathematica's analysis of the independent evaluation's PY 3 CPC+ Payer Survey.

Note: n = number of payers that selected each response option to the question; N = total number of respondents. s.s.=Small sample. Cells with fewer than 11 responses have been suppressed.

FFS = fee-for-service. MCO = managed care organization.

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Table 3.A.9. Proportion of primary care practices that are eligible for payers' performance-based incentive payments, among payers offering performance-based incentive payments to CPC+ practices, Program Year 3

	CPC+ Track 1		CPC+ Track 2		Non-CPC+ primary care practices	
	n	%	n	%	n	%
How many practices are potentially eligible to receive performance-based incentive payments?						
None	1	2	0	0	5	12
Some	4	9	7	16	13	30
Most	14	33	12	28	12	28
All	24	56	24	56	13	30
N	43		43		43	

Source: Mathematica's analysis of the independent evaluation's PY 3 CPC+ Payer Survey.

Note: n = number of payers that selected each response option to the question; N = total number of respondents.

Table 3.A.10. CPC+ payers' approaches to performance-based incentive payments, among payers offering them to CPC+ practices, Program Year 3

	n	%
In 2019, for which line(s) of business are you offering CPC+ performance-based incentive payments? *(select all that apply)*		
Commercial Insurance Plan(s)	23	53
Health Insurance Marketplace Plan(s)	17	40
State/Federal High-Risk Pools	0	0
Third Party Administrator (TPA) / Administrative Services Only (ASO)	15	35
Medicare Advantage	18	42
Medicaid/CHIP Managed Care Plan(s)	20	47
Medicaid/CHIP fee-for-service (FFS)	6	14
N	43	
Among payers providing performance-based incentive payments to both CPC+ and non-CPC+ practices, do you have a different approach to providing performance-based incentive payments for CPC+ practices versus other primary care practices that are not participating in CPC+?		
Yes	0	0
No	38	100
N	38	
Among payers providing performance-based incentive payments to both CPC+ Track 1 and Track 2 practices, do you have a different approach to providing performance-based incentive payments for Track 1 CPC+ practices versus Track 2 CPC+ practices?		
Yes	7	17
No	35	83
N	42	
Among payers offering performance-based incentive payments across multiple lines of business, do you have a different approach to providing performance-based incentive payments for different lines of business?		
Yes	7	30
No	16	70
N	23	
In 2019, are you providing upfront performance-based incentive payments to CPC+ practices?		
Yes, practices receive an upfront, prospective incentive payment later reconciled based on performance	5	12
No, payments made at end of performance period	38	88
N	43	
Among payers providing upfront performance-based incentive payments to CPC+ practices, will practices be subject to a payment recoupment the following year if they do not meet prespecified quality or efficiency benchmarks?		
Yes	s.s	s.s
No	s.s	s.s
N	s.s	
Have you finalized your performance-based incentive payment calculations based on practices' performance in 2018?		
Yes	34	79
No	9	21
N	43	
Do you impose any restrictions on how practices can use the CPC+ performance-based incentive payments you provide them?		
Yes	1	2
No	42	98
N	43	

Table 3.A.10 ***(continued)***

	n	%
What expenses are practices NOT allowed to spend CPC+ performance-based incentive payments on? *(select all that apply)*		
Bonus payments to primary care practitioners or staff	s.s	s.s
Payments to specialists	s.s	s.s
Contracted services without practice oversight, such as from a care management company	s.s	s.s
Health information technology	s.s	s.s
Fees for accreditation	s.s	s.s
Durable medical equipment	s.s	s.s
Diagnostic and imaging equipment	s.s	s.s
Medications	s.s	s.s
Practitioner or staff training or continuing medical education credits	s.s	s.s
Income and business tax payments	s.s	s.s
Other	s.s	s.s
N	s.s	

Source: Mathematica's analysis of the independent evaluation's PY 3 CPC+ Payer Survey.

Note: n = number of payers that selected each response option to the question; N = total number of respondents. s.s. = Small sample. Cells with fewer than 11 responses have been suppressed.

Table 3.A.11. Proportion of primary care practices qualifying for payers' performance-based incentive payments, among payers offering performance-based incentive payments to CPC+ practices, Program Year 3

	CPC+ Track 1		CPC+ Track 2		Non-CPC+ primary care practices	
	n	%	n	%	n	%
What proportion of practices qualified for performance-based incentive payments based on their performance in 2018?						
None	1	3	2	6	3	9
Some	13	38	14	41	14	41
Most	12	35	10	29	13	38
All	8	24	8	24	4	12
N	34		34		34	

Source: Mathematica's analysis of the independent evaluation's PY 3 CPC+ Payer Survey.

Note: n = number of payers that selected each response option to the question; N = total number of respondents.

Table 3.A.12. Proportion of primary care practices participating in shared savings program, among payers offering shared savings programs to CPC+ practices, Program Year 3

	CPC+ Track 1		CPC+ Track 2		Non-CPC+ primary care practices	
	n	%	n	%	n	%
How many practices are participating in a shared savings program?						
None	2	6	1	3	2	6
Some	14	45	14	45	17	55
Most	11	35	12	39	11	35
All	4	13	4	13	1	3
N	31		31		31	

Source: Mathematica's analysis of the independent evaluation's PY 3 CPC+ Payer Survey.

Note: n = number of payers that selected each response option to the question; N = total number of respondents.

Table 3.A.13. CPC+ payers' approach to shared savings programs, among payers offering shared savings programs to CPC+ practices, Program Year 3

	n	%
In 2019, for which line(s) of business are you offering your shared savings program? *(select all that apply)*		
Commercial Insurance Plan(s)	20	65
Health Insurance Marketplace Plan(s)	10	32
State/Federal High-Risk Pools	0	0
Third Party Administrator (TPA) / Administrative Services Only (ASO)	16	52
Medicare Advantage	8	26
Medicaid/CHIP Managed Care Plan(s)	18	58
Medicaid/CHIP fee-for-service (FFS)	1	3
N	31	
Among payers providing shared savings for both CPC+ and non-CPC+ practices, do you have a different approach to providing shared savings for CPC+ practices versus other primary care practices that are not participating in CPC+?		
Yes	0	0
No	28	100
N	28	
Among payers providing shared savings for both CPC+ Track 1 and Track 2 practices, do you have a different approach to providing shared savings for Track 1 CPC+ practices versus Track 2 CPC+ practices?		
Yes	5	19
No	22	81
N	27	
Among payers offering shared savings across multiple lines of business, do you have a different approach to providing shared savings for different lines of business?		
Yes	12	67
No	6	33
N	18	
For 2019, what is the typical maximum percent of savings you would share with practices?		
Median		50
Minimum		10
Maximum		80
N	30	
In 2019, will you include downside risk sharing?		
Yes	6	19
No	25	81
N	31	
Among payers including downside risk sharing, what is the maximum typical percent of losses you would pass on to practices for 2019?		
Median	s.s	s.s
Minimum	s.s	s.s
Maximum	s.s	s.s
N	s.s	
For 2019, do you use a minimum savings rate (that is, a threshold that must be surpassed before savings are shared with practices)?		
Yes	14	45
No	17	55
N	31	
What is the minimum savings rate?		
Median		1
Minimum		1
Maximum		3
N	13	

Table 3.A.13 *(continued)*

	n	%
Have you finalized your shared savings payment calculations based on practices' performance in 2018?		
Yes	27	87
No	4	13
N	31	
Compared to 2018, did you make any other significant changes to your shared savings approach in 2019?		
Yes	1	3
No	30	97
N	31	

Source: Mathematica's analysis of the independent evaluation's PY 3 CPC+ Payer Survey.

Note: n = number of payers that selected each response option to the question; N = total number of respondents. s.s. = Small sample. Cells with fewer than 11 responses have been suppressed.

Table 3.A.14. Proportion of primary care practices receiving shared savings payments, among payers offering shared savings programs to CPC+ practices, Program Year 3

	CPC+ Track 1		CPC+ Track 2		Non-CPC+ primary care practices	
	n	%	n	%	n	%
What proportion of practices received shared savings payments based on their performance in 2018?						
None	10	37	8	30	9	33
Some	12	44	15	56	13	48
Most	5	19	4	15	5	19
All	0	0	0	0	0	0
N	27		27		27	

Source: Mathematica's analysis of the independent evaluation's PY 3 CPC+ Payer Survey.

Note: n = number of payers that selected each response option to the question; N = total number of respondents.

F. Quality measures, data feedback, and technical assistance

Table 3.A.15. CPC+ payer partner data feedback, Program Year 3

	n	%
Do you currently share data feedback on cost, use, and/or quality with primary care practices?		
Yes	51	96
No, but will before end of year	1	2
No, will not provide	1	2
N	53	
Among payers who are or will be providing data feedback, what type of data are included in your data feedback in 2019? *(select all that apply)*		
Claims-based cost and utilization measures	48	92
Average cost for primary care specific episodes	11	21
Claims-based quality measures	41	79
eCQMs	20	38
Patient experience measures (e.g. CAHPS)	10	19
Specialists cost data	20	38
Hospital cost data	20	38
Other	5	10
N	52	
Among payers who are or will be providing data feedback, percentage of payers providing data feedback at the following levels *(select all that apply)*		
System-level	37	71
Practice-level	49	94
Practitioner-level	36	69
Patient-level	40	77
N	52	
Among payers who are or will be providing data feedback, percentage of the most frequent data provided		
Quarterly	17	33
Monthly	25	48
Weekly	3	6
Real-time	5	10
Other	2	4
N	52	
Among payers who are or will be providing data feedback, how frequently do you provide data at the system level?		
Never, data not provided at that level	15	29
Quarterly	9	17
Monthly	21	40
Weekly	1	2
Real-time	4	8
Other	2	4
N	52	
Among payers who are or will be providing data feedback, how frequently do you provide data at the practice level?		
Never, data not provided at that level	3	6
Quarterly	20	38
Monthly	22	42
Weekly	1	2
Real-time	4	8
Other	2	4
N	52	

Table 3.A.15 *(continued)*

	n	%
Among payers who are or will be providing data feedback, how frequently do you provide data at the practitioner level?		
Never, data not provided at that level	16	31
Quarterly	9	17
Monthly	19	37
Weekly	1	2
Real-time	4	8
Other	3	6
N	52	
Among payers who are or will be providing data feedback, how frequently do you provide data at the patient level?		
Never, data not provided at that level	12	23
Quarterly	7	13
Monthly	22	42
Weekly	3	6
Real-time	5	10
Other	3	6
N	52	
Among payers who are or will be providing data feedback, percentage of payers sharing data feedback in the following formats:		
Static only	17	33
Interactive data portal only	17	33
Other only	0	0
Both static and interactive data portal	12	23
Both interactive data portal and other	1	2
N	52	
Among payers who are or will be providing data feedback, what format do you use for sharing data feedback? *(select all that apply)*		
Static report	34	65
Interactive data portal	35	67
Other	6	12
N	52	
Among payers who are or will be providing data feedback, how many practices that are NOT participating in CPC+ are receiving data feedback on their system, practice, practitioners, or patients in 2019?		
None	3	6
Some	26	50
Most	12	23
All	11	21
N	52	
Among payers providing data feedback to at least some practices not participating in CPC+, how does your data feedback provided under other primary care programs compare to your data feedback for CPC+ practices?		
More comprehensive	1	2
About the same	48	98
Less comprehensive	0	0
N	49	

Source: Mathematica's analysis of the independent evaluation's PY 3 CPC+ Payer Survey.

Note: n = number of payers that selected each response option to the question; N = total number of respondents. eCQM = electronic clinical quality measures. CAHPS = Consumer Assessment of Healthcare Providers and Systems.

Table 3.A.16. CPC+ payer partner learning support, Program Year 3

	n	%
Are you offering CPC+ practices technical assistance or practice coaching?		
Yes	45	85
No	8	15
N	53	
Among payers providing technical assistance or practice coaching, what type of assistance are you offering CPC+ practices in 2019? *(select all that apply)*		
In-person group learning sessions	38	84
Web-based group learning sessions	33	73
Individualized practice coaching	40	89
Other	7	16
N	45	
Among payers providing technical assistance or practice coaching, percentage of payers coordinating technical assistance for CPC+ practices with their regional learning network		
Yes	27	60
No	18	40
N	45	
Among payers providing technical assistance or practice coaching, how many practices that are NOT participating in CPC+ are receiving technical assistance in 2019?		
None	2	4
Some	28	62
Most	9	20
All	6	13
N	45	
Among payers providing technical assistance or practice coaching to non-CPC+ practices, how does your technical assistance provided under other primary care programs compare to your technical assistance for CPC+ practices?		
More intensive	1	2
About the same	37	86
Less intensive	5	12
N	43	

Source: Mathematica's analysis of the independent evaluation's PY 3 CPC+ Payer Survey.

Table 3.A.17. Other CPC+ payer partner initiatives and supports, Program Year 3

	n	%
Do you offer any of the following other supports or services to CPC+ practices or directly to CPC+ attributed patients? *(select all that apply)*		
Care managers for practices	13	25
Behavioral health integration supports (e.g., embedded behavioral health staff, reimbursement for behavioral health services provided in primary care settings)	9	17
Embedded pharmacists for practices	5	9
Fee for service reimbursement for alternative visits (such as home-based care, video-based conferencing, or e-visits)	13	25
Other	7	13
None of the above	23	43
N	53	
Among payers that offer fee-for-service reimbursement for alternative visits, percentage of payers providing FFS reimbursement to primary care practices for the following types of alternative visits: *(select all that apply)*		
Visits in alternative locations	8	62
Home-based care	10	77
Medical group visits	7	54
Video-based conferencing	13	100
Medical visit over an electronic exchange	2	15
Medical visit via telephone	5	42
Other	0	0
N	13	
Do you offer any of the following other supports or services directly to CPC+ attributed patients? *(select all that apply)*		
Telephonic care management	41	77
Medication therapy reviews	24	45
Disease management programs	33	62
Health and wellness services	42	79
None of the above	8	15
N	53	

Source: Mathematica's analysis of the independent evaluation's PY 3 CPC+ Payer Survey.

Note: n = number of payers that selected each response option to the question; N = total number of respondents.

G. Prior and concurrent initiatives

Table 3.A.18. Percentage of CPC+ payer partners reporting changing the supports they provide to primary care practices and whether the change was influenced by CPC+, Program Year 3

	Have you made any of the following changes to supports for primary care practices?	If yes, how much were those changes influenced by CPC+?		
	% Yes	Not at all influenced	Influenced somewhat	Strongly influenced
Increased the amount of funding provided to primary care practices to support practice transformation	36	26	53	21
Increased the proportion of payments paid *prospectively* (for example, through comprehensive primary care payments or full or partial capitated payments)	28	20	60	20
Increased the alignment of quality metrics used for calculating payments	51	15	59	26
Provided more comprehensive data feedback (such as adding additional measures or new drill down features to reports)	57	30	57	13
Provided additional technical assistance or practice coaching to practices	45	25	63	13
Some other change	0	n.a.	n.a.	n.a.
N	53	--	--	--

Source: Mathematica's analysis of the independent evaluation's PY 3 CPC+ Payer Survey.

Note: n = number of payers that selected each response option to the question; N = total number of respondents. n.a. = not applicable.

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3.A.5. 2019 Payer Survey

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2019 WEB SURVEY FOR PAYERS PARTICIPATING IN CPC+

Welcome to the Payer Survey for the independent evaluation of Comprehensive Primary Care Plus (CPC+)! We appreciate you taking the time to complete the survey. Your input will help us understand the critical supports your organization is providing CPC+ practices.

If you have questions about this survey, please contact Brianna Sullivan at Mathematica (BSullivan@mathematica-mpr.com or 671-715-9953).

INTRODUCTION

Thank you again for completing Mathematica's CPC+ payer survey in 2018! Your participation in this 2019 survey will help us understand what has and has not changed about the supports you provide to CPC+ practices in 2019.

[FOR MULTI-REGION PAYERS WITH MULTIPLE RESPONDENTS: We understand that [PAYER]'s approach to supporting practices is different across CPC+ regions. You are receiving this survey because you were selected by [PAYER] to complete this survey specifically for [REGION SURVEY IS ASKING ABOUT].**]**

Most of the questions in the 2019 survey are the same as the questions in the 2018 survey. To reduce reporting burden, we have retained your 2018 responses in the 2019 survey. You will have the opportunity to review those responses and, if your approach has changed, to update your answer to reflect your new approach.

The survey will cover four topics:

A. Details of payer participation in CPC+

B. Payer's approach to CPC+ payments

C. Payer's approach to data feedback and learning support to practices

D. How supports for primary care practices may have changed since partnering in CPC+

Mathematica and the Centers for Medicare & Medicaid Services (CMS) regularly collect information from payers in CPC+ to track the model's progress and aid in its evaluation. To further reduce reporting burden on payers, Mathematica and CMS are working to align their data collection efforts for 2019.

We plan to share the information you provide in this survey with CMS. Neither Mathematica nor CMS will share your answers with any other payer, nor with any practice participating in the model. If you prefer for all or some information to not be shared with CMS, you will have the opportunity to indicate this preference at the end of the survey.

To help us understand the details of your CPC+ participation, please fill out the 2019 Payer Survey. Your insights will help CMS better understand the role that non-Medicare payers play in practice and payment transformation and will guide CMS' design of initiatives in the future. Mathematica staff will also be conducting telephone interviews with a subset of CPC+ payers this fall. If you are selected to participate in an interview, a Mathematica staff member will reach out to you with additional details. For your reference, frequently asked questions (FAQs) related to the CPC+ Payer Survey can be found here.

IMPORTANT

- Most of the questions in the 2019 survey are the same as the questions in the 2018 survey. To reduce reporting burden, we have retained your 2018 responses in the 2019 survey. You will have the opportunity to review those responses and, if your approach has changed, to update your answer to reflect your new approach.
- The survey also includes a few new questions. Those questions will be clearly indicated as new and we ask that you provide responses to these questions.

INSTRUCTIONS TO COMPLETE THE SURVEY

- The survey works best on a desktop computer and is best viewed in the latest versions of Chrome, Safari, Firefox, or Internet Explorer (IE 11 or Edge).
- If you answer "Other" for a question, please specify by typing what you mean in the "Specify" box.
- Click on "Back" at the bottom of the screen to go back to a previous question.
- Use the "Next" button to proceed to the next question. Your answers are saved each time you click the "Next" button.
- You do not have to complete the survey all at once. Be sure to click the "Next" button to save your answers before exiting the survey. You will resume at the next unanswered question when you return to the survey.
- After about 20 minutes of idle time, the survey may time out, but your answers will be saved. If that happens, you will be redirected to the login page prior to resuming the survey where you left off.
- If you have any questions while taking the survey, please click on "FAQ" at the bottom of the screen at any time. If the FAQ document does not answer your question, you may email Brianna Sullivan at BSullivan@mathematica-mpr.com.
- Once you have completed the survey, you will have the opportunity to review and/or print your answers before submitting the survey. Please note that once you submit the survey, you cannot go back in to change your answers.
- Instructions to submit the survey when you have finished answering all of the questions are listed after the last survey question.

Before we start the survey, please provide the following contact information for the person completing this survey:

Please update this information if no longer correct.

Payer Organization:	
Name:	
Title:	
Email Address:	
Telephone:	

A. PAYER PARTNERSHIP IN CPC+

In this section, we ask about the details of your CPC+ partnership in [REGION SURVEY IS ABOUT]. Specifically, we are interested in hearing about how you are contracting with CPC+ practices and your approach to attributing members to CPC+ practices.

NEW **A1. In 2019, did you offer the following line(s) of businesses in [REGION SURVEY IS ABOUT]?**

		Yes	No
a.	Commercial Insurance Plan(s)	❍1	❍0
b.	Health Insurance Marketplace Plan(s)	❍1	❍0
c.	State/Federal High-Risk Pool(s)	❍1	❍0
d.	Third Party Administrator (TPA) / Administrative Services Only (ASO)	❍1	❍0
e.	Medicare Advantage	❍1	❍0
f.	Medicaid/CHIP Managed Care Plan(s)	❍1	❍0
g.	Medicaid/CHIP fee-for-service (FFS)	❍1	❍0

A2. How do you attribute or assign members to CPC+ practices?

Select all that apply

☐ Members select or are assigned to a primary care provider (typically at enrollment)..... 1

☐ Members are attributed to a CPC+ practice using a claims-based attribution methodology. 2

☐ Other (SPECIFY)..... 99

Specify _____

A3. How many months do you use for the look back period to attribute members to CPC+ practices? If you have a primary and a secondary look back period, please indicate both.

_____ NUMBER OF MONTHS IN LOOK BACK PERIOD (1-48 MONTHS)

_____ NUMBER OF MONTHS IN SECONDARY LOOK BACK PERIOD (IF NO VISITS DURING PRIMARY LOOK BACK PERIOD) (0-48 MONTHS)

A4. What is your primary claims-based attribution methodology?

- ❍ Members are attributed to the primary care practice they visited most frequently during the look back period (i.e., plurality of visits) 1
- ❍ Members are attributed to the primary care practice they last visited during the look back period 2
- ❍ Other (SPECIFY) 99

Specify [ ]

A5. How frequently do you rerun CPC+ attribution?

- ❍ Monthly 1
- ❍ Quarterly 2
- ❍ Twice a year 3
- ❍ Yearly 4
- ❍ Other (SPECIFY) 99

Specify [ ]

A6. Can CPC+ practices appeal attribution of certain members? In other words, can practices request that a patient that is not attributed be attributed, or vice versa?

- ❍ Yes 1
- ❍ No 0

A8. How many of your self-insured clients in [REGION SURVEY IS ABOUT] participate in CPC+?

- ❍ All self-insured clients 3
- ❍ Most self-insured clients 2
- ❍ Some self-insured clients 1
- ❍ No self-insured clients 0

A9. Please select the option that best describes your strategy for recruiting self-insured clients to participate in CPC+.

- ❍ All self-insured clients are **required** to participate in CPC+ 1
- ❍ Self-insured clients are enrolled in CPC+ unless they **opt out** of participation 2
- ❍ Self-insured clients can **opt in** to CPC+ participation 3

A10. If relevant, use the space below to note any differences in your approach to CPC+ contracting, attribution, or self-insured participation across CPC+ regions.

[ ] (STRING 255)

NO RESPONSE ..... M

B. PAYMENT APPROACHES FOR CPC+

In this section, we are interested in learning about your 2019 payment approaches for primary care practices.

B1. For each of the following payment approaches, please indicate if (1) you are using the payment approach for any primary care practices in [REGION SURVEY IS ABOUT] in 2019, and (2) if you plan to use the payment approach for any practices in 2020.

These payment approaches could be used for CPC+ and/or for other programs that you have in place to support primary care practices.

Payment Approach	1. Using approach in **2019**? (Yes/No)	2. Plan to use approach in **2020**? (Yes/No)
a. **Care management fees.** Care management fees are non-visit based PMPM payments to primary care practices to support enhanced, coordinated services. These fees are paid in addition to usual payments for services. This fee may be risk-adjusted. (For capitated payments made for services in lieu of FFS select "e.")	❍ Yes ❍ No	❍ Yes ❍ No
b. **Performance-based incentive payments or pay for performance.** Bonus payments and/or payment recoupments used to incentivize practices to meet benchmarks (for example, on utilization, cost, or quality). These payments can be made prospectively or at the end of the performance period.	❍ Yes ❍ No	❍ Yes ❍ No
c. **Shared savings model.** Payers calculate savings on total cost of care or on cost of a subset of services (such as a primary-care focused episode of care), which are compared to an expenditure target or to costs for another group. A proportion of savings (or losses) are shared with (or recouped from) practices/groups. These payments or withholds are made retrospectively.	❍ Yes ❍ No	❍ Yes ❍ No
d. **Enhanced fee-for-service (FFS) payments.** Payer pays practices an enhanced FFS payment rate (for example, 105% of normal FFS rates) to support enhanced, coordinated services and/or for meeting benchmarks (for example, on utilization, cost, or quality) during the prior year.	❍ Yes ❍ No	❍ Yes ❍ No
e. **Comprehensive Primary Care Payments or Capitation (partial or full) or Global Payments.** Practices receive lump sum payments for attributed patients in lieu of all or some portion of FFS payments. FFS payments for primary care services are correspondingly reduced or eliminated.	❍ Yes ❍ No	❍ Yes ❍ No
f. **Prospective bundled payments for primary-care focused episodes of care.** Payer determines a target price for a primary-care focused episode of care. Payers pay that lump sum prospectively (eliminating or reducing FFS payments for that episode of care).	❍ Yes ❍ No	❍ Yes ❍ No
g. Other (SPECIFY) ☐	❍ Yes ❍ No	❍ Yes ❍ No

B2. If relevant, use the space below to note any differences in the type of payment approaches you use across CPC+ regions.

(STRING 255)

NO RESPONSE ..... M

Care management fees

The next set of questions will focus on your care management fees. Care management fees are non-visit based PMPM payments to practices to support enhanced, coordinated services. This fee may be adjusted but is not dependent on utilization, cost, or quality measures. Please focus on how you are paying CPC+ practices during 2019.

B3. For a given practice type, please indicate how many practices receive care management fees. Please note that for this survey "CPC+ practices" refer to practices that were selected by CMS to participate in CPC+.

Select one per row

Type of practice	None	Some	Most	All
a. Track 1 CPC+ in [REGION SURVEY IS ABOUT]	❍0	❍1	❍2	❍3
b. Track 2 CPC+ in [REGION SURVEY IS ABOUT]	❍0	❍1	❍2	❍3
c. Other primary care practices in in [REGION SURVEY IS ABOUT] that are NOT participating in CPC+ *CMF _ELI_NON*	❍0	❍1	❍2	❍3

B4. In which regions are you providing care management fees to practices that are NOT participating in CPC+ in 2019?

Select all that apply

- ☐ Arkansas *NATL_CMF_NON_REG_1* 1
- ☐ Colorado *NATL_CMF_NON_REG_2* 2
- ☐ Greater Buffalo Region (New York) *NATL_CMF_NON_REG_3* 3
- ☐ Greater Kansas City *NATL_CMF_NON_REG_4* 4
- ☐ Hawaii *NATL_CMF_NON_REG_5* 5
- ☐ Louisiana *NATL_CMF_NON_REG_6* 6
- ☐ Michigan *NATL_CMF_NON_REG_7* 7
- ☐ Montana *NATL_CMF_NON_REG_8* 8
- ☐ Nebraska *NATL_CMF_NON_REG_9* 9
- ☐ New Jersey *NATL_CMF_NON_REG_10* 10
- ☐ North Dakota *NATL_CMF_NON_REG_11* 11
- ☐ North Hudson-Capital Region (New York) *NATL_CMF_NON_REG_12* 12
- ☐ Ohio and Northern Kentucky *NATL_CMF_NON_REG_13* 13
- ☐ Oklahoma *NATL_CMF_NON_REG_14* 14
- ☐ Oregon *NATL_CMF_NON_REG_15* 15
- ☐ Greater Philadelphia *NATL_CMF_NON_REG_16* 16
- ☐ Rhode Island *NATL_CMF_NON_REG_17* 17
- ☐ Tennessee *NATL_CMF_NON_REG_18* 18

NO RESPONSE *NATL_CMF_NON_REG_M* ..... M

[If multi-region payer that checks multiple regions: *NATL_CMF_NON_REG_19* ..... 19]

NEW

B5. You have indicated that you provide care management fees to [Track 1 CPC+ practices / Track 2 CPC+ practices / other primary care practices that are not participating in CPC+]. Do you have a different approach to providing care management fees for:

Select one per row

		Yes	No
a.	CPC+ practices versus other primary care practices that are not participating in CPC+ practices?	❍1	❍0
b.	Track 1 CPC+ practices versus Track 2 CPC+	❍1	❍0

For these next questions about care management fees:

- Please focus on your approach for your CPC+ practices, not your approach for other primary care practices that are not participating in CPC+.
- Unless otherwise specified, please focus on the approach used most commonly with your CPC+ practices, not your separate approaches for Track 1 and Track 2 practices.

B6. In 2019, for which line(s) of business are you offering CPC+ care management fees?

Select all that apply

- ☐ Commercial Insurance Plan(s) 1
- ☐ Health Insurance Marketplace Plan(s) 2
- ☐ State/Federal High-Risk Pool(s) 3
- ☐ TPA/ASO 4
- ☐ Medicare Advantage 5
- ☐ Medicaid/CHIP Managed Care Plan(s) 6
- ☐ Medicaid/CHIP fee-for-service (FFS) 7

B7. Do your 2019 care management fees for CPC+ practices differ by line of business?

- ❍ Yes 1
- ❍ No 0

B8. Do you adjust your care management fees based on any patient factors such as demographics, patient risk score, patient category, or patient health status?

- ❍ Yes 1
- ❍ No 0

B9. What patient factors do you use to adjust your care management fees?

Select all that apply

- ☐ Adjust for demographic characteristics (such as age or sex) 1
- ☐ Adjust for patient risk score (such as Hierarchical Condition Category [HCC] risk score, 3M Clinical Risk Groups [CRG], Milliman Advanced Risk Adjusters [MARA], or DxCG) 2
- ☐ Adjust for patients' prior cost or service use 3
- ☐ Other (SPECIFY) 99

Specify _____

NEW **B10. As you may know, CMS sets requirements that practices must meet to participate in CPC+.**

In addition to these CPC+ requirements, do you use any factors tied to practice or practitioner performance – such as utilization, cost, or quality metrics, or accreditation standards such as Patient-Centered Medical Home (PCMH) participation – to determine:

Select all that apply

☐ If practices are **eligible** to receive any care management fees? (e.g., you set a quality floor for receiving any care management fees)..... 1

☐ The **amount** of care management fees a practice may receive? (e.g., better performance equals higher fees) 2

❍ None of the above. Care management fees are not tied to any practice performance factors. 0

NEW **B11. Please indicate below which practice metrics or accreditation standards you use to [1) determine practice eligibility to receive care management fees and/or 2) adjust the specific care management fee amount a practice receives].**

Metric or standard	1) Used to determine practice **eligibility** to receive care management fees?	2) Used to adjust the specific care management **fee amount** a practice receives?
a. Practice performance on utilization metrics	☐ 1	☐ 2
b. Practice performance on cost metrics	☐ 1	☐ 2
c. Practice performance on quality metrics	☐ 1	☐ 2
d. Achieving Patient-Centered Medical Home (PCMH) recognition or by PCMH tier	☐ 1	☐ 2
e. Other (Specify) ☐	☐ 1	☐ 2

B12. You indicated that you adjust the specific care management fee amount a practice receives based on the following practice performance factors:

- **Practice performance on utilization metrics**
- **Practice performance on cost metrics**
- **Practice performance on quality metrics**
- **Achieving Patient-Centered Medical Home (PCMH) recognition or by PCMH tier**
- **Other**

For a typical CPC+ practice, what percent of your 2019 care management fees are dependent on these factors?

☐ PERCENT (RANGE = 0 to 100)

B13. This question is about the 2019 care management fees for your Track 1 CPC+ practices.

For [your care management fees/other LOBs chosen in B6)]…

What is the average per member per month (PMPM) care management payment for your Track 1 practices in 2019?

Do NOT include performance-based incentive payments.

$ [ ] Average PMPM payment (RANGE 0-50)

B14. What is the adjusted Track 1 PMPM care management payment for each tier [for CYCLE THROUGH EACH LINE OF BUSINESS SELECTED AT B6]?

Use only the number of tiers that are applicable for your organization.

Tier 1: $ [ ] PMPM payment (RANGE0-50)

Tier 2: $ [ ] PMPM payment (RANGE 0-50)

Tier 3: $ [ ] PMPM payment (RANGE 0-50)

Tier 4: $ [ ] PMPM payment (RANGE 0-50)

Tier 5: $ [ ] PMPM payment (RANGE 0-50)

Please note, you will be asked items B13 and B14 for each line of business you selected at item B6

B15. Please confirm whether your 2019 care management fees are different for Track 1 and Track 2 CPC+ practices.

❍ Yes, they are different 1

❍ No, they are the same 0

B16. This question is about the 2019 care management fees for your Track 2 CPC+ practices.

For [your care management fees/ other LOBs chosen in B6)]…

What is the average per member per month (PMPM) care management payment for your Track 2 practices in 2019?

Do NOT include performance-based incentive payments.

$ [ ] Average PMPM payment (RANGE 0-50)

B17. What is the adjusted Track 2 PMPM care management payment for each tier [for CYCLE THROUGH EACH LINE OF BUSINESS SELECTED AT B6]?

Use only the number of tiers that are applicable for your organization.

Tier 1: $ [ ] PMPM payment (RANGE0-50)

Tier 2: $ [ ] PMPM payment (RANGE 0-50)

Tier 3: $ [ ] PMPM payment (RANGE 0-50)

Tier 4: $ [ ] PMPM payment (RANGE 0-50)

Tier 5: $ [ ] PMPM payment (RANGE 0-50)

B18. Do you impose any restrictions on how practices can use the CPC+ care management fees you provide them?

❍ Yes 1

❍ No 0

B19. Below, we list the types of expenses CMS does *NOT* allow practices to spend Medicare FFS care management fees on. Please check the expenses practices are *NOT* allowed to spend your CPC+ care management fees on.

Select all that apply

○ Our restrictions are identical to CMS (all of the options below are NOT allowed) 0

☐ Bonus payments to primary care practitioners or staff 1

☐ Payments to specialists 2

☐ Contracted services without practice oversight, such as from a care management company 3

☐ Health information technology 4

☐ Fees for accreditation 5

☐ Durable medical equipment 6

☐ Diagnostic and imaging equipment 7

☐ Medications 8

☐ Practitioner or staff training or continuing medical education credits 9

☐ Income and business tax payments 10

☐ Other (SPECIFY) 99

Specify [ ]

B20. If relevant, use the space below to note any differences in your approach to CPC+ care management fees across CPC+ regions.

[ ] (STRING 255)

NO RESPONSE ..... M

B21. You indicated earlier that [some/most/all] non-CPC+ practices receive care management fees. How do your care management fee payment levels for those practices compare to your payments for Track 1 CPC+ practices?

- ❍ Payments under other programs are generally higher than CPC+ payments for Track 1 1
- ❍ Payments under other programs are about the same as CPC+ payments for Track 1 2
- ❍ Payments under other programs are generally lower than CPC+ payments for Track 1 3

Performance-based incentive payments

The next set of questions will focus on your performance-based incentive payments for primary care practices. Performance-based incentive payments or pay-for-performance programs include bonus payments and/or payment recoupments used to incentivize practices to meet benchmarks (for example, on utilization, cost or quality). These payments can be made prospectively or at the end of the performance period. Please focus on how you are rewarding practices during 2019.

B22. For a given practice type, please indicate how many practices are potentially eligible to receive performance-based incentive payments. Please note that for this survey "CPC+ practices" refer to practices that were selected by CMS to participate in CPC+.

Type of practice	None	Some	Most	All
a. Track 1 CPC+ in [REGION SURVEY IS ABOUT]	❍0	❍1	❍2	❍3
b. Track 2 CPC+ in [REGION SURVEY IS ABOUT]	❍0	❍1	❍2	❍3
c. Other primary care practices in [REGION SURVEY IS ABOUT] that are NOT participating in CPC+	❍0	❍1	❍2	❍3

B23. In which regions are practices that are NOT participating in CPC+ eligible for performance-based incentive payments?

Select all that apply

- ☐ Arkansas *NATL_PBIP_NON_REG_1* 1
- ☐ Colorado *NATL_PBIP_NON_REG_2* 2
- ☐ Greater Buffalo Region (New York) *NATL_PBIP_NON_REG_3* 3
- ☐ Greater Kansas City *NATL_PBIP_NON_REG_4* 4
- ☐ Hawaii *NATL_PBIP_NON_REG_5* 5
- ☐ Louisiana *NATL_PBIP_NON_REG_6* 6
- ☐ Michigan *NATL_PBIP_NON_REG_7* 7
- ☐ Montana *NATL_PBIP_NON_REG_8* 8
- ☐ Nebraska *NATL_PBIP_NON_REG_9* 9
- ☐ New Jersey *NATL_PBIP_NON_REG_10* 10
- ☐ North Dakota *NATL_PBIP_NON_REG_11* 11
- ☐ North Hudson-Capital Region (New York) *NATL_PBIP_NON_REG_12* 12
- ☐ Ohio and Northern Kentucky *NATL_PBIP_NON_REG_13* 13
- ☐ Oklahoma *NATL_PBIP_NON_REG_14* 14
- ☐ Oregon *NATL_PBIP_NON_REG_15* 15
- ☐ Greater Philadelphia *NATL_PBIP_NON_REG_16* 16
- ☐ Rhode Island *NATL_PBIP_NON_REG_17* 17
- ☐ Tennessee *NATL_PBIP_NON_REG_18* 18

NO RESPONSE *NATL_PBIP_NON_REG_M* ..... M

[If multi-region payer that checks multiple regions: *NATL_PBIP_NON_REG_19* ..... 19]

B24. In 2019, for which line(s) of business are you offering CPC+ performance-based incentive payments?

Select all that apply

- ☐ Commercial Insurance Plan(s) 1
- ☐ Health Insurance Marketplace Plan(s) 2
- ☐ State/Federal High-Risk Pool(s) 3
- ☐ TPA/ASO 4
- ☐ Medicare Advantage 5
- ☐ Medicaid/CHIP Managed Care Plan(s) 6
- ☐ Medicaid/CHIP fee-for-service (FFS) 7

NEW

B25. You have indicated that you provide performance-based incentive payments [Track 1 CPC+ practices / Track 2 CPC+ practices / other primary care practices that are not participating in CPC+/multiple lines of business]. Do you have a different approach to providing performance-based incentive payments for:

		Yes	No	M
a.	CPC+ practices versus other primary care practices that are not participating in CPC+ practices?	❍1	❍0	M
b.	Track 1 CPC+ practices versus Track 2 CPC+?	❍1	❍0	M
c.	Different lines of business?	❍1	❍0	M

For these next questions about performance-based incentive payments:

- Please focus on your approach for **your CPC+ practices,** not your approach for other primary care practices that are not participating in CPC+.
- Unless otherwise specified, please focus on **the approach used most commonly with your CPC+ practices,** not your separate approaches for Track 1 and Track 2 practices.
- Please think about **your line of business with the greatest number of patients attributed to CPC+ practices.**

B26. In 2019, are you providing upfront performance-based incentive payments to CPC+ practices?

❍ Yes, practices receive an upfront, prospective incentive payment (e.g., bonus) that is later reconciled based on their performance. 1

❍ No, we pay these payments at the end of a performance period..... 0

B27. Will practices be subject to a payment recoupment the following year if they do not meet prespecified quality or efficiency benchmarks?

❍ Yes..... 1

❍ No 0

B28. Have you finalized your performance-based incentive payment calculations based on practices' performance in 2018?

❍ Yes..... 1

❍ No 0

B29. What proportion of practices qualified for performance-based incentive payments based on their performance in 2018?

Select one per row

Type of practice	None	Some	Most	All
a. Track 1 CPC+ in [REGION SURVEY IS ABOUT]	❍	❍	❍	❍
b. Track 2 CPC+ in [REGION SURVEY IS ABOUT]	❍	❍	❍	❍
c. Other primary care practices in [REGION SURVEY IS ABOUT] that are NOT participating in CPC+	❍	❍	❍	❍

B30. Do you impose any restrictions on how practices can use the CPC+ performance-based incentive payments you provide them?

❍ Yes 1

❍ No 0

B31. What expenses are practices NOT allowed to spend CPC+ performance-based incentive payments on?

Select all that apply

☐ Bonus payments to primary care practitioners or staff 1

☐ Payments to specialists 2

☐ Contracted services without practice oversight, such as from a care management company 3

☐ Health information technology 4

☐ Fees for accreditation 5

☐ Durable medical equipment 6

☐ Diagnostic and imaging equipment 7

☐ Medications 8

☐ Practitioner or staff training or continuing medical education credits 9

☐ Income and business tax payments 10

☐ Other (SPECIFY) 99

Specify ☐

B32. If relevant, use the space below to note any differences in your approach to performance-based incentive payments across CPC+ regions.

☐ (STRING 255)

NO RESPONSE ..... M

Shared Savings

The next set of questions ask about your shared savings program. Shared savings models are gain (or risk) sharing arrangements in which costs of care for CPC+ practices are compared to an

expenditure target or to costs for another group of practices and a proportion of any savings are shared with practices. Payers calculate savings on total cost of care or on cost of a subset of services, which are compared to an expenditure target or to costs for another group. A proportion of savings (or losses) are shared with (or recouped from) practices/groups. These payments or withholds are made retrospectively. Please focus on how you are analyzing savings accrued for 2019.

B33. For a given practice type, please indicate how many practices are participating in a shared savings program. Please note that for this survey "CPC+ practices" refers to practices that were selected by CMS to participate in CPC+.

Select one per row

	None	Some	Most	All
a. Track 1 CPC+ practices in [REGION SURVEY IS ABOUT]	❍0	❍1	❍2	❍3
b. Track 2 CPC+ practices in [REGION SURVEY IS ABOUT]	❍0	❍1	❍2	❍3
c. Other primary care practices in [REGION SURVEY IS ABOUT] that are NOT participating in CPC+	❍0	❍1	❍2	❍3

B34. [Shared Savings Model]

In which regions are practices that are NOT participating in CPC+ eligible for shared savings payments?

Select all that apply

- ☐ Arkansas *NATL_SSM_NON_REG_1* 1
- ☐ Colorado *NATL_SSM_NON_REG_2* 2
- ☐ Greater Buffalo Region (New York) *NATL_SSM_NON_REG_3* 3
- ☐ Greater Kansas City *NATL_SSM_NON_REG_4* 4
- ☐ Hawaii *NATL_SSM_NON_REG_5* 5
- ☐ Louisiana *NATL_SSM_NON_REG_6* 6
- ☐ Michigan *NATL_SSM_NON_REG_7* 7
- ☐ Montana *NATL_SSM_NON_REG_8* 8
- ☐ Nebraska *NATL_SSM_NON_REG_9* 9
- ☐ New Jersey *NATL_SSM_NON_REG_10* 10
- ☐ North Dakota *NATL_SSM_NON_REG_11* 11
- ☐ North Hudson-Capital Region (New York) *NATL_SSM_NON_REG_12* 12
- ☐ Ohio and Northern Kentucky *NATL_SSM_NON_REG_13* 13
- ☐ Oklahoma *NATL_SSM_NON_REG_14* 14
- ☐ Oregon *NATL_SSM_NON_REG_15* 15
- ☐ Greater Philadelphia *NATL_SSM_NON_REG_16* 16
- ☐ Rhode Island *NATL_SSM_NON_REG_17* 17
- ☐ Tennessee *NATL_SSM_NON_REG_18* 18

NO RESPONSE *NATL_SSM_NON_REG_M* ..... M

[If multi-region payer that checks multiple regions: *NATL_SSM_NON_REG_19* ..... 19]

B35. In 2019, for which line(s) of business are you offering your shared savings program?

Select all that apply

- ☐ Commercial Insurance Plan(s) 1
- ☐ Health Insurance Marketplace Plan(s) 2
- ☐ State/Federal High-Risk Pool(s) 3
- ☐ TPA/ASO 4
- ☐ Medicare Advantage 5
- ☐ Medicaid/CHIP Managed Care Plan(s) 6
- ☐ Medicaid/CHIP fee-for-service (FFS) 7

NEW **B36. You have indicated that you provide shared savings to [Track 1 CPC+ practices / Track 2 CPC+ practices / other primary care practices that are not participating in CPC+/multiple lines of business]. Do you have a different approach to providing shared savings for:**

		Yes	No
a.	CPC+ practices versus other primary care practices that are not participating in CPC+ practices?	❍1	❍0
b.	Track 1 CPC+ practices versus Track 2 CPC+?	❍1	❍0
c.	Different lines of business?	❍1	❍0

For these next questions about shared savings payments:

- Please focus on your approach for **your CPC+ practices,** not your approach for other primary care practices that are not participating in CPC+.
- Unless otherwise specified, please focus on **the approach used most commonly with your CPC+ practices,** not your separate approaches for Track 1 and Track 2 practices.
- Please think about **your line of business with the greatest number of patients attributed to CPC+ practices.**

NEW **B37. For 2019, what is the typical maximum percent of savings you would share with practices?**

[ ] PERCENT OF SAVINGS

B38. In 2019, will you include downside risk sharing? In other words, will CPC+ practices also share in losses?

❍ Yes 1
❍ No 0

NEW **B39. For 2019, what is the maximum typical percent of losses would you pass on to practices?**

[ ] PERCENT OF LOSSES

B40. For 2019, do you use a minimum savings rate (that is, a threshold that must be surpassed before savings are shared with practices)?

❍ Yes 1
❍ No 0

B41. What is the minimum savings rate?

[ ] PERCENT MINIMUM SAVINGS RATE

B42. Have you finalized your shared savings calculations based on practices' performance in 2018?

❍ Yes 1
❍ No 0

B43. What proportion of practices received shared savings payments based on their performance in 2018?

Select one per row

Type of practice	None	Some	Most	All
a. Track 1 CPC+ in [REGION SURVEY IS ABOUT]	❍	❍	❍	❍
b. Track 2 CPC+ in [REGION SURVEY IS ABOUT]	❍	❍	❍	❍
c. Other primary care practices in [REGION SURVEY IS ABOUT] that are NOT participating in	❍	❍	❍	❍

B44. Compared to 2018, did you make any other significant changes to your shared savings approach for 2019?

❍ Yes 1

❍ No 0

B45. Please briefly describe these other changes to your shared savings program for 2019.

[ ]

B46. [Shared Savings Model]

If relevant, use the space below to note any differences in your approach to shared savings across CPC+ regions.

[ ] (STRING 255)

NO RESPONSE ..... M

Enhanced FFS Payments

The next set of questions will focus on your 2019 enhanced FFS payments. Under enhanced FFS payment programs, payers pay practices an enhanced FFS payment rate (e.g., 105% of normal FFS rates) to support enhanced, coordinated services and/or for meeting benchmarks (for example, on utilization, cost, or quality) during the prior year.

B47. For a given practice type, please indicate how many practices are potentially eligible to receive enhanced FFS payments. Please note that for this survey "CPC+ practices" refers to practices that were selected by CMS to participate in CPC+.

Select one per row

Type of practice	None	Some	Most	All
a. Track 1 CPC+ in [REGION SURVEY IS ABOUT]	❍0	❍1	❍2	❍3
b. Track 2 CPC+ in [REGION SURVEY IS ABOUT]	❍0	❍1	❍2	❍3
c. Other primary care practices in [REGION SURVEY IS ABOUT] that are NOT participating in	❍0	❍1	❍2	❍3

B48. In which regions are practices that are NOT participating in CPC+ potentially eligible for enhanced FFS payments?

Select all that apply

- ☐ Arkansas *NATL_EFFS_NON_REG_1* 1
- ☐ Colorado *NATL_EFFS_NON_REG_2* 2
- ☐ Greater Buffalo Region (New York) *NATL_EFFS_NON_REG_3* 3
- ☐ Greater Kansas City *NATL_EFFS_NON_REG_4* 4
- ☐ Hawaii *NATL_EFFS_NON_REG_5* 5
- ☐ Louisiana *NATL_EFFS_NON_REG_6* 6
- ☐ Michigan *NATL_EFFS_NON_REG_7* 7
- ☐ Montana *NATL_EFFS_NON_REG_8* 8
- ☐ Nebraska *NATL_EFFS_NON_REG_9* 9
- ☐ New Jersey *NATL_EFFS_NON_REG_10* 10
- ☐ North Dakota *NATL_EFFS_NON_REG_11* 11
- ☐ North Hudson-Capital Region (New York) *NATL_EFFS_NON_REG_12* 12
- ☐ Ohio and Northern Kentucky *NATL_EFFS_NON_REG_13* 13
- ☐ Oklahoma *NATL_EFFS_NON_REG_14* 14
- ☐ Oregon *NATL_EFFS_NON_REG_15* 15
- ☐ Greater Philadelphia *NATL_EFFS_NON_REG_16* 16
- ☐ Rhode Island *NATL_EFFS_NON_REG_17* 17
- ☐ Tennessee *NATL_EFFS_NON_REG_18* 18

NO RESPONSE *NATL_EFFS_NON_REG_M* ..... M

[If multi-region payer that checks multiple regions: *NATL_EFFS_NON_REG_19* ..... 19]

B49. In 2019, for which line(s) of business are you offering enhanced FFS payments?

Select all that apply

- ☐ Commercial Insurance Plan(s) 1
- ☐ Health Insurance Marketplace Plan(s) 2
- ☐ State/Federal High-Risk Pool(s) 3
- ☐ TPA/ASO 4
- ☐ Medicare Advantage 5
- ☐ Medicaid/CHIP Managed Care Plan(s) 6
- ☐ Medicaid/CHIP fee-for-service (FFS) 7

NEW **B50. You have indicated that you provide enhanced FFS payments to [Track 1 CPC+ practices / Track 2 CPC+ practices / other primary care practices that are not participating in CPC+/multiple lines of business]. Do you have a different approach to providing enhanced FFS payments for:**

	Yes	No
a. CPC+ practices versus other primary care practices that are not participating in CPC+ practices?	❍1	❍0
b. Track 1 CPC+ practices versus Track 2 CPC+?	❍1	❍0
c. Different lines of business?	❍1	❍0

For these next questions about enhanced FFS payments:

- Please focus on your approach for **your CPC+ practices,** not your approach for other primary care practices that are not participating in CPC+.
- Unless otherwise specified, please focus on **the approach used most commonly with your CPC+ practices,** not your separate approaches for Track 1 and Track 2 practices.
- Please think about **your line of business with the greatest number of patients attributed to CPC+ practices.**

B51. Are you providing enhanced FFS payments in 2019 based on performance in CPC+ in 2018?

- ❍ Yes 1
- ❍ No 0

B52. In 2019, what adjustments (if any) are you making when calculating the enhanced FFS rate for practices?

Select all that apply

- ☐ Adjust for practice participation in CPC+ or another practice transformation initiative 1
- ☐ Adjust for practice performance on utilization, cost, quality metrics..... 2
- ☐ Adjust rate by practice status as it relates to CPC+ tracks (e.g., CPC+ Track 1 or Track 2) or tiers (e.g., achieving a certain PCMH recognition level) 3
- ○ None of the above. Adjusted rate negotiated with practices but is not tied to CPC+ participation or utilization, cost, or quality metrics. 4
- ☐ Other (SPECIFY)..... 99

Specify ☐

B53. By how much are you adjusting the 2019 FFS rate for participation in CPC+ or another primary care transformation initiative?

☐ PERCENT

B54. By how much are you adjusting 2019 FFS payments for performance on utilization, cost, and/or quality metrics?

☐ PERCENT

B55. If you are using quality tiers, please describe below.

☐

B56. [Enhanced FFS Payments]

If relevant, use the space below to note any differences in your approach to enhanced FFS payments across CPC+ regions.

☐ (STRING 255)

NO RESPONSE ..... M

Alternative to FFS

The next set of questions will focus on your alternative payment approach, such as comprehensive primary care payments (CPCP), partial or full capitation, or bundled payments for episodes. Under these models, practices receive lump sum payments for attributed patients instead of all or some portion of fee-for-service payments. Please focus on your alternative payments to practices during 2019.

B57. For a given practice type, please indicate how many practices are included in your alternative to FFS approach. Please note that for this survey "CPC+ practices" refers to practices that were selected by CMS to participate in CPC+.

Select one per row

Type of practice	None	Some	Most	All
a. Track 1 CPC+ practices in [REGION THAT THE SURVEY IS ABOUT]	❍0	❍1	❍2	❍3
b. Track 2 CPC+ practices in [REGION THAT THE SURVEY IS ABOUT]	❍0	❍1	❍2	❍3
c. Other primary care practices in [REGION THAT THE SURVEY IS ABOUT] that are NOT participating in CPC+	❍0	❍1	❍2	❍3

B58. [Alternative to FFS Payments]

In which regions are practices that are NOT participating in CPC+ receiving alternative to FFS payments?

Select all that apply

- ☐ Arkansas *NATL_ALT_NON_REG_1* 1
- ☐ Colorado *NATL_ALT_NON_REG_2* 2
- ☐ Greater Buffalo Region (New York) *NATL_ALT_NON_REG_3* 3
- ☐ Greater Kansas City *NATL_ALT_NON_REG_4* 4
- ☐ Hawaii *NATL_ALT_NON_REG_5* 5
- ☐ Louisiana *NATL_ALT_NON_REG_6* 6
- ☐ Michigan *NATL_ALT_NON_REG_7* 7
- ☐ Montana *NATL_ALT_NON_REG_8* 8
- ☐ Nebraska *NATL_ALT_NON_REG_9* 9
- ☐ New Jersey *NATL_ALT_NON_REG_10* 10
- ☐ North Dakota *NATL_ALT_NON_REG_11* 11
- ☐ North Hudson-Capital Region (New York) *NATL_ALT_NON_REG_12* 12
- ☐ Ohio and Northern Kentucky *NATL_ALT_NON_REG_13* 13
- ☐ Oklahoma *NATL_ALT_NON_REG_14* 14
- ☐ Oregon *NATL_ALT_NON_REG_15* 15
- ☐ Greater Philadelphia *NATL_ALT_NON_REG_16* 16
- ☐ Rhode Island *NATL_ALT_NON_REG_17* 17
- ☐ Tennessee *NATL_ALT_NON_REG_18* 18

NO RESPONSE *NATL_ALT_NON_REG_M* ..... M

[If multi-region payer that checks multiple regions: *NATL_ALT_NON_REG_19* ..... 19]

B59. In 2019, for which line(s) of business are you using an alternative payment approach?

Select all that apply

- ☐ Commercial Insurance Plan(s) 1
- ☐ Health Insurance Marketplace Plan(s) 2
- ☐ State/Federal High-Risk Pool(s) 3
- ☐ TPA/ASO 4
- ☐ Medicare Advantage 5
- ☐ Medicaid/CHIP Managed Care Plan(s) 6
- ☐ Medicaid/CHIP fee-for-service (FFS) 7

NEW **B60. You have indicated that you provide alternative to FFS payments to [Track 1 CPC+ practices / Track 2 CPC+ practices / other primary care practices that are not participating in CPC+/multiple lines of business]. Do you have a different approach to providing alternative to FFS payments for:**

		Yes	No
a.	CPC+ practices versus other primary care practices that are not participating in CPC+ practices?	❍1	❍0
b.	Track 1 CPC+ practices versus Track 2 CPC+?	❍1	❍0
b.	Different lines of business?	❍1	❍0

For these next questions about alternative to FFS payments:

- Please focus on your approach for your **CPC+ practices,** not your approach for other primary care practices that are not participating in CPC+.
- Unless otherwise specified, please focus on **the approach used most commonly with your CPC+ practices,** not your separate approaches for Track 1 and Track 2 practices.
- Please think about **your line of business with the greatest number of patients attributed to CPC+ practices.**

NEW **B61. Do practices receive prospective, alternative payments instead of some or all FFS payments for…**

Select one only

❍ All primary care services with few exceptions (such as immunizations or screeners) 1

❍ Some primary care services (such as Evaluation and Management office visits or primary care specific episodes) 2

❍ No primary care services. We do not use an alternative to FFS payment approach (such as full or partial capitation, or bundled payments) for our CPC+ primary care practices 0

NEW **B62. For what primary care specific episodes are practices receiving prospective, alternative payments instead of some or all FFS payments?**

Select all that apply

☐ Evaluation and Management office visits 1

☐ Primary care specific episodes (e.g., urinary tract infections, depression, low back pain) 2

☐ Other (SPECIFY) 99

Specify ☐

B63. In 2019, for what primary care specific episodes are practices receiving alternative or bundled payments?

Select all that apply

- ☐ Urinary tract infection 1
- ☐ Cellulitis 2
- ☐ HIV 3
- ☐ Hepatitis C 4
- ☐ Bronchiolitis and RSV pneumonia 5
- ☐ Hemophilia 6
- ☐ CAD and angina 7
- ☐ Sickle cell 8
- ☐ Hypotension 9
- ☐ Dermatitis/urticarial 10
- ☐ Upper respiratory infection (outpatient) 11
- ☐ Attention-deficit/hyperactivity disorder (ADHD) 12
- ☐ Oppositional defiant disorder (ODD) 13
- ☐ Otitis Media 14
- ☐ Depression 15
- ☐ Anxiety 16
- ☐ Headache 17
- ☐ Low back pain 18
- ☐ Asthma 19
- ☐ Chronic obstructive pulmonary disease (COPD) 20
- ☐ Perinatal care 21

Other (SPECIFY) 99

Specify ☐

B64. In 2019, what adjustments (if any) are you making when calculating alternative payment amounts for CPC+ practices?

Select all that apply

- ☐ Adjust for practice participation in CPC+ or another practice transformation initiative 1
- ☐ Adjust for practice performance on utilization, cost, or quality metrics 2
- ☐ Adjust rate by practice status as it relates to CPC+ tracks (e.g., CPC+ Track 1 or Track 2) or tiers (e.g., achieving a certain PCMH recognition level) 3
- ☐ Adjust for patient demographic characteristics (such as age/sex) 4
- ☐ Adjust for patient or population risk (such as HCC risk score) 5
- ☐ Other (SPECIFY) 99

Specify ☐

- ❍ None 6

B65. What is the maximum adjustment amount for 2019 alternative payments based on participation in CPC+ or another primary care transformation initiative?

☐ PERCENT

B66. What is the maximum adjustment amount for 2019 alternative payments based on utilization, cost, or quality metrics?

☐ PERCENT

NEW

B67. What is the maximum adjustment amount for 2019 alternative payments based on practices' tracks or tiers (e.g., Track 1 and Track 2 for CPC+ or achieving a PCMH recognition level)?

☐ PERCENT

B68. If you are using quality tiers, please describe below.

☐

B69. We want to understand the percentage of payments to primary care practices that are paid through FFS versus an alternative to FFS payment approach.

Thinking of the payments made to a typical primary care practice during the period from January – June 2019, please estimate the percentage of these payments that was paid using (1) FFS and (2) an alternative payment approach. Examples of alternative to FFS payments include prospective comprehensive primary care payments, capitated payments, and bundled payments for episodes of care.

		OF JANUARY – JUNE 2019 PAYMENTS TO PRIMARY CARE PRACTICES, APPROXIMATE PERCENT PAID USING	
		1. **FFS (%)**	2. **An alternative to FFS payment approach (%)**
a.	Track 1 CPC+ practices in [REGION SURVEY IS ABOUT]		
b.	Track 2 CPC+ practices in [REGION SURVEY IS ABOUT]		
c.	Other primary care practices in [REGION SURVEY IS ABOUT] that are NOT participating in CPC+		

C. QUALITY MEASURES, DATA FEEDBACK, AND TECHNICAL ASSISTANCE

C1a. In 2019, are you using these metrics to calculate primary care payments? These metrics could be used to calculate care management fees, performance-based payments, shared savings payments, and/or enhanced FFS or capitation rates.

Select one per row

Metric		Yes	No
a.	Claims-based cost and utilization measures	❍1	❍0
b.	Average cost for primary care specific episodes (e.g., urinary tract infections, depression, low back pain)	❍1	❍0
c.	Claims-based quality measures	❍1	❍0
d.	Electronic Clinical Quality Measures (eCQMs)	❍1	❍0
e.	Patient experience measures (e.g., CAHPS)	❍1	❍0
f.	Other (SPECIFY)	❍1	❍0

C1b. Do you risk-adjust any of the following metrics?

Select one per row

Metric		Yes	No
a.	Claims-based cost and utilization measures	❍1	❍0
b.	Average cost for primary care specific episodes (e.g., urinary tract infections, depression, low back pain)	❍1	❍0
c.	Claims-based quality measures	❍1	❍0
d.	Electronic Clinical Quality Measures (eCQMs)	❍1	❍0
e.	Patient experience measures (e.g., CAHPS)	❍1	❍0
f.	[OTHER SPECIFY FROM C1a]	❍1	❍0

C1c. In 2019, what primary care-specific episodes are you using to calculate the amount of CPC+ payments or to determine if practices qualify for performance-based incentive payments?

Select all that apply

- ☐ Urinary tract infection 1
- ☐ Cellulitis 2
- ☐ HIV 3
- ☐ Hepatitis C 4
- ☐ Bronchiolitis and RSV pneumonia 5
- ☐ Hemophilia 6
- ☐ CAD and angina 7
- ☐ Sickle cell 8
- ☐ Hypotension 9
- ☐ Dermatitis/urticarial 10
- ☐ Upper respiratory infection (outpatient) 11
- ☐ Attention-deficit/hyperactivity disorder (ADHD) 12
- ☐ Oppositional defiant disorder (ODD) 13
- ☐ Otitis Media 14
- ☐ Depression 15
- ☐ Anxiety 16
- ☐ Headache 17
- ☐ Low back pain 18
- ☐ Asthma 19
- ☐ Chronic obstructive pulmonary disease (COPD) 20
- ☐ Perinatal care 21
- ☐ Other (SPECIFY) 99

Specify ☐

C2. Do you currently share data feedback on cost, use, and/or quality with primary care practices? Please select "Yes" if you provide feedback directly to practices or if you provide it through a data aggregator.

Select one only

- ❍ Yes..... 1
- ❍ No, but data feedback will be provided before the end of 2019. 2
- ❍ No, data feedback will not be provided in 2019..... 3

C4. For 2019, what type of data [are/will be] included in your data feedback?

Select one per row

Metric		Yes	No
a.	Claims-based cost and utilization measures	❍1	❍0
b.	Average cost for primary care specific episodes (e.g., urinary tract infections, depression, low back pain)	❍1	❍0
c.	Claims-based quality measures	❍1	❍0
d.	Electronic Clinical Quality Measures (eCQMs)	❍1	❍0
e.	Patient experience measures (e.g., CAHPS)	❍1	❍0
f.	Specialists cost data	❍1	❍0
g.	Hospital cost data	❍1	❍0
h.	Other (specify)	❍1	❍0

C5. How frequently [will/do] you provide data at the system, practice, practitioner, and patient levels?

Select one per row

Level of feedback		Never, data not provided at that level	Quarterly	Monthly	Weekly	Real-time	Other	(Specify)
a.	System-level	❍1	❍2	❍3	❍4	❍5	❍6	_____
b.	Practice-level	❍1	❍2	❍3	❍4	❍5	❍6	_____
c.	Practitioner-level	❍1	❍2	❍3	❍4	❍5	❍6	_____
d.	Patient-level	❍1	❍2	❍3	❍4	❍5	❍6	_____

C6. What format [will/do] you use for sharing data feedback?

Select all that apply

☐ Static report 1

☐ Interactive data portal 2

☐ Other (SPECIFY) 99

Specify [ ]

C7. If relevant, use the space below to note any differences in your approach to data feedback across CPC+ regions.

[ ] (STRING 255)

NO RESPONSE ..... M

C8. In 2019, how many practices that are NOT participating in CPC+ in [REGION SURVEY IS ABOUT] are receiving data feedback on their system, practice, practitioners, or patients?

❍ None 0

❍ Some 1

❍ Most 2

❍ All 3

C8a. / NATL_MEAS_ALIGN_NON_REG

In which regions are practices that were NOT selected for CPC+ receiving data feedback?

Select all that apply

- ☐ Arkansas *NATL_MEAS_ALIGN_NON_REG_1* 1
- ☐ Colorado *NATL_MEAS_ALIGN_NON_REG_2* 2
- ☐ Greater Buffalo Region (New York) *NATL_MEAS_NON_REG_3* 3
- ☐ Greater Kansas City *NATL_MEAS_NON_REG_4* 4
- ☐ Hawaii *NATL_MEAS_NON_REG_5* 5
- ☐ Louisiana *NATL_MEAS_ALIGN_NON_REG_6* 6
- ☐ Michigan *NATL_MEAS_ALIGN_NON_REG_7* 7
- ☐ Montana *NATL_MEAS_ALIGN_NON_REG_8* 8
- ☐ Nebraska *NATL_MEAS_ALIGN_NON_REG_9* 9
- ☐ New Jersey *NATL_MEAS_ALIGN_NON_REG_10* 10
- ☐ North Dakota *NATL_MEAS_ALIGN_NON_REG_11* 11
- ☐ North Hudson-Capital Region (New York) *NATL_MEAS_ALIGN_NON_REG_12* 12
- ☐ Ohio and Northern Kentucky *NATL_MEAS_ALIGN_NON_REG_13* 13
- ☐ Oklahoma *NATL_MEAS_ALIGN_NON_REG_14* 14
- ☐ Oregon *NATL_MEAS_ALIGN_NON_REG_15* 15
- ☐ Greater Philadelphia *NATL_MEAS_ALIGN_NON_REG_16* 16
- ☐ Rhode Island *NATL_MEAS_ALIGN_NON_REG_17* 17
- ☐ Tennessee *NATL_MEAS_ALIGN_NON_REG_18* 18

NO RESPONSE *NATL_MEAS_ALIGN_NON_REG_M* ..... M

[If multi-region payer that checks multiple regions:
NATL_MEAS_ALIGN_NON_REG_19 ..... 19]

C9. How does your data feedback provided under other primary care programs compare to your data feedback for CPC+ practices?

Select one only

- ❍ Data feedback is more comprehensive than feedback provided to CPC+ practices 1
- ❍ Data feedback is about the same as feedback provided to CPC+ practices 2
- ❍ Data feedback is less comprehensive than feedback provided to CPC+ practices 3

C10. Are you offering CPC+ practices technical assistance or practice coaching?

- ❍ Yes 1
- ❍ No 0

C11. In 2019, what type of assistance are you offering CPC+ practices?

Select all that apply

- ☐ In-person group learning sessions 1
- ☐ Web-based group learning sessions 2
- ☐ Individualized practice coaching 3
- ☐ Other (SPECIFY) 99

Specify [ ]

C12. Are you coordinating technical assistance for CPC+ practices with [YOUR REGIONAL LEARNING NETWORK]?

- ❍ Yes 1
- ❍ No 0

C12a. In which regions are you coordinating technical assistance with Regional Learning Networks?

Select all that apply

- ☐ Arkansas *NATL_TA_ALIGN_REG_1* 1
- ☐ Colorado *NATL_TA_ALIGN_REG_2* 2
- ☐ Greater Buffalo Region (New York) *NATL_TA_ALIGN_REG_3* 3
- ☐ Greater Kansas City *NATL_TA_ALIGN_REG_4* 4
- ☐ Hawaii *NATL_TA_ALIGN_REG_5* 5
- ☐ Louisiana *NATL_TA_ALIGN_REG_6* 6
- ☐ Michigan *NATL_TA_ALIGN_REG_7* 7
- ☐ Montana *NATL_TA_ALIGN_REG_8* 8
- ☐ Nebraska *NATL_TA_ALIGN_REG_9* 9
- ☐ New Jersey *NATL_TA_ALIGN_REG_10* 10
- ☐ North Dakota *NATL_TA_ALIGN_REG_11* 11
- ☐ North Hudson-Capital Region (New York) *NATL_TA_ALIGN_REG_12* 12
- ☐ Ohio and Northern Kentucky *NATL_TA_ALIGN_REG_13* 13
- ☐ Oklahoma *NATL_TA_ALIGN_REG_14* 14
- ☐ Oregon *NATL_TA_ALIGN_REG_15* 15
- ☐ Greater Philadelphia *NATL_TA_ALIGN_REG_16* 16
- ☐ Rhode Island *NATL_TA_ALIGN_REG_17* 17
- ☐ Tennessee *NATL_TA_ALIGN_REG_18* 18

NO RESPONSE *NATL_TA_ALIGN_REG_M* ..... M

[IF MULTI-REGION PAYER THAT CHECKS MULTIPLE REGIONS:
NATL_TA_ALIGN_NON_REG_19 ..... 19]

C13. If relevant, use the space below to note any differences in your approach to technical assistance for practices across CPC+ regions.

☐ (STRING 255)

NO RESPONSE ..... M

C14. In 2019, how many practices that are NOT participating in CPC+ are receiving technical assistance?

Select one only

- ❍ None 0
- ❍ Some 1
- ❍ Most 2
- ❍ All 3

C15. How does your technical assistance provided under other primary care programs compare to your technical assistance for CPC+ practices?

Select one only

- ❍ Technical assistance is more intensive than the support provided to CPC+ practices 1
- ❍ Technical assistance is about the same as the support provided to CPC+ practices 2
- ❍ Technical assistance is less intensive than the support provided to CPC+ practices 3

C16a. Some payers are offering other supports to practices or directly to CPC+ patients.

Do you offer any of the following other supports or services to CPC+ practices?

Select all that apply

- ☐ Care managers for practices 1
- ☐ Behavioral health integration supports (e.g., embedded behavioral health staff, reimbursement for behavioral health services provided in primary care settings) 2
- ☐ Embedded pharmacists for practices 3
- ☐ Fee for service reimbursement for alternative visits (such as home-based care, video-based conferencing, or e-visits) 4
- ☐ Other (SPECIFY) 99

Specify [ ]

- ❍ None of the above 5

C16b. Do you provide FFS reimbursement to primary care practices for the following types of alternative visits?

Select all that apply

- ☐ Visits in alternative locations (for example, nursing facilities or senior centers) 1
- ☐ Home-based visits (i.e., primary care home visits) 2
- ☐ Medical group visits (i.e., shared medical appointments) 3
- ☐ Video-based conferencing (i.e., telehealth or telemedicine) 4
- ☐ Medical visit over an electronic exchange (for example, e-visit, portal) 5
- ☐ Medical visit via telephone (i.e. phone visit) 6
- ☐ Other (SPECIFY) 99

Specify [ ]

C16c. Do you offer any of the following other supports or services directly to CPC+ attributed patients?

Select all that apply

- ☐ Telephonic care management 1
- ☐ Medication therapy reviews 2
- ☐ Disease management programs 3
- ☐ Health and wellness services (e.g., smoking cessation counseling, weight loss support) 4
- ❍ None of the above 5

D. PRIOR AND CONCURRENT INITIATIVES

NEW

D1. We are interested in understanding how your supports for primary care practices may have changed in recent years.

Since deciding to partner in CPC+, 1) have you made any of the following changes to your primary care practice supports, and (2) if yes, how much were those changes influenced by partnering in CPC+?

	(1) Have you made any of the following changes to your supports for primary care practices since deciding to partner in CPC+?		(2) If yes, how much were those changes influenced by partnering in CPC+?		
	Yes	No	Not at all influenced	Influenced somewhat	Strongly influenced
a. Increased the amount of funding provided to primary care practices to support practice transformation	❍1	❍0	❍1	❍2	❍3
b. Increased the proportion of payments paid *prospectively* (for example, through comprehensive primary care payments or full or partial capitated payments)	❍1	❍0	❍1	❍2	❍3
c. Increased the alignment of quality metrics used for calculating payments	❍1	❍0	❍1	❍2	❍3
d. Provided more comprehensive data feedback (such as adding additional measures or new drill down features to reports)	❍1	❍0	❍1	❍2	❍3
e. Provided additional technical assistance or practice coaching to practices	❍1	❍0	❍1	❍2	❍3
f. Some other change (Specify)	❍1	❍0	❍1	❍2	❍3

D2. Please provide additional details on the changes that you made that were influenced by partnering in CPC+.

CAUTION: Your survey has not been submitted until you click "Next" below and receive a confirmation number. You will not be able to make any changes after you click "Next".

Before clicking submit, you have the option to view and print a copy of your completed survey. This printable version of the survey will open in a new tab. Please come back to this tab and click "Submit" below to submit your survey.

If there are any responses that you do not wish to share with CMS, please list the question(s) below.

Thank you for completing the payer survey!

Your confirmation number is: _____

If you have questions about this survey, please contact Brianna Sullivan at Mathematica (BSullivan@mathematica-mpr.com or 617-715-9953).

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3.B. Practice Survey

This Appendix describes the CPC+ Practice Survey used to assess how practices that began participating in CPC+ in 2017 have changed the way they deliver care in response to CPC+, as well as their organizational characteristics and experiences with CPC+, including with data feedback, learning supports, and CPC+ payments. It details survey fielding (Section 1), sampling and weighting methods (Section 2), survey content (Section 3), analytic methods (Section 4), and data tables (Section 5); and includes the Program Year (PY) 3 practice survey instrument (Section 6).

3.B.1. Survey fielding

A. Timing of survey administration

We administered three waves of the CPC+ Practice Survey to practices that began CPC+ in 2017, one survey in each program year. The first survey was administered to practices from March 30, 2017, through September 24, 2017, three to nine months after CPC+ began (Table 3.B.1). The second and third waves were administered roughly 2.5 and 3.5 years into CPC+.

Table 3.B.1. CPC+ Practice Survey administration dates

PY	Wave	Fielding dates	Months after CPC+ began (program year)
1	Wave 1	March 30, 2017–September 25, 2017	3–9 months[a]
2	Wave 2	June 6, 2018–September 25, 2018	18–21 months
3	Wave 3	July 16, 2019–November 18, 2019	31–35 months

[a] The PY 1 field period was longer than the periods for other waves because we fielded the survey to comparison practices two months after fielding it to CPC+ practices, due to the comparison practice selection timeline. We allowed CPC+ practices to respond up to the end of the fielding period for comparison practices, though 99 percent of CPC+ practices had responded by the end of July 2017.

PY = Program Year.

We also administered the PY 1 and PY 3 CPC+ Practice Surveys to comparison practices that were selected via propensity score matching to have similar characteristics to the CPC+ practices before CPC+ began. See Appendix 6.C of the CPC+ Second Annual Report for more information on comparison practice selection.

B. Survey mode, fielding procedures, length, and incentive

Mathematica designed the CPC+ Practice Survey, which was fielded primarily over the web, though a small number of non-CPC+ practices completed a paper survey.[3] Telligen, another CMS contractor, fielded the survey to practices that were actively participating in CPC+ at the time of the survey and Mathematica fielded it to comparison practices and those that had

[3] Non-CPC+ practices include comparison practices and practices that were once in CPC+ but withdrew or were terminated before the survey was administered.

withdrawn or were terminated from CPC+. We obtained email and mailing addresses for CPC+ practices from Telligen, which asks practices to update their contact information regularly, and for comparison practices from IQVIA, a health care data vendor. For CPC+ practices, the fielding periods for the PYs 1, 2, and 3 surveys were 26, 16, and 18 weeks long, respectively. For comparison practices, the fielding periods were18 weeks in each wave. We used different fielding procedures for CPC+ and non-CPC+ practices because CPC+ practices were required to complete the surveys and had CPC+-specific communications about the survey. Non-CPC+ practices, including comparison practices and withdrawn or terminated CPC+ practices, received more reminders. All non-CPC+ practices received some hard copy letter mailings to maximize survey visibility and response rates, but practices for which we did not have a valid email address received only hard copy mailings and fewer reminders, due to cost. See Table 3.B.2 for an overview of fielding procedures by survey wave and sample group.

Table 3.B.2. Fielding procedures for CPC+ Practice Survey

	Participating CPC+ practices	Withdrawn/terminated CPC+ practices and comparison practices *with* email address available[a]	Withdrawn/terminated CPC+ practices and comparison practices *without* email address available[a]
All survey waves			
Who fielded survey	• Telligen	• Mathematica	• Mathematica
Survey invitation mode and content	• Email with log-in and FAQs	• Mailed letter with log-in, CPC+ fact sheet, and FAQs • Email with log-in and FAQs	• Mailed letter with log-in, CPC+ fact sheet, and FAQs
Approximate reminder frequency	• Weekly to bi-weekly	• Weekly to bi-weekly	• Bi-weekly
PY 1 follow-up to non-responding practice managers			
Number of reminders	• Six reminder emails between weeks 2 and 10 of fielding	• Eight reminder emails, one mailed reminder postcard, and three mailed reminder letters between weeks 2 and 16 of fielding	• Four mailed reminder postcards and six mailed reminder letters between weeks 2 and 16 of fielding
Telephone outreach	• Started 11 weeks into fielding	• Started 9 weeks into fielding	• Started 9 weeks into fielding
Other reminders or outreach	• Survey announced in weekly CPC+ newsletter (“CPC+ roundup”) twice before fielding and nine times throughout fielding	• Survey endorsement letters[b] were linked in reminder emails in weeks 2 and 3, and mailed with the reminder letter in week 4	• Survey endorsement letters[b] were mailed with the reminder letter in week 4
Paper questionnaire (included in reminder contact)	• Not offered or sent	• Offered 8 weeks into fielding by request and mailed to all non-responders in week 15	• Offered 8 weeks into fielding by request and mailed to all non-responders in week 15

Table 3.B.2. ***(continued)***

	Participating CPC+ practices	Withdrawn/terminated CPC+ practices and comparison practices *with* email address available[a]	Withdrawn/terminated CPC+ practices and comparison practices *without* email address available[a]
PY 2 follow-up to non-responding practice managers			
Number of reminders	• Same as PY 1	• Nine reminder emails and one mailed reminder letter between weeks 2 and 16 of fielding	• One mailed reminder postcard and four mailed reminder letters between weeks 2 and 16 of fielding[c]
Telephone outreach	• Same as PY 1	• None	• None
Other reminders or outreach	• Survey announced in weekly CPC+ newsletter (renamed "On the Plus Side"), posted on the CPC+ calendar, and CPC+ All Connect chatter post once before fielding and nine times throughout fielding	• None	• None
Paper questionnaire (included in reminder contact)	• Not offered or sent	• Not offered or sent	• Not offered or sent
PY 3 follow-up to non-responding practice managers			
Number of reminders	• Same as PY 1	• Seven reminder emails, and two mailed reminder letters between weeks 2 and 16 of fielding	• Seven mailed reminder letters between weeks 2 and 15 of fielding
Telephone outreach	• Started 7 weeks into fielding	• Started 6 weeks into fielding	• Started 6 weeks into fielding
Other reminders or outreach	• Survey announced in weekly CPC+ newsletter (renamed "On the Plus Side"), posted on the CPC+ calendar, and CPC+ All Connect chatter post twice before fielding and eight times throughout fielding	• Advance email sent three weeks prior to fielding to gauge quality of email addresses • Survey endorsement letters[b] were linked in reminder emails in weeks 2 and 3, and mailed with the reminder letter in week 4	• Survey endorsement letters[b] were mailed with the reminder letter in week 4
Paper questionnaire (included in reminder contact)	• Not offered or sent	• Sent to comparison practices in week 9 and to withdrawn/terminated CPC+ practices in week 11 of fielding	• Sent to comparison practices in week 9 and to withdrawn/terminated CPC+ practices in week 11 of fielding

[a] We did not have a valid email address for approximately 50 percent of fielded comparison practices at the start of the PY 1 survey and 6 percent of fielded comparison practices at the start of the PY 3 survey. All withdrawn or terminated CPC+ practices had valid email addresses at the start of the PY 1 and 2 surveys, but by the PY 3 survey, 11 percent did not have a valid email address.

[b] We sent a letter from the American College of Physicians and one from the American Academy of Family Physicians endorsing the survey to practice managers to encourage survey completion.

Table 3.B.2. ***(continued)***

[c] Because all cases had a valid email address at the beginning of fielding the PY 2 survey, we sent these mailed reminders only if email addresses bounced back or practice managers changed.

FAQs = Frequently asked questions; PY = Program Year.

The survey was designed to be completed in 30 to 60 minutes, depending on the respondent and the survey wave. In general, the survey administered to practices that participated in CPC+ in the past year (those that were still participating or recently withdrew or were terminated from CPC+) took longer to complete than the survey administered to comparison practices and those that withdrew or were terminated earlier. The completion time differed because we asked the former set of practices about their experiences with CPC+ (see Section 3.B.3 for information on survey content).

The survey was sent to the practice manager. The instructions encouraged the practice manager to discuss the survey with the practice's practitioners and staff to deliver responses that reflected a consensus view. CPC+ practices were required to respond to the survey as a condition of participation, so we did not compensate them for doing so. Comparison practices were offered $100 to complete each survey; in addition, for the PY 1 survey we offered an extra $50 to some high-priority practices that were matched to multiple CPC+ practices. Practices that had withdrawn from CPC+ prior to survey fielding were offered $100 to complete the PY 1 survey and $200 to complete the PY 2 and PY 3 surveys.[4] Practices were told that responses would not be shared with CMS or other payers; their responses would not have any consequences for payment or affect practices' participation in CPC+, but would be shared with the CPC+ learning team so it could provide learning support. Mathematica only provided responses about learning supports to the learning team in aggregate to encourage candid responses.

3.B.2. Sampling and weighting methods

A. Sampling, sample sizes, and response rates

We surveyed all practices that began participating in CPC+ in 2017 and did not withdraw in the first quarter of CPC+, regardless of whether they were still participating in CPC+ at the time of the survey. Each year, we also added to the survey any new practices that split off from these "2017 Starters" to operate as their own CPC+ practice. We sent the PY 1 survey to all of the comparison practices, but because we required practices to respond to both the PY 1 and PY 3 surveys for the analysis, we only fielded the PY 3 survey to comparison practices that responded in PY 1. We did not send surveys to CPC+ practices that closed or were no longer providing primary care at the start of survey fielding. See Table 3.B.3 for sample sizes and response rates per survey wave.

Below, we describe our process for sampling practices for the CPC+ Practice Survey by wave; in Section B, we describe how we further refined the sample for the analysis.

[4] We increased the incentive payment for the Wave 2 and Wave 3 surveys because we increased the length of the survey to include new questions on the primary care functions and new sections on data feedback and participation in CPC+.

PY 1 survey. Telligen and Mathematica[5] fielded the PY 1 survey to the 2,888 CPC+ practices that began CPC+ in January 2017 and did not withdraw from CPC+ by the end of the first quarter: 1,373 in Track 1 and 1,515 in Track 2. Of those practices, 19 did not respond to the survey or answer enough questions to consider their response complete, for a response rate of 99.3 percent (see Section B for our definition of a complete survey). Mathematica also fielded the survey to 6,920 comparisons practices, of which only 2,037 answered enough questions to count as a complete response, for a response rate of 29.4 percent.

PY 2 survey. In PY 2, Telligen and Mathematica fielded the survey to the 2,833 practices that were still participating in CPC+ or had withdrawn or been terminated from CPC+ in the past year and were offering primary care at the start of fielding: 1,349 in Track 1 and 1,484 in Track 2. Of those practices, 62 did not respond to the survey or answer enough questions for the survey team to consider their response complete, for a response rate of 97.8 percent. Comparison practices did not receive a PY 2 survey.

PY 3 survey. In PY 3, Telligen and Mathematica fielded the survey to 2,776 CPC+ practices: 1,312 in Track 1 and 1,464 in Track 2. This included all CPC+ practices that were open at the start of fielding. Of those 2,776 practices, 114 did not respond to the survey or answer enough questions for the survey team to consider their response complete, for a response rate of 95.9 percent. Mathematica also fielded the survey to the 1,978 comparison practices that responded to the PY 1 survey and were still open as of the start of fielding. Of these, 1,303 comparison practices answered enough questions to count as a complete response, for a response rate of 65.9 percent.

Table 3.B.3. CPC+ Practice Survey sample sizes and response rates

	CPC+ practices			Comparison practices		
	Track 1	Track 2	Total	Track 1	Track 2	Total[a]
PY 1						
In sample frame	1,373	1,515	2,888	5,242	3,783	6,920
Sent surveys[b]	1,373	1,515	2,888	5,242	3,783	6,920
Returned surveys	1,367	1,508	2,875	1,697	1,180	2,263
Returned eligible and complete surveys	1,364	1,505	2,869	1,527	1,057	2,037
In analytic sample[c]	1,206	1,418	2,624	998	642	1,303
Response rate (percentage, unweighted)	99.3	99.3	99.3	29.1	27.9	29.4
Percentage of eligible practices included in analysis	87.8	93.6	90.9	19.0	17.0	18.8
PY 2						
In sample frame	1,349	1,484	2,833	n.a.	n.a.	n.a.
Sent surveys	1,349	1,484	2,833	n.a.	n.a.	n.a.
Returned surveys	1,311	1,463	2,774	n.a.	n.a.	n.a.
Returned eligible and complete surveys	1,308	1,463	2,771	n.a.	n.a.	n.a.

[5] Each wave, Telligen fielded the survey to CPC+ practices that were actively participating in CPC+ and Mathematica fielded it to those that had withdrawn or were terminated from CPC+. If a practice withdrew or was terminated during the survey fielding period, Mathematica took over fielding after receiving approval from CMS that the practice could be contacted.

Table 3.B.3. ***(continued)***

	CPC+ practices			Comparison practices		
	Track 1	Track 2	Total	Track 1	Track 2	Total[a]
In analytic sample[c]	1,206	1,418	2,624	n.a.	n.a.	n.a.
Response rate (percentage, unweighted)	97.0	98.6	97.8	n.a.	n.a.	n.a.
Percentage of eligible practices included in analysis	89.4	95.6	92.6	n.a.	n.a.	n.a.
PY 3						
In sample frame	1,312	1,464	2,776	1,482	1,030	1,978
Sent surveys[d]	1,312	1,464	2,776	1,482	1,030	1,978
Returned surveys	1,239	1,427	2,666	999	642	1,304
Returned eligible and complete surveys	1,237	1,425	2,662	998	642	1,303
In analytic sample[c]	1,206	1,418	2,624	998	642	1,303
Response rate (percentage, unweighted)	94.3	97.3	95.9	67.3	62.3	65.9
Percentage of eligible practices included in analysis[e]	91.9	96.9	94.5	20.1	17.9	19.8

[a] Comparison practices can be matched to CPC+ practices in both tracks. Comparison practices in both tracks were surveyed once but are counted twice, once in Track 1 and once in Track 2. Comparison practice totals do not equal the sum of Track 1 and Track 2 because about 30 percent of comparison practices were matched to both tracks.

[b] An additional 1,475 comparison practices were sent surveys in PY 1 but are not counted in this table because they were subsequently dropped from the evaluation. These practices were not likely to be eligible for CPC+. (See Appendix 6.C of the CPC+ Second Annual Report for more information on comparison practice selection; Anglin et al., 2020.)

[c] The analytic sample is smaller than the number of completed surveys because it excludes practices that did not respond in all survey waves and those that withdrew from CPC+ more than a year prior to fielding any survey wave.

[d] An additional 72 CPC+ practices (39 in Track 1 and 33 in Track 2) were sent surveys in PY 3 because they split off from existing CPC+ practices. These practices are not included in the counts, as they were sent surveys solely to provide feedback to the CPC+ learning network and were not included in practice survey analyses.

[e] This calculation defines eligible comparison practices for the PY 3 survey as the 6,575 comparison practices (4,973 matched to Track 1 CPC+ practices and 3,593 matched to Track 2 CPC+ practices) that were still providing primary care when the PY 3 survey was fielded. This number is greater than the number of comparison practices in the sample frame, which only includes those practices that responded to the PY 1 survey.

n.a. = not applicable because the comparison practices were not administered the PY 2 survey.

B. Eligibility and weighting

Eligibility. For each survey wave, all CPC+ practices were eligible to participate in the survey if they provided primary care and were open at the time of fielding. Similarly, all comparison practices were eligible to participate in the PY 1 survey if they provided primary care and were open at the time of fielding the survey. Only comparison practices that responded to the PY 1 survey were eligible to respond to the PY 3 survey (and were not surveyed during the PY 2 survey).

Completed surveys. We considered a survey complete if the practice responded to 29 of the 38 questions (more than 75 percent of the questions) included in the original (PY 1) M2-PCMH-A composite measure (see Sections 3.B.3 and 3.B.4 for more information on the M2-PCMH-A). Because the questions changed with each wave of the survey, if an item was not asked in a given wave, we counted it as answered for the purposes of determining whether a survey was complete. This restriction helped ensure the statistical reliability of a summary score for the care delivery approaches, the M2-PCMH-A score.

Analytic sample. To be included in this analysis, CPC+ and comparison practices had to submit a completed survey for all fielded waves (three for CPC+ practices, and two for comparison practices).[6] Any withdrawn or terminated CPC+ practices included in this analysis must have been participating in CPC+ at some point during the year before fielding the PY 3 survey. In our analysis, we included survey responses from 2,624 CPC+ practices: 1,206 practices in Track 1 and 1,418 in Track 2, and 1,303 comparison practices: 998 practices matched to Track 1 CPC+ practices and 642 practices matched to Track 2 CPC+ practices.[7] Table 3.B.3 reports counts of practices in the analytic sample.

The practices included in the analysis represent 88 to 92 percent of eligible Track 1 CPC+ practices and 94 to 97 percent of eligible Track 2 CPC+ practices, depending on the survey wave. The analytic sample for the comparison practices represents 17 to 20 percent of the comparison practices, depending on track and survey wave, that are included in the impact analysis and would have been eligible to respond to the PY 3 survey if we did not restrict the sample frame to only comparison practices that responded to the PY 1 survey.

Calculating weights for CPC+ practices. We did not apply weights to the CPC+ practices' responses. Over 90 percent of eligible CPC+ practices in each track are included in the analysis; therefore, we determined there was minimal threat of nonresponse bias among the CPC+ practices.

Calculating weights for comparison practices. We had two goals for constructing the weighting adjustments for the comparison practices: (1) to account for differential nonresponse among comparison practices and (2) to ensure that the responding comparison practices would have characteristics similar to those of the responding CPC+ practices.

We generated nonresponse-adjusted weights to account for differential nonresponse to the PYs 1 and 3 surveys, such that the comparison practices responding to the survey in both waves would represent all the comparison practices. We calculated these adjustments in three steps:

1. We ran nonparametric chi-square automatic interaction detection (CHAID) analysis, with whether the practice responded to both waves of the survey as the outcome. This CHAID analysis was used to discover interactions between practice characteristics and to identify the cut points for continuous variables that were related to response. CHAID allowed us to quickly identify potential interactions rather than directly testing in regression analyses, which can be a time-consuming process.
2. After we identified interactions among practice characteristics variables that were associated with responding to the survey, we ran a series of logistic regressions with backward and forward model selection procedures. These automated model-fitting analyses sequentially drop or add variables in the regression model until no further variables meet a specified

[6] The analytic sample does not include CPC+ practices that merged with another CPC+ practice after completing the Wave 1 survey and subsequently did not respond to the Wave 2 and/or Wave 3 survey(s). It also excludes "new" CPC+ practices that resulted from splitting from another CPC+ practice.

[7] Of the 1,303 comparison practices that returned a completed survey in both waves, 337 were matched to both tracks.

criterion for removal or inclusion. We used the model's output to select a reduced set of practice characteristics that were all highly predictive of response and would be used to adjust for nonresponse.

3. We cut the data into 10 cells based on the distribution of the response propensity scores generated from the final logistic regression model, so that all members of each cell had similar propensities for survey response. We then adjusted the practice matching weights (weights created for the evaluation and designed such that the comparison practices were similar to the CPC+ practices on multiple practice and patient characteristics before CPC+) for each of the responding comparison physicians so they summed to the total of the matching weights for all physicians in each weighting cell. In effect, we inflated the weights of the responding physicians in each cell to account for the weights of the nonresponding physicians in that cell.

   We calculated weights separately by track; therefore, the practice characteristics that were ultimately used for weighting nonresponse adjustments differed between the two tracks (Table 3.B.4).

Table 3.B.4. Practice characteristics used in nonresponse adjustments

Practice characteristic (baseline)	Source	Track 1	Track 2
Whether the practice participated in an SSP accountable care organization	MDM, 2016	X	
Whether a hospital or health system owns the practice	SK&A, 2016	X	X
Prior experience in selected practice transformation activities: NCQA, TJC, AAAHC, URAC, or state medical-home recognition status (whether practice is in a medical home) or alumni of CPC Classic or MAPCP	NCQA, 2016; TJC, 2016; AAAHC, 2016; URAC, 2016; state-specific sources, 2016; CPC+ data; CMS, 2016	X	X
Percentage of Medicare charges that are primary care	Medicare claims data, 2016	X	
Practice's average PBPM Winsorized total Medicare expenditures in 2016	Medicare claims data, 2016	X	
Practice's average PBPM Winsorized total Medicare expenditures in 4th quarter of 2016	Medicare claims data, 2016		X
Number of Medicare FFS beneficiaries assigned to practice at baseline	Medicare enrollment data, 2014–2016; Medicare claims data, 2014–2016	X	
Average HCC score of assigned Medicare FFS beneficiaries	EDB, 2015-2016; MBSF, 2015; Medicare claims data, 2015		X
Practice located in Census region	SK&A, 2016; CMS, 2016		
Northeast			X
Midwest			X
South		X	X
West			
Practice located in	SK&A, 2016; CMS, 2016		
Arizona			X
California			X
Idaho		X	

Table 3.B.4. ***(continued)***

Practice characteristic (baseline)	Source	Track 1	Track 2
Minnesota		X	
Nevada			X
New Mexico			X
Pennsylvania			X
Utah		X	
Washington			X
West Virginia		X	
Wisconsin		X	X
Whether the practice is located within a certain county	SK&A, 2016; CMS, 2016	X	X

AAAHC = Accreditation Association for Ambulatory Health Care; CMS = Centers for Medicare & Medicaid Services; CPC+ = Comprehensive Primary Care Plus; EDB = Medicare Enrollment Database; FFS = fee-for-service; HCC = hierarchical condition category; MBSF = Master Beneficiary Summary File; MDM = master data management system; NCQA = National Committee for Quality Assurance; PBPM = per beneficiary per month; SSP = Medicare Shared Savings Program; TJC = The Joint Commission; URAC = Utilization Review Accreditation Commission.

3.B.3. Survey content

The survey collects general information about practices' characteristics and care delivery approaches. The PY 3 survey was divided into nine sections. The first two sections asked practices to rate their approaches to delivering specific aspects of primary care. The questions in these sections were modified from the Patient-Centered Medical Home Assessment (PCMH-A) used in the Safety Net Medical Home Initiative (2010) and the modified PCMH-A used in the CPC Classic evaluation (Poznyak et al. 2017). In these questions, practices were asked to rate their approaches to care delivery on a scale of 1 (the least advanced approaches to delivering care) to 4 (the most advanced approaches). The third section asked about practice characteristics and involvement in other initiatives. The fourth and fifth sections asked about data feedback on costs of care to insurers and practice performance, as well as use of health IT. The sixth section asked about sources of practice revenue. The seventh through ninth sections asked about practices' experience with CPC+ payments, learning activities and assistance, practice staff involvement in implementing CPC+, and perceptions of CPC+.

The PY 1 and 2 surveys followed a similar format. In the PY 3 survey, we made the following changes from the previous surveys: (1) we dropped PY 2 items that were no longer needed, including 35 items for all practices and an additional 6 dropped just for comparison practices[8]; (2) we edited question text or response options to collect more detailed information for 9 items; and (3) we added 2 items covering the practices' participation in CMS's Accountable Health Communities Model and the usefulness of the Regional Implementation Networking Groups that were introduced for CPC+ in the middle of 2018. See Table 3.B.10 for details on the 11 survey items that were altered and Section 3.B.6 for the full PY 3 Practice Survey instrument.

[8] To minimize burden for the practices, we cut items that were not critical to the evaluation, could be collected from other data sources, were problematic for the practice managers to answer based on pretesting, or were more appropriate for inclusion in the CPC+ Physician Survey.

Comparison practices largely received the same survey as CPC+ practices with the exception of the three sections on experiences with CPC+ and, in PY 3 only, some care delivery items.[9]

3.B.4. Analytic methods

Care delivery scores. We created an overall summary score (the overall M2-PCMH-A score) of practices' approaches to care delivery as a weighted average of each practice's response to 25 questions that were included in all three survey waves.[10] Most of the 25 questions included in this measure were from the first two sections of the survey, which ask about approaches to different aspects of care delivery related to the Comprehensive Primary Care Functions; a small number of questions were taken from other sections of the survey such as questions about the practices' use of health IT.

We determined weights for each question using a confirmatory factor analysis (CFA) that we conducted on responses from 2017 Starter CPC+ practices to the 2017 (PY 1) CPC+ Practice Survey. CFA assesses the fit (correlation) of each item within the summary score and assigns a weight to each item based on its correlation with other questions in the scale. Therefore, items that better represented the scale received a higher relative weight than items more weakly correlated with the other items in the scale. In our previous analyses, the summary scores generated by CFA achieved better validity than did the basic scoring method that takes a simple, unweighted average of the question responses (Poznyak 2015; Gellar 2017). Therefore, CFA-weighted scores for each practice might more accurately reflect the primary care delivery approaches the practice uses. See Table 3.B.5 for the questions included in the overall summary score and their associated weights.

As stated above, most questions were scored on a 4-point scale, with higher scores indicating more advanced approaches to care delivery. Before calculating summary scores, we rescaled questions that used different response scales to follow the same 4-point scale. For example, for questions with a 2-point scale (such as yes/no), we recoded yes responses to be equal to a 4 on the 4-point scale and no responses to equal 1. Two questions in the continuous improvement driven by data domain ask practices about the extent to which they use their EHR system for quality improvement and data sharing. A few practices reported that they did not have an EHR (question F1) and they skipped the two questions about how they use their EHR (F2 and F3). We gave these practices scores equal to 1 on the 4-point scale for items F2 and F3. In all other cases, we calculated mean scores among the non-missing responses. The percentage of practices that skipped the questions included in the summary score was small: at most, 0.1 percent. Once we rescaled items, we calculated the "overall M2-PCMH-A score" by taking a weighted average of the items using the weights calculated by the CFA (weights reported in Table 3.B.5). The

[9] After the PY 1 survey, we conducted a debriefing with a small set of CPC+ and comparison practice survey respondents, which suggested that comparison practices may not have the same understanding of these new and complex concepts as CPC+ practices. Therefore, we decided to revise the wording on some questions and remove other questions from the survey administered to comparison practices. Additionally, we removed some questions to reduce the burden on comparison practices.

[10] To facilitate comparisons over time, we constructed the overall M2-PCMH-A score using questions that were asked in all survey waves. Therefore, the composition of the M2-PCMH-A score in previous annual reports is different from the M2-PCMH-A score presented in this annual report.

weights for individual questions in the total score ranged from 2 to 7 percent. Twelve percent of the questions had a weight of 2 percent, 60 percent of the questions had a weight of 3 or 4 percent, and 28 percent had a weight of 5 to 7 percent. The overall M2-PCMH-A score had adequate reliability with a McDonald's omega score of 0.86 (Nunnally and Bernstein 1994; Lance et al. 2006).

Table 3.B.5. M2-PCMH-A topics used to measure care delivery approaches

Topics	Topic weight in overall score
Patient assignment to specific provider, and use of that assignment to schedule and monitor supply and demand	2%
Extent of role of nonphysician practice team members in providing clinical care	4%
Practice staff follow up with patients following emergency department (ED)/hospital visits	6%
Patient after-hours access to a coverage team or the practice, and availability of patient electronic health record (EHR)	3%
Practice's use of quality improvement (QI) activities that are continuous and based on proven improvement strategies	5%
Availability of staff, resources, and time for QI activities	5%
Availability of same-day appointments	4%
Electronic patient communication with practice team	4%
Extent to which patients are scheduled with their own provider and practice team	2%
Extent to which patients' care teams respond to clinical questions between scheduled encounters	3%
Provision of clinical care management services for high-risk patients by care managers located at the practice site	4%
Timeliness of clinical information received from EDs following a patient's visit	5%
Practice staff follow up with patients within one week of an ED visit	7%
Timeliness of clinical information received from hospitals following a patient's visit	6%
Outreach to patients within three days of hospital discharge	7%
Timely receipt of information about patients after they visit specialists in the community	4%
Extent to which practice has formalized referral agreements with a range of specialists	3%
Assessment of the social and functional support needs of patients	4%
Use of feedback from patient surveys or a patient and family caregiver council to guide practice improvements[a]	3%
Availability of registry data to assess and manage care for practice populations	3%
Extent of pre-visit planning done prior to patient visit	4%
Use of data extracts or reports generated from EHR to guide QI efforts[b]	3%
Electronic sharing of patient clinical data with hospitals	3%
Electronic sharing of patient clinical data with specialist practices	3%
Electronic sharing of patient clinical data with diagnostic service facilities	2%

[a] The wording of this item and response categories changed from PY 1 to PY 2. Refer to Table 3.B.10 to see how item and response category wording changed between PYs.

[b] Item was rescaled from a 2-point to a 4-point scale to match the format of the other items in the M2-PCMH-A.

Statistical estimation. We statistically tested whether the overall M2-PCMH-A scores based on responses in the PY 3 survey differed from those in the PY 1 survey. We did this separately for CPC+ and comparison practices and by track. We tested whether a dummy for PY 1 versus PY 3 was a statistically significant predictor of the summary score in an ordinary least squares regression. Regressions included practice fixed effects to control for time invariant practice characteristics, and cluster robust standard errors. To reduce the risk of false positives from multiple comparisons, we did not statistically test differences over time for the individual survey questions or differences with the PY 2 survey.

Subgroups: For selected questions where subgroup analysis could be important from a clinical, implementation, or policy perspective, we also estimated the effects of CPC+ on key subgroups of practices based on their characteristics. We did not perform subgroup analysis for comparison practices. We also did not perform subgroup analysis for all questions, nor did we perform the same subgroup analyses across each question. We considered the following practice characteristics for subgroup analysis:

- Practice ownership by a hospital or a health system, or independently owned[11]
- Practice size (measured by number of primary care practitioners at practice site): large (six or more practitioners), medium (three to five practitioners), or small (one or two practitioners)[12]
- Whether the practice site is in a rural, suburban, or urban area[13]
- Whether the practice site participated in CPC Classic[14]
- Whether the practice site participated in prior practice transformation activities (was recognized as a medical home or participated in the Multi-Payer Advanced Primary Care Practice [MAPCP] or CPC Classic initiatives)[15]

Counts of practitioners and staff. The survey asked practices to provide counts of full- and part-time practitioners regardless of specialty (Question A1), primary care practitioners (Question A2), nurses and medical assistants (Question C8), and care managers or care

[11] Practice ownership comes from the SK&A database, managed by IQVIA, a marketing organization that collects information directly from all health care practices in the United States. IQVIA updates this information on an ongoing basis; we pulled practice ownership information in October 2018. If the database did not report practice ownership as of October 2018, we used the most recent data available, either November 2017 or November 2016 information.

[12] Practice size is determined from the number of primary care practitioners (PCPs) as of December 2018. Practices self-reported this information to CMS in roster files. If practice size was missing, we used the number of PCPs reported on the December 2017 or January 2017 roster files, taking the most recently available.

[13] Geographic location is derived from the 2015–2016 Department of Health and Human Services' Area Health Resource File (AHRF). The variable used reflects 2013 data. The AHRF provides a 9-point rural-urban continuum code (RUCC) from the USDA Economic Research Service. From these codes, we defined urban as a county in a metro area of more than 250,000 people (RUCC=1 or 2), suburban as a county in a metro area of less than 250,000 people or that has an urban population of 20,000 or more and is adjacent to a metro area (RUCC=3 or 4), or rural if it does not meet the urban or suburban classifications (RUCC=5–9).

[14] We considered a practice to have participated in CPC Classic if it enrolled in CPC Classic and did not drop out within the first five months of the model.

[15] We determined a practice to have prior transformation experience if the practice participated in CPC Classic (as described in footnote 14) or CMMI's Multi-payer Advanced Primary Care Practice (MAPCP) initiative, or has medical home recognition. We considered a practice to be a MAPCP participant if it participated in any year, 2011–2014 for 2017 Starters, as determined by a file from CMS. A practice was considered to have medical home recognition if at least one of its primary care providers was listed as having recognition at some point in 2014–2017 from the National Community for Quality Assurance (NCQA), a state, the Accreditation Association for Ambulatory Health Care (AAAHC), The Joint Commission (TJC), or the Utilization Review Accreditation Commission (URAC), as determined by the June 2016 (for 2017 Starters) NCQA PCMH file and data extracted from the websites of TJC, AAAHC, URAC, and state-specific sources between October 2016 and February 2017.

coordinators (Question C10). To estimate the full-time equivalent (FTE) number of employees, we counted part-time practitioners and staff as 0.5 FTE.

Software. We used SAS version 9.4 to clean and prepare the data for analysis and to construct the data tables. We performed the statistical tests using Stata version 16.

3.B.5. Data tables

This section presents five sets of tables showing results from the PY 1, PY 2, and PY 3 practice surveys:

- **Table 3.B.6. Care delivery means.** Mean CPC+ and comparison practice responses to questions about their approaches to care delivery, overall by track.
- **Tables 3.B.7a-b. Care delivery distributions.** Distribution of CPC+ practice responses to the same questions about their approaches to care delivery, overall, by track, and by SSP status within track.
- **Tables 3.B.8a-b. Practice characteristics.** CPC+ practice characteristics, overall, by track, and by SSP status within track.
- **Tables 3.B.9a-b. CPC+ experience.** CPC+ practices' responses to questions about their experiences in CPC+, including their experiences with learning activities and assistance, data feedback, CPC+ payments, and the initiative as a whole.
- **Table 3.B.10. Changes in item and response category wording over time.** Describes differences in item wording and response categories in questions that were asked in multiple survey waves but experienced wording changes.

Table 3.B.6. Mean practice care delivery score, overall by track (2017 starters)

	CPC+					Comparison				
	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	Diff[a]	*p*-value	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	Diff[a]	*p*-value
Care delivery score[b] (scale: 1 [least advanced approach] – 4 [most advanced approach])										
Track 1										
Overall M2-PCMH-A Score	3.01	3.26	3.39	0.38	0.00	3.17	n.a.	3.13	-0.04	0.09
N[c]	1,206	1,206	1,206			998	n.a.	998		
Track 2										
Overall M2-PCMH-A Score	3.24	3.42	3.52	0.28	0.00	3.27	n.a.	3.22	-0.06	0.09
N[c]	1,418	1,418	1,418			642	n.a.	642		

Source: CPC+ Practice Survey administered to the 2017 Starter CPC+ and their comparison practices March through September 2017 (PY 1), June through September 2018 (PY 2), and July through November 2019 (PY 3).

[a] The difference is calculated as the different in overall M2-PCMH-A score between PY 1 and PY 3.

[b] The overall scores are regression-adjusted weighted averages of practices' response to all questions in the M2-PCMH-A. The weights were derived from a factor analysis conducted on the responses of 2017 Starter CPC+ practices to the PY 1 survey. Factor analysis uses the correlation between the individual questions to reflect the reliability of each question in measuring the overall care delivery score. We used ordinary least squares regression with practice fixed effects and cluster-robust standard errors, clustering at the practice level.

[c] The sample sizes presented here are the largest sample sizes for each track across all M2-PCMH-A questions. Question-by-question sample sizes can be found in Table 3.B.7.

n.a. = not applicable because the survey was not fielded this wave; PY = Program Year.

Table 3.B.7a. Distribution of CPC+ practice responses to questions about their approaches to care delivery, overall and by track (scale: 1 [least advanced approach] - 4 [most advanced approach]) (2017 starters)

		Track 1 and 2 overall			Track 1 overall			Track 2 overall		
Question[a]		PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)
Care delivery score [b]										
	Overall M2-PCMH-A Score									
3.75 to 4	Very advanced	4%	8%	11%	2%	4%	7%	5%	12%	15%
3.5 to <3.75	Fairly advanced	13%	24%	38%	9%	18%	30%	16%	29%	44%
3.0 to <3.50	Somewhat advanced	49%	58%	46%	41%	61%	55%	55%	55%	38%
2.5 to <3.0	Somewhat basic	29%	10%	5%	38%	16%	7%	21%	4%	3%
<2.5	Basic	6%	1%	0%	10%	1%	0%	2%	0%	0%
N	N	2,624	2,624	2,624	1,206	1,206	1,206	1,418	1,418	1,418
M2-PCMH-A items										
A3	Patients...									
	...are assigned to specific practitioner panels and panel assignments are routinely used for scheduling purposes and are continuously monitored to balance supply and demand.	42%	51%	58%	40%	46%	53%	44%	55%	62%
	...are assigned to specific practitioner panels and panel assignments are routinely used by the practice mainly for scheduling purposes.	48%	44%	37%	46%	47%	40%	49%	42%	35%
	...are assigned to specific practitioner panels but panel assignments are not routinely used by the practice for administrative or other purposes.	7%	3%	2%	8%	4%	3%	5%	2%	1%
	...are not assigned to specific practitioner panels.	4%	2%	3%	5%	3%	4%	2%	1%	2%
	N	2,624	2,610	2,614	1,206	1,199	1,203	1,418	1,411	1,411
A4	Non-physician practice team members...									
	...perform key clinical service roles that match their abilities and credentials.	60%	75%	80%	54%	70%	72%	64%	79%	86%
	...provide some clinical services such as assessment or self-management support.	30%	20%	14%	30%	22%	19%	29%	18%	11%
	...are primarily tasked with managing patient flow and triage.	10%	4%	5%	15%	6%	7%	6%	2%	2%
	...play a limited role in providing clinical care.	1%	1%	1%	1%	1%	1%	0%	1%	1%
	N	2,624	2,595	2,606	1,206	1,189	1,198	1,418	1,406	1,408

Table 3.B.7a. ***(continued)***

Question[a]		Track 1 and 2 overall			Track 1 overall			Track 2 overall		
		PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)
A9	Follow-up by this primary care practice with patients seen in the emergency department (ED) or hospital...									
	...is done routinely because this primary care practice has arrangements in place with the ED and hospital to both track these patients and ensure that follow-up is completed within a few days.	48%	69%	78%	36%	62%	77%	58%	76%	78%
	...occurs because this primary care practice makes proactive efforts to identify patients.	30%	26%	19%	29%	31%	17%	31%	22%	20%
	...occurs only if the ED or hospital alerts this primary care practice.	21%	5%	3%	33%	8%	6%	11%	2%	1%
	...generally does not occur.	1%	0%	0%	2%	0%	0%	0%	0%	0%
	N	2,624	2,621	2,621	1,206	1,205	1,205	1,418	1,416	1,416
A11	Patient after-hours access (24 hours, 7 days a week) to a physician, PA/NP, or nurse...									
	...is available via the patient's choice of email or phone directly with the practice team or a practitioner who has real-time access to the patient's electronic medical record.	48%	57%	60%	39%	53%	61%	55%	61%	60%
	...is provided by a coverage arrangement (e.g., answering service) that shares necessary patient data with and provides a summary to the practice.	47%	41%	39%	54%	44%	38%	41%	38%	39%
	...is available from a coverage arrangement (e.g., answering service) that does not offer a standardized communication protocol back to the practice for urgent problems.	5%	2%	1%	6%	2%	1%	4%	1%	0%
	...is not available or is limited to an answering machine.	1%	0%	0%	1%	0%	1%	0%	0%	0%
	N	2,624	2,619	2,619	1,206	1,204	1,203	1,418	1,415	1,416
A12	Quality improvement (QI) activities...									
	...are based on a proven improvement strategy and used continuously in meeting organizational goals.	50%	65%	73%	41%	57%	66%	58%	73%	79%
	...are based on a proven improvement strategy in reaction to specific problems.	27%	22%	18%	29%	27%	22%	25%	19%	14%
	...are conducted on an ad hoc basis in reaction to specific problems.	22%	12%	9%	28%	16%	11%	17%	8%	7%
	...are not organized or supported consistently.	1%	0%	0%	2%	0%	1%	0%	0%	0%
	N	2,624	2,616	2,618	1,206	1,203	1,203	1,418	1,413	1,415

Table 3.B.7a. ***(continued)***

Question[a]		Track 1 and 2 overall			Track 1 overall			Track 2 overall		
		PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)
A13	Staff, resources, and time for QI activities...									
	...are all fully available in the practice.	20%	29%	35%	15%	22%	29%	25%	35%	39%
	...are generally available and usually at the level needed.	39%	45%	45%	37%	48%	50%	40%	43%	42%
	...are occasionally available but are limited in scope (due to some deficiencies in staff, resources, or time).	38%	25%	20%	43%	29%	21%	33%	21%	18%
	...are not readily available in this practice.	4%	1%	0%	6%	1%	0%	1%	1%	0%
	N	2,624	2,619	2,619	1,206	1,205	1,202	1,418	1,414	1,417
B1	Same-day appointments for patients who need them are available at this practice site for...									
	...most or all of this practice's patients.	78%	80%	82%	74%	78%	80%	81%	81%	83%
	...many of this practice's patients.	15%	17%	15%	16%	18%	17%	15%	17%	13%
	...some of this practice's patients.	7%	3%	3%	10%	4%	2%	4%	2%	4%
	...none of this practice's patients.	0%	0%	n.a.	0%	0%	0%	0%	0%	0%
	N	2,621	2,620	2,619	1,206	1,205	1,203	1,415	1,415	1,416
B3	Communicating with the practice team through email, text messaging, or accessing a patient portal occurs for...									
	...most or all of this practice's patients.	31%	26%	37%	27%	20%	32%	33%	31%	41%
	...many of this practice's patients.	34%	41%	43%	32%	39%	42%	37%	43%	44%
	...some of this practice's patients.	33%	32%	20%	38%	40%	25%	29%	25%	15%
	...none of this practice's patients.	2%	1%	1%	3%	1%	1%	1%	0%	0%
	N	2,623	2,614	2,616	1,206	1,202	1,201	1,417	1,412	1,415
B6	Patients...									
	...have a specific physician, and the patient is almost always scheduled with that physician.	68%	73%	72%	68%	74%	72%	68%	72%	72%
	...have a specific physician, and the patient is frequently scheduled with that physician.	30%	25%	26%	30%	24%	26%	30%	27%	27%
	...have a specific physician, and the patient is sometimes scheduled with that physician.	2%	1%	2%	2%	2%	2%	2%	1%	2%
	...do not have a specific physician that they see at this practice.	0%	0%	0%	1%	0%	1%	0%	0%	0%
	N	2,619	2,612	2,615	1,204	1,203	1,200	1,415	1,409	1,415

Table 3.B.7a. ***(continued)***

Question[a]		Track 1 and 2 overall			Track 1 overall			Track 2 overall		
		PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)
B8	When patients contact the practice with clinical questions or concerns (e.g., a new problem or questions about their treatment) between scheduled encounters...									
	...their specific physician or practice care team that has primarily worked with the patient almost always responds.	83%	85%	88%	81%	83%	86%	85%	87%	89%
	...their specific physician or practice care team that has primarily worked with the patient frequently responds.	16%	14%	12%	18%	16%	14%	14%	12%	10%
	...their specific physician or practice care team that has primarily worked with the patient sometimes responds.	1%	1%	0%	1%	1%	0%	1%	0%	0%
	...they do not have a specific physician that they see at the practice, so any member of the practice responds.	0%	0%	0%	0%	0%	0%	0%	0%	0%
	N	2,618	2,619	2,622	1,205	1,202	1,204	1,413	1,417	1,418
B10	Care management services for high-risk patients...									
	...are provided by a care manager located at this practice site.	57%	71%	74%	48%	67%	69%	64%	74%	79%
	...are provided by a care manager within this practice's organization who is not physically located at this practice site.	25%	24%	24%	24%	26%	28%	26%	23%	21%
	...are provided by care managers from an outside organization (e.g., a health insurance plan).	9%	2%	1%	12%	3%	2%	5%	2%	1%
	...are not provided at this practice.	10%	2%	0%	16%	4%	1%	4%	1%	0%
	N	2,620	2,617	2,622	1,203	1,202	1,204	1,417	1,415	1,418
B14	Receipt of clinical information (e.g., a discharge summary) from an emergency department (ED) about this practice's patients who had an ED visit...									
	...usually occurs within a day of the visit.	37%	54%	62%	29%	50%	59%	44%	57%	65%
	...usually occurs 1–3 days after the visit.	50%	40%	35%	54%	43%	38%	46%	38%	32%
	...usually occurs more than 3 days after the visit.	6%	2%	1%	9%	4%	2%	3%	1%	1%
	...does not occur consistently.	7%	3%	1%	8%	3%	1%	7%	4%	1%
	N	2,621	2,618	2,619	1,204	1,201	1,205	1,417	1,417	1,414

Table 3.B.7a. ***(continued)***

Question[a]		Track 1 and 2 overall			Track 1 overall			Track 2 overall		
		PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)
B15	Outreach by this practice site to patients within one week of an ED visit occurs...									
	...for most or all of this practice's patients.	44%	66%	78%	37%	63%	75%	51%	68%	81%
	...for many of this practice's patients.	23%	26%	19%	22%	26%	22%	23%	26%	18%
	...for some of this practice's patients.	30%	8%	2%	35%	10%	4%	25%	6%	2%
	...for none of this practice's patients.	3%	1%	0%	5%	1%	0%	2%	0%	0%
	N	2,617	2,620	2,621	1,203	1,204	1,203	1,414	1,416	1,418
B17	Receipt of clinical information (e.g., a discharge summary) from hospitals about this practice's patients who had a hospital visit...									
	...usually occurs within a day of discharge.	36%	50%	59%	30%	46%	53%	40%	54%	65%
	...usually occurs 1–3 days after discharge.	51%	43%	38%	51%	48%	44%	52%	40%	32%
	...usually occurs more than 3 days after discharge.	8%	4%	2%	12%	4%	2%	5%	5%	2%
	...does not occur consistently.	5%	2%	1%	7%	3%	1%	3%	2%	1%
	N	2,622	2,617	2,621	1,206	1,203	1,203	1,416	1,414	1,418
B18	Outreach by this practice site to patients within 3 days of hospital discharge occurs...									
	...for most or all of this practice's patients.	56%	71%	83%	46%	67%	78%	64%	75%	87%
	...for many of this practice's patients.	28%	26%	16%	31%	30%	20%	25%	22%	12%
	...for some of this practice's patients.	16%	3%	1%	22%	3%	1%	11%	3%	1%
	...for none of this practice's patients.	1%	0%	0%	2%	0%	0%	0%	0%	0%
	N	2,609	2,611	2,620	1,200	1,202	1,203	1,409	1,409	1,417
B21	Timely receipt of information (e.g., consultation reports, diagnoses, new medications) about your patients after they visit specialists occurs...									
	...for most or all of this practice's patients.	24%	32%	36%	22%	27%	35%	26%	37%	37%
	...for many of this practice's patients.	53%	46%	53%	51%	48%	53%	54%	45%	53%
	...for some of this practice's patients.	23%	21%	11%	27%	25%	12%	20%	19%	10%
	...for none of this practice's patients.	0%	0%	0%	0%	0%	0%	0%	0%	0%
	N	2,619	2,613	2,619	1,203	1,203	1,205	1,416	1,410	1,414

Table 3.B.7a. ***(continued)***

Question[a]		Track 1 and 2 overall			Track 1 overall			Track 2 overall		
		PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)
B22	Practices may or may not have agreements with specialists they refer patients to. A formal, written agreement with a specialist describes expectations for timely patient visits, the frequency and type of information communicated between the primary care practice and specialist, and their respective roles. This practice site has formal written agreements with...									
	...most or all medical and surgical specialist groups.	6%	8%	9%	6%	5%	6%	6%	10%	12%
	...many medical and surgical specialist groups.	11%	12%	18%	9%	9%	17%	13%	15%	18%
	...some medical and surgical specialist groups.	27%	61%	66%	25%	55%	68%	30%	67%	65%
	...no medical or surgical specialist groups.	56%	19%	7%	60%	31%	9%	52%	9%	5%
	N	2,618	2,614	2,618	1,205	1,203	1,204	1,413	1,411	1,414
B23	This practice site assesses the social and functional support needs (e.g., transportation, home equipment) for...									
	...for most or all of this practice's patients.	18%	24%	32%	18%	20%	26%	19%	28%	37%
	...for many of this practice's patients.	32%	33%	36%	32%	31%	32%	31%	35%	40%
	...for some of this practice's patients.	47%	40%	31%	45%	44%	41%	48%	37%	23%
	...for none of this practice's patients.	3%	2%	1%	4%	4%	1%	2%	1%	0%
	N	2,618	2,617	2,622	1,204	1,203	1,205	1,414	1,414	1,417
B30	Feedback to the practice from a patient and family advisory council... [c]									
	...is collected and is consistently used to guide practice improvements.	45%	56%	55%	39%	49%	46%	50%	61%	63%
	...is collected and is occasionally used to guide practice improvements.	36%	41%	43%	37%	46%	50%	36%	38%	36%
	...is collected but is not used to guide practice improvements.	4%	1%	1%	5%	2%	2%	3%	1%	0%
	...is not collected.	15%	2%	1%	19%	3%	2%	12%	1%	0%
	N	2,619	2,619	2,613	1,203	1,205	1,203	1,416	1,414	1,410
B32	At this practice site, registry data to assess or manage care for groups of patients...									
	...are available for 6 or more diseases and/or risk states.	42%	44%	49%	36%	37%	39%	47%	49%	58%
	...are available for 3-5 diseases and/or risk states.	27%	32%	29%	26%	30%	34%	28%	33%	25%
	...are available for 1-2 diseases and/or risk states.	12%	10%	11%	11%	12%	15%	13%	8%	7%
	...are not available.	19%	15%	11%	27%	21%	12%	12%	10%	10%
	N	2,618	2,614	2,607	1,204	1,204	1,197	1,414	1,410	1,410

Table 3.B.7a. ***(continued)***

Question[a]		Track 1 and 2 overall			Track 1 overall			Track 2 overall		
		PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)
B33	Pre-visit planning (gathering and organizing patient information to prepare for the visit) prior to the day of the visit...									
	...is done and includes (1) reviewing test results and consultation reports from specialists, (2) identifying gaps in health care, and (3) conducting outreach before the visit, to ask the patient to obtain needed tests prior to the visit.	24%	31%	36%	21%	25%	29%	26%	36%	42%
	...is done and includes (1) reviewing test results and consultation reports from specialist referrals, and (2) identifying gaps in health care (e.g., a needed flu shot or cancer screenings).	49%	52%	52%	47%	51%	55%	51%	52%	50%
	...is done but primarily focuses on reviewing test results and consultation reports from specialist referrals.	17%	11%	9%	19%	15%	12%	16%	8%	6%
	...is not done.	9%	6%	3%	13%	9%	4%	6%	3%	2%
	N	2,622	2,620	2,616	1,205	1,203	1,201	1,417	1,417	1,415
F2	Does this practice site use data extracts or reports generated from the EHR to guide quality improvement (QI) efforts? [d]									
	Yes	95%	97%	98%	92%	96%	97%	97%	98%	99%
	No	3%	1%	1%	5%	2%	1%	2%	1%	0%
	Don't know	2%	1%	1%	3%	2%	2%	1%	1%	1%
	N	2,617	2,611	2,606	1,203	1,199	1,199	1,414	1,412	1,407
F3a	With how many hospitals where most of your patients obtain care does this practice site electronically send and receive patient clinical data?									
	All	19%	18%	23%	17%	16%	20%	20%	20%	26%
	Most	48%	52%	52%	46%	51%	53%	49%	52%	52%
	Some	24%	24%	20%	29%	27%	23%	20%	21%	17%
	None or don't know	9%	6%	5%	7%	7%	5%	11%	6%	5%
	N	2,617	2,614	2,612	1,202	1,203	1,203	1,415	1,411	1,409
F3b	With how many specialist practices where most of your patients obtain care does this practice site electronically send and receive patient clinical data?									
	All	10%	9%	12%	10%	8%	12%	11%	10%	12%
	Most	48%	53%	51%	46%	53%	47%	49%	52%	55%
	Some	36%	34%	33%	39%	34%	35%	33%	34%	31%

Table 3.B.7a. ***(continued)***

Question[a]		Track 1 and 2 overall			Track 1 overall			Track 2 overall		
		PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)
	None or don't know	6%	5%	4%	6%	5%	6%	7%	4%	3%
	N	2,614	2,617	2,610	1,202	1,202	1,202	1,412	1,415	1,408
F3c	With how many diagnostic service facilities where most of your patients obtain care does this practice site electronically send and receive patient clinical data?									
	All	21%	19%	22%	20%	17%	20%	21%	20%	24%
	Most	60%	62%	60%	59%	62%	57%	61%	62%	62%
	Some	16%	17%	15%	17%	18%	19%	14%	16%	12%
	None or don't know	4%	3%	3%	4%	3%	3%	4%	3%	2%
	N	2,612	2,616	2,612	1,201	1,203	1,203	1,411	1,413	1,409
Questions not included in the M2-PCMH-A score										
A8	A standard method or tool(s) to stratify patients by risk level...									
	...is available, consistently used to stratify all patients, and is integrated into all aspects of care delivery.	26%	52%	56%	14%	41%	51%	35%	62%	61%
	...is available and is consistently used to stratify all patients but is inconsistently integrated into all aspects of care delivery.	33%	40%	39%	33%	48%	43%	33%	34%	36%
	...is available but not consistently used to stratify all patients.	28%	7%	4%	34%	10%	5%	22%	4%	2%
	...is not available.	14%	1%	1%	19%	1%	1%	10%	0%	1%
	N	2,624	2,618	2,618	1,206	1,202	1,203	1,418	1,416	1,415
A10	Linking patients to supportive community-based resources...									
	...is accomplished through active coordination between the health system, community service agencies, and patients and accomplished by a designated staff person.	17%	27%	32%	11%	21%	27%	23%	33%	36%
	...is accomplished through a designated staff person or resource responsible for connecting patients with community resources.	42%	51%	52%	36%	50%	48%	47%	52%	54%
	...is limited to providing patients a list of identified community resources in an accessible format.	32%	20%	16%	41%	26%	23%	25%	14%	9%
	...is not done systematically.	8%	2%	1%	11%	3%	1%	5%	1%	0%
	N	2,624	2,617	2,613	1,206	1,203	1,199	1,418	1,414	1,414

Table 3.B.7a. ***(continued)***

Question[a]		Track 1 and 2 overall			Track 1 overall			Track 2 overall		
		PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)
B4	Scheduled phone or video visits with a physician...									
	...are generally available, and patients are regularly asked about their preferences for in-person versus phone/video visits.	2%	3%	5%	1%	2%	3%	3%	5%	7%
	...are generally available at a patient's request.	11%	14%	16%	7%	9%	12%	13%	17%	19%
	...are available on a limited basis to patients.	14%	17%	20%	13%	12%	14%	16%	20%	24%
	...are not regularly available to patients.	73%	66%	60%	79%	77%	71%	68%	57%	49%
	N	2,623	2,621	2,618	1,205	1,205	1,201	1,418	1,416	1,417
B9 (PYs 2 and 3 only)	Visits by primary care physicians or staff from this practice site to patients in the hospital occur…									
	…for most or all of this practice's hospitalized patients.	n.a.	15%	13%	n.a.	16%	14%	n.a.	15%	12%
	…for many of this practice's hospitalized patients.	n.a.	6%	7%	n.a.	7%	8%	n.a.	5%	7%
	…for some of this practice's hospitalized patients.	n.a.	19%	19%	n.a.	15%	17%	n.a.	23%	21%
	…for none of this practice's hospitalized patients.	n.a.	60%	61%	n.a.	62%	61%	n.a.	57%	60%
	N	n.a.	2,617	2,615	n.a.	1,201	1,205	n.a.	1,416	1,410
B11 (PYs 2 and 3 only)	Among practices where care management services for high-risk patients are provided, care managers engage in meetings, huddles, or conversations with the physicians at the practice site about the high-risk patients they manage…									
	…daily.	n.a.	34%	36%	n.a.	32%	35%	n.a.	36%	37%
	…weekly.	n.a.	36%	39%	n.a.	29%	32%	n.a.	42%	44%
	…a few times a month.	n.a.	22%	22%	n.a.	29%	29%	n.a.	17%	17%
	…never or rarely.	n.a.	8%	3%	n.a.	11%	4%	n.a.	6%	1%
	N	n.a.	2,554	2,606	n.a.	1,153	1,191	n.a.	1,401	1,415
B19 (PYs 2 and 3 only)	Discussing recommended medication, diet, or activity plans with patients who have had recent hospital stays is done….									
	…for most or all of these patients.	n.a.	62%	74%	n.a.	60%	72%	n.a.	64%	75%
	…for many of these patients.	n.a.	28%	22%	n.a.	29%	24%	n.a.	27%	20%
	…for some of these patients.	n.a.	9%	5%	n.a.	10%	5%	n.a.	9%	5%
	…for none of these patients.	n.a.	0%	0%	n.a.	0%	0%	n.a.	0%	0%
	N	n.a.	2,616	2,619	n.a.	1,201	1,205	n.a.	1,415	1,414

Table 3.B.7a. ***(continued)***

Question[a]		Track 1 and 2 overall			Track 1 overall			Track 2 overall		
		PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)
B27	Assessing patient and family values and preferences...									
	...is done and consistently incorporated in planning and organizing care.	29%	41%	46%	31%	35%	40%	27%	46%	52%
	...is done and sometimes incorporated in planning and organizing care.	53%	51%	48%	48%	54%	51%	57%	48%	45%
	...is done but not used in planning and organizing care.	10%	5%	4%	13%	8%	7%	7%	3%	2%
	...is not done.	8%	3%	2%	8%	3%	2%	9%	3%	1%
	N	2,622	2,611	2,604	1,206	1,201	1,199	1,416	1,410	1,405
B29	Self-management support is help for patients to better manage their health on a day-to-day basis. At this practice site, self-management support for most patients who have chronic conditions...									
	...is provided by practice staff who set specific goals with patients and are trained in assessing how ready patients are to change their health behavior and how to motivate patient behavior change.	34%	49%	53%	27%	41%	40%	41%	56%	63%
	...is provided by practice staff who set specific goals with patients but are not trained in assessing how ready patients are to change their health behavior and how to motivate patient behavior change.	22%	23%	28%	18%	21%	30%	25%	26%	26%
	...is provided by practice staff but they do not set specific goals with patients (e.g., they just offer patient education).	29%	19%	15%	34%	26%	22%	25%	14%	10%
	...is limited to either (1) the distribution of information (e.g., pamphlets, booklets) with no or little discussion or (2) referral to self-management classes or educators.	15%	8%	4%	22%	13%	8%	9%	5%	1%
	N	2,613	2,616	2,611	1,201	1,204	1,201	1,412	1,412	1,410

Source: CPC+ Practice Survey administered to the 2017 Starter CPC+ practices March through September 2017 (PY 1), June through September 2018 (PY 2), and July through November 2019 (PY 3). There are differences between the PY 1, PY 2 and PY 3 of the survey that could change how practices respond to questions, these differences are indicated with footnotes.

Notes: The data presented in this table represent responses from the practices that began CPC+ in 2017 (2017 Starters) and had completed all three waves of surveys.

[a] The question numbering is based on the PY 3 survey.

[b] The overall scores are weighted averages of practices' response to all questions in the M2-PCMH-A. The weights were derived from a factor analysis conducted on the responses of 2017 Starter CPC+ practices to the PY 1 survey. Factor analysis uses the correlation between the individual questions to reflect the reliability of each question in measuring the overall care delivery score.

[c] The wording of this question changed from the PY 1 to the PY 2 survey. In the PY 1 survey, the question asked “Feedback to the practice from patients surveys or from a patient and family advisory council…”

[d] To aggregate into the M2-PCMH-A we converted the responses to a four-point scale where yes equaled 4 and No and Don't know equaled 1.

n.a. = not applicable because the question was not asked in that survey wave; PY = Program Year.

Table 3.B.7b. Distribution of CPC+ practice responses to questions about their approaches to care delivery, overall by track and SSP status (scale: 1 [least advanced approach] - 4 [most advanced approach]) (2017 starters)

Question[a]		Track 1 – SSP			Track 1 – Not SSP			Track 2 – SSP			Track 2 – Not SSP		
		PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)
Care delivery score [b]													
	Overall M2-PCMH-A Score												
3.75 to 4	Very advanced	2%	4%	7%	1%	3%	7%	4%	12%	16%	6%	12%	14%
3.5 to <3.75	Fairly advanced	8%	18%	30%	11%	18%	30%	15%	25%	44%	18%	31%	44%
3.0 to <3.50	Somewhat advanced	40%	63%	57%	42%	59%	53%	56%	60%	39%	55%	52%	37%
2.5 to <3.0	Somewhat basic	46%	14%	6%	29%	19%	9%	23%	4%	1%	19%	4%	5%
<2.5	Basic	4%	0%	0%	17%	1%	1%	2%	0%	0%	2%	1%	0%
	N	642	642	642	564	564	564	553	553	553	865	865	865
M2-PCMH-A items													
A3	Patients...												
	...are assigned to specific practitioner panels and panel assignments are routinely used for scheduling purposes and are continuously monitored to balance supply and demand.	39%	49%	53%	41%	42%	54%	46%	51%	69%	42%	57%	58%
	...are assigned to specific practitioner panels and panel assignments are routinely used by the practice mainly for scheduling purposes.	47%	46%	41%	45%	48%	38%	50%	46%	30%	48%	39%	38%
	...are assigned to specific practitioner panels but panel assignments are not routinely used by the practice for administrative or other purposes.	10%	3%	2%	7%	6%	3%	3%	2%	1%	7%	2%	2%
	...are not assigned to specific practitioner panels.	4%	3%	4%	7%	4%	5%	2%	1%	1%	2%	1%	2%
	N	642	638	640	564	561	563	553	550	551	865	861	860

Table 3.B.7b. ***(continued)***

Question[a]		Track 1 – SSP			Track 1 – Not SSP			Track 2 – SSP			Track 2 – Not SSP		
		PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)
A4	Non-physician practice team members...												
	...perform key clinical service roles that match their abilities and credentials.	56%	71%	73%	52%	69%	72%	55%	76%	88%	70%	81%	85%
	...provide some clinical services such as assessment or self-management support.	28%	24%	21%	32%	20%	17%	40%	22%	10%	22%	15%	11%
	...are primarily tasked with managing patient flow and triage.	15%	5%	5%	14%	8%	9%	4%	2%	1%	7%	2%	3%
	...play a limited role in providing clinical care.	0%	1%	1%	2%	2%	2%	0%	0%	1%	1%	1%	1%
	N	642	633	639	564	556	559	553	548	550	865	858	858
A9	Follow-up by this primary care practice with patients seen in the emergency department (ED) or hospital...												
	...is done routinely because this primary care practice has arrangements in place with the ED and hospital to both track these patients and ensure that follow-up is completed within a few days.	33%	62%	78%	39%	61%	75%	48%	74%	73%	64%	77%	81%
	...occurs because this primary care practice makes proactive efforts to identify patients.	29%	30%	15%	29%	31%	19%	37%	24%	26%	27%	21%	17%
	...occurs only if the ED or hospital alerts this primary care practice.	37%	8%	6%	28%	8%	6%	15%	1%	1%	9%	2%	2%
	...generally does not occur.	1%	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%
	N	642	642	641	564	563	564	553	552	552	865	864	864
A11	Patient after-hours access (24 hours, 7 days a week) to a physician, PA/NP, or nurse...												
	...is available via the patient's choice of email or phone directly with the practice team or a practitioner who has real-time access to the patient's electronic medical record.	34%	54%	60%	45%	51%	62%	60%	63%	63%	52%	60%	58%
	...is provided by a coverage arrangement (e.g., answering service) that shares necessary patient data with and provides a summary to the practice.	60%	44%	39%	47%	45%	37%	37%	36%	36%	43%	40%	42%
	...is available from a coverage arrangement (e.g., answering service) that does not offer a standardized communication protocol back to the practice for urgent problems.	6%	2%	1%	6%	3%	1%	3%	1%	1%	4%	1%	0%
	...is not available or is limited to an answering machine.	0%	0%	0%	2%	0%	1%	0%	0%	0%	0%	0%	0%
	N	642	640	640	564	564	563	553	553	551	865	862	865

Table 3.B.7b. ***(continued)***

Question[a]		Track 1 – SSP			Track 1 – Not SSP			Track 2 – SSP			Track 2 – Not SSP		
		PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)
A12	Quality improvement (QI) activities...												
	...are based on a proven improvement strategy and used continuously in meeting organizational goals.	45%	61%	71%	36%	52%	60%	58%	75%	82%	58%	71%	77%
	...are based on a proven improvement strategy in reaction to specific problems.	31%	23%	19%	27%	31%	26%	26%	15%	10%	24%	21%	17%
	...are conducted on an ad hoc basis in reaction to specific problems.	23%	16%	10%	34%	17%	13%	16%	9%	8%	17%	8%	6%
	...are not organized or supported consistently.	2%	0%	0%	2%	0%	1%	0%	0%	0%	1%	0%	0%
	N	642	639	642	564	564	561	553	552	553	865	861	862
A13	Staff, resources, and time for QI activities...												
	...are all fully available in the practice.	14%	24%	33%	15%	20%	25%	25%	35%	35%	26%	35%	42%
	...are generally available and usually at the level needed.	37%	48%	47%	36%	47%	53%	34%	40%	44%	44%	45%	41%
	...are occasionally available but are limited in scope (due to some deficiencies in staff, resources, or time).	43%	27%	20%	42%	32%	22%	40%	24%	21%	28%	20%	17%
	...are not readily available in this practice.	6%	1%	0%	7%	1%	0%	0%	1%	0%	2%	0%	1%
	N	642	642	641	564	563	561	553	551	553	865	863	864
B1	Same-day appointments for patients who need them are available at this practice site for...												
	...most or all of this practice's patients.	74%	78%	78%	75%	79%	84%	82%	76%	84%	80%	84%	82%
	...many of this practice's patients.	15%	20%	21%	17%	16%	14%	13%	22%	12%	16%	14%	14%
	...some of this practice's patients.	11%	2%	2%	9%	6%	3%	5%	2%	4%	4%	2%	4%
	...none of this practice's patients.	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	N	642	642	641	564	563	562	552	553	553	863	862	863
B3	Communicating with the practice team through email, text messaging, or accessing a patient portal occurs for...												
	...most or all of this practice's patients.	27%	18%	30%	28%	22%	33%	36%	32%	45%	31%	31%	38%
	...many of this practice's patients.	34%	36%	41%	29%	41%	44%	32%	41%	45%	40%	44%	43%
	...some of this practice's patients.	36%	45%	28%	41%	35%	22%	31%	26%	10%	27%	24%	18%
	...none of this practice's patients.	3%	1%	1%	3%	2%	1%	1%	0%	0%	1%	0%	0%
	N	642	640	639	564	562	562	553	549	551	864	863	864

Table 3.B.7b. ***(continued)***

Question[a]		Track 1 – SSP			Track 1 – Not SSP			Track 2 – SSP			Track 2 – Not SSP		
		PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)
B6	Patients...												
	...have a specific physician, and the patient is almost always scheduled with that physician.	68%	76%	72%	68%	72%	73%	68%	76%	79%	67%	70%	67%
	...have a specific physician, and the patient is frequently scheduled with that physician.	30%	22%	26%	29%	26%	26%	30%	23%	20%	30%	29%	31%
	...have a specific physician, and the patient is sometimes scheduled with that physician.	2%	2%	2%	2%	2%	1%	2%	1%	1%	3%	1%	2%
	...do not have a specific physician that they see at this practice.	1%	0%	0%	1%	0%	1%	0%	0%	0%	0%	0%	0%
	N	641	641	638	563	562	562	552	552	553	863	857	862
B8	When patients contact the practice with clinical questions or concerns (e.g., a new problem or questions about their treatment) between scheduled encounters...												
	...their specific physician or practice care team that has primarily worked with the patient almost always responds.	79%	80%	85%	82%	86%	87%	82%	86%	91%	86%	88%	88%
	...their specific physician or practice care team that has primarily worked with the patient frequently responds.	20%	19%	14%	17%	12%	13%	17%	13%	8%	12%	12%	12%
	...their specific physician or practice care team that has primarily worked with the patient sometimes responds.	1%	0%	0%	1%	1%	0%	1%	1%	1%	1%	0%	0%
	...they do not have a specific physician that they see at the practice, so any member of the practice responds.	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	N	641	640	641	564	562	563	550	552	553	863	865	865
B10	Care management services for high-risk patients...												
	...are provided by a care manager located at this practice site.	47%	67%	69%	49%	66%	69%	62%	75%	81%	66%	74%	77%
	...are provided by a care manager within this practice's organization who is not physically located at this practice site.	29%	26%	29%	19%	26%	27%	29%	24%	19%	24%	22%	22%
	...are provided by care managers from an outside organization (e.g., a health insurance plan).	10%	2%	2%	15%	4%	3%	4%	0%	0%	6%	3%	1%
	...are not provided at this practice.	14%	5%	0%	18%	3%	1%	5%	0%	0%	4%	1%	0%
	N	640	641	641	563	561	563	552	553	553	865	862	865

Table 3.B.7b. ***(continued)***

Question[a]		Track 1 – SSP			Track 1 – Not SSP			Track 2 – SSP			Track 2 – Not SSP		
		PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)
B14	Receipt of clinical information (e.g., a discharge summary) from an emergency department (ED) about this practice's patients who had an ED visit...												
	...usually occurs within a day of the visit.	27%	56%	61%	32%	44%	56%	40%	64%	81%	47%	52%	55%
	...usually occurs 1–3 days after the visit.	58%	38%	37%	49%	48%	40%	49%	28%	18%	44%	45%	42%
	...usually occurs more than 3 days after the visit.	8%	5%	1%	10%	4%	2%	3%	1%	1%	3%	1%	2%
	...does not occur consistently.	7%	2%	0%	9%	4%	2%	9%	7%	0%	6%	2%	1%
	N	640	640	642	564	561	563	553	552	552	864	865	862
B15	Outreach by this practice site to patients within one week of an ED visit occurs...												
	...for most or all of this practice's patients.	33%	63%	74%	42%	63%	76%	39%	55%	77%	58%	76%	83%
	...for many of this practice's patients.	24%	27%	23%	21%	25%	19%	27%	35%	21%	21%	21%	15%
	...for some of this practice's patients.	40%	8%	2%	30%	12%	5%	32%	10%	2%	20%	3%	2%
	...for none of this practice's patients.	3%	2%	0%	7%	0%	0%	3%	0%	0%	1%	0%	0%
	N	640	641	640	563	563	563	551	552	553	863	864	865
B17	Receipt of clinical information (e.g., a discharge summary) from hospitals about this practice's patients who had a hospital visit...												
	...usually occurs within a day of discharge.	32%	54%	56%	29%	37%	49%	34%	58%	77%	44%	51%	58%
	...usually occurs 1–3 days after discharge.	53%	41%	42%	48%	55%	46%	55%	32%	22%	49%	45%	39%
	...usually occurs more than 3 days after discharge.	10%	4%	1%	15%	3%	4%	9%	8%	1%	3%	3%	3%
	...does not occur consistently.	6%	2%	0%	9%	4%	1%	2%	2%	0%	4%	2%	1%
	N	642	642	639	564	561	564	552	553	553	864	861	865
B18	Outreach by this practice site to patients within 3 days of hospital discharge occurs...												
	...for most or all of this practice's patients.	43%	67%	77%	49%	66%	80%	49%	63%	90%	73%	83%	85%
	...for many of this practice's patients.	37%	30%	22%	24%	29%	18%	37%	35%	10%	17%	14%	13%
	...for some of this practice's patients.	19%	3%	1%	24%	4%	2%	14%	2%	0%	9%	3%	2%
	...for none of this practice's patients.	1%	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%
	N	640	641	640	560	561	563	549	547	553	860	862	864

Table 3.B.7b. ***(continued)***

Question[a]		Track 1 – SSP			Track 1 – Not SSP			Track 2 – SSP			Track 2 – Not SSP		
		PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)
B21	Timely receipt of information (e.g., consultation reports, diagnoses, new medications) about your patients after they visit specialists occurs...												
	...for most or all of this practice's patients.	22%	27%	37%	23%	28%	32%	29%	28%	32%	23%	42%	41%
	...for many of this practice's patients.	53%	48%	50%	48%	48%	57%	49%	48%	61%	57%	42%	48%
	...for some of this practice's patients.	25%	25%	13%	29%	25%	11%	21%	24%	8%	19%	15%	12%
	...for none of this practice's patients.	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	N	641	641	642	562	562	563	553	551	552	863	859	862
B22	Practices may or may not have agreements with specialists they refer patients to. A formal, written agreement with a specialist describes expectations for timely patient visits, the frequency and type of information communicated between the primary care practice and specialist, and their respective roles. This practice site has formal written agreements with...												
	...most or all medical and surgical specialist groups.	7%	7%	7%	6%	3%	4%	7%	16%	19%	5%	6%	8%
	...many medical and surgical specialist groups.	12%	12%	18%	6%	7%	15%	19%	19%	20%	9%	12%	17%
	...some medical and surgical specialist groups.	26%	52%	67%	24%	57%	70%	27%	57%	60%	31%	73%	68%
	...no medical or surgical specialist groups.	55%	29%	8%	65%	33%	11%	48%	8%	1%	55%	9%	8%
	N	641	641	641	564	562	563	553	550	553	860	861	861
B23	This practice site assesses the social and functional support needs (e.g., transportation, home equipment) for...												
	...for most or all of this practice's patients.	19%	17%	27%	16%	23%	26%	14%	31%	36%	22%	26%	38%
	...for many of this practice's patients.	35%	35%	31%	30%	27%	32%	32%	31%	42%	31%	37%	40%
	...for some of this practice's patients.	42%	43%	41%	49%	45%	41%	53%	38%	23%	45%	37%	23%
	...for none of this practice's patients.	4%	5%	1%	5%	4%	1%	1%	1%	0%	2%	0%	0%
	N	640	642	641	564	561	564	553	550	553	861	864	864

Table 3.B.7b. ***(continued)***

Question[a]		Track 1 – SSP			Track 1 – Not SSP			Track 2 – SSP			Track 2 – Not SSP		
		PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)
B30	Feedback to the practice from a patient and family advisory council... 3												
	...is collected and is consistently used to guide practice improvements.	43%	49%	40%	35%	50%	53%	51%	57%	53%	49%	63%	69%
	...is collected and is occasionally used to guide practice improvements.	35%	46%	58%	40%	45%	42%	36%	41%	46%	36%	36%	30%
	...is collected but is not used to guide practice improvements.	4%	2%	0%	6%	2%	4%	3%	1%	0%	3%	1%	0%
	...is not collected.	18%	4%	2%	20%	2%	1%	11%	1%	0%	12%	0%	1%
	N	639	642	640	564	563	563	552	552	550	864	862	860
B32	At this practice site, registry data to assess or manage care for groups of patients...												
	...are available for 6 or more diseases and/or risk states.	37%	35%	36%	34%	40%	42%	50%	52%	61%	45%	47%	56%
	...are available for 3-5 diseases and/or risk states.	24%	31%	36%	28%	29%	32%	25%	35%	18%	30%	32%	30%
	...are available for 1-2 diseases and/or risk states.	11%	14%	17%	12%	10%	12%	14%	8%	5%	13%	8%	8%
	...are not available.	28%	20%	10%	26%	21%	14%	11%	5%	15%	12%	13%	6%
	N	641	641	636	563	563	561	553	548	550	861	862	860
B33	Pre-visit planning (gathering and organizing patient information to prepare for the visit) prior to the day of the visit...												
	...is done and includes (1) reviewing test results and consultation reports from specialists, (2) identifying gaps in health care, and (3) conducting outreach before the visit, to ask the patient to obtain needed tests prior to the visit.	25%	25%	28%	18%	26%	30%	28%	28%	37%	25%	41%	45%
	...is done and includes (1) reviewing test results and consultation reports from specialist referrals, and (2) identifying gaps in health care (e.g., a needed flu shot or cancer screenings).	44%	52%	59%	51%	50%	51%	54%	65%	57%	49%	45%	45%
	...is done but primarily focuses on reviewing test results and consultation reports from specialist referrals.	19%	16%	8%	18%	14%	16%	14%	5%	5%	18%	10%	7%
	...is not done.	12%	8%	4%	13%	10%	3%	4%	2%	2%	8%	4%	3%
	N	641	640	640	564	563	561	552	553	553	865	864	862

Table 3.B.7b. ***(continued)***

Question[a]		Track 1 – SSP			Track 1 – Not SSP			Track 2 – SSP			Track 2 – Not SSP		
		PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)
F2	Does this practice site use data extracts or reports generated from the EHR to guide quality improvement (QI) efforts? 4												
	Yes	91%	97%	97%	93%	95%	97%	99%	98%	99%	97%	99%	99%
	No	5%	2%	1%	5%	3%	2%	1%	1%	0%	3%	1%	1%
	Don't know	4%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%	1%
	N	641	639	638	562	560	561	553	551	552	861	861	855
F3a	With how many hospitals where most of your patients obtain care does this practice site electronically send and receive patient clinical data?												
	All	13%	14%	19%	21%	18%	22%	19%	21%	27%	21%	20%	26%
	Most	47%	52%	58%	45%	49%	46%	52%	48%	52%	47%	55%	52%
	Some	32%	28%	20%	27%	25%	26%	22%	29%	19%	19%	17%	16%
	None or don't know	8%	6%	4%	6%	8%	6%	6%	3%	2%	13%	8%	7%
	N	641	640	641	561	563	562	552	551	553	863	860	856
F3b	With how many specialist practices where most of your patients obtain care does this practice site electronically send and receive patient clinical data?												
	All	8%	5%	12%	12%	11%	11%	7%	13%	13%	13%	8%	11%
	Most	47%	60%	48%	45%	46%	47%	54%	52%	58%	45%	52%	53%
	Some	41%	31%	33%	37%	37%	37%	31%	31%	28%	35%	35%	33%
	None or don't know	4%	4%	7%	7%	6%	5%	7%	4%	1%	7%	5%	4%
	N	642	640	641	560	562	561	552	551	552	860	864	856
F3c	With how many diagnostic service facilities where most of your patients obtain care does this practice site electronically send and receive patient clinical data?												
	All	20%	16%	16%	21%	18%	26%	13%	18%	22%	26%	21%	25%
	Most	60%	63%	62%	58%	60%	52%	68%	61%	67%	56%	62%	58%
	Some	17%	18%	20%	18%	18%	19%	16%	20%	10%	13%	13%	13%
	None or don't know	3%	3%	2%	4%	4%	4%	3%	1%	1%	5%	4%	3%
	N	641	641	641	560	562	562	549	550	552	862	863	857

Table 3.B.7b. ***(continued)***

Question[a]		Track 1 – SSP			Track 1 – Not SSP			Track 2 – SSP			Track 2 – Not SSP		
		PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)
Questions not included in the M2-PCMH-A score													
A8	A standard method or tool(s) to stratify patients by risk level...												
	...is available, consistently used to stratify all patients, and is integrated into all aspects of care delivery.	15%	40%	53%	12%	42%	48%	30%	60%	59%	39%	63%	62%
	...is available and is consistently used to stratify all patients but is inconsistently integrated into all aspects of care delivery.	33%	49%	41%	32%	46%	45%	37%	38%	39%	30%	32%	34%
	...is available but not consistently used to stratify all patients.	36%	10%	6%	32%	10%	5%	23%	3%	1%	22%	5%	3%
	...is not available.	15%	1%	0%	23%	2%	2%	11%	0%	2%	9%	0%	0%
	N	642	640	640	564	562	563	553	553	551	865	863	864
A10	Linking patients to supportive community-based resources...												
	...is accomplished through active coordination between the health system, community service agencies, and patients and accomplished by a designated staff person.	11%	22%	28%	12%	20%	26%	18%	28%	29%	26%	36%	40%
	...is accomplished through a designated staff person or resource responsible for connecting patients with community resources.	38%	52%	46%	34%	48%	51%	48%	59%	64%	46%	48%	48%
	...is limited to providing patients a list of identified community resources in an accessible format.	40%	24%	25%	42%	28%	22%	30%	12%	6%	22%	16%	11%
	...is not done systematically.	11%	3%	1%	12%	4%	2%	5%	1%	0%	5%	0%	0%
	N	642	640	639	564	563	560	553	552	551	865	862	863
B4	Scheduled phone or video visits with a physician...												
	...are generally available, and patients are regularly asked about their preferences for in-person versus phone/video visits.	1%	2%	3%	1%	1%	2%	3%	7%	12%	3%	3%	4%
	...are generally available at a patient's request.	6%	11%	12%	8%	8%	12%	21%	21%	17%	9%	15%	21%
	...are available on a limited basis to patients.	12%	9%	10%	14%	16%	19%	16%	20%	25%	15%	21%	24%
	...are not regularly available to patients.	80%	78%	75%	77%	75%	67%	60%	53%	46%	73%	61%	52%
	N	641	641	642	564	564	559	553	552	552	865	864	865

Table 3.B.7b. ***(continued)***

Question[a]		Track 1 – SSP			Track 1 – Not SSP			Track 2 – SSP			Track 2 – Not SSP		
		PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)
B9 (PYs 2 and 3 only)	Visits by primary care physicians or staff from this practice site to patients in the hospital occur…												
	…for most or all of this practice's hospitalized patients.	n.a.	17%	15%	n.a.	14%	13%	n.a.	13%	11%	n.a.	16%	12%
	…for many of this practice's hospitalized patients.	n.a.	8%	5%	n.a.	5%	10%	n.a.	6%	6%	n.a.	5%	7%
	…for some of this practice's hospitalized patients.	n.a.	12%	16%	n.a.	19%	18%	n.a.	25%	26%	n.a.	21%	18%
	…for none of this practice's hospitalized patients.	n.a.	64%	64%	n.a.	61%	58%	n.a.	56%	57%	n.a.	58%	62%
	N	n.a.	639	641	n.a.	562	564	n.a.	553	552	n.a.	863	858
B11 (PYs 2 and 3 only)	Among practices where care management services for high-risk patients are provided, care managers engage in meetings, huddles, or conversations with the physicians at the practice site about the high-risk patients they manage…												
	…daily.	n.a.	32%	37%	n.a.	32%	33%	n.a.	26%	31%	n.a.	42%	42%
	…weekly.	n.a.	31%	31%	n.a.	26%	32%	n.a.	47%	54%	n.a.	38%	38%
	…a few times a month.	n.a.	30%	28%	n.a.	27%	29%	n.a.	20%	14%	n.a.	15%	19%
	…never or rarely.	n.a.	7%	4%	n.a.	16%	5%	n.a.	7%	1%	n.a.	4%	1%
	N	n.a.	609	637	n.a.	544	554	n.a.	550	551	n.a.	851	864
B19 (PYs 2 and 3 only)	Discussing recommended medication, diet, or activity plans with patients who have had recent hospital stays is done….												
	…for most or all of these patients.	n.a.	64%	75%	n.a.	57%	68%	n.a.	53%	74%	n.a.	70%	76%
	…for many of these patients.	n.a.	30%	21%	n.a.	29%	27%	n.a.	31%	19%	n.a.	25%	21%
	…for some of these patients.	n.a.	7%	4%	n.a.	14%	6%	n.a.	16%	7%	n.a.	4%	4%
	…for none of these patients.	n.a.	0%	0%	n.a.	0%	0%	n.a.	0%	0%	n.a.	0%	0%
	N	n.a.	642	642	n.a.	559	563	n.a.	552	551	n.a.	863	863

Table 3.B.7b. ***(continued)***

Question[a]		Track 1 – SSP			Track 1 – Not SSP			Track 2 – SSP			Track 2 – Not SSP		
		PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)
B27	Assessing patient and family values and preferences...												
	...is done and consistently incorporated in planning and organizing care.	33%	38%	42%	29%	31%	38%	25%	54%	59%	29%	41%	47%
	...is done and sometimes incorporated in planning and organizing care.	44%	52%	50%	52%	56%	53%	58%	39%	38%	57%	53%	49%
	...is done but not used in planning and organizing care.	16%	7%	6%	10%	8%	8%	6%	3%	2%	8%	3%	2%
	...is not done.	7%	3%	2%	9%	4%	2%	11%	4%	1%	7%	3%	1%
	N	642	641	639	564	560	560	553	551	551	863	859	854
B29	Self-management support is help for patients to better manage their health on a day-to-day basis. At this practice site, self-management support for most patients who have chronic conditions...												
	...is provided by practice staff who set specific goals with patients and are trained in assessing how ready patients are to change their health behavior and how to motivate patient behavior change.	30%	43%	45%	23%	39%	35%	49%	57%	75%	36%	54%	56%
	...is provided by practice staff who set specific goals with patients but are not trained in assessing how ready patients are to change their health behavior and how to motivate patient behavior change.	17%	20%	28%	19%	21%	33%	25%	25%	16%	24%	26%	32%
	...is provided by practice staff but they do not set specific goals with patients (e.g., they just offer patient education).	30%	23%	18%	38%	28%	25%	19%	12%	8%	29%	15%	11%
	...is limited to either (1) the distribution of information (e.g., pamphlets, booklets) with no or little discussion or (2) referral to self-management classes or educators.	23%	13%	9%	20%	12%	7%	6%	5%	1%	11%	5%	1%
	N	639	642	639	562	562	562	550	550	551	862	862	859

Source: CPC+ Practice Survey administered to the 2017 Starter CPC+ practices March through September 2017 (PY 1), June through September 2018 (PY 2), and July through November 2019 (PY 3). There are differences between the PY 1, PY 2 and PY 3 of the survey that could change how practices respond to questions, these differences are indicated with footnotes.

Notes: The data presented in this table represent responses from the practices that began CPC+ in 2017 (2017 Starters) and had completed all three waves of surveys.

[a] The question numbering is based on the PY 3 survey.

Table 3.B.7b. ***(continued)***

[b] The overall scores are weighted averages of practices' response to all questions in the M2-PCMH-A. The weights were derived from a factor analysis conducted on the responses of 2017 Starter CPC+ practices to the PY 1 survey. Factor analysis uses the correlation between the individual questions to reflect the reliability of each question in measuring the overall care delivery score.

[c] The wording of this question changed from the PY 1 to the PY 2 survey. In the PY 1 survey, the question asked “Feedback to the practice from patients surveys or from a patient and family advisory council…”

[d] To aggregate into the M2-PCMH-A we converted the responses to a four-point scale where yes equaled 4 and No and Don't know equaled 1.

n.a. = not applicable because the question was not asked in that survey wave; PY = Program Year; SSP = Medicare Shared Savings Program (reflects 2019 participation, or else 2018 participation for practices that withdrew from CPC+)

Table 3.B.8a. CPC+ practice characteristics, overall and by track (2017 starters)

Question[a]		Track 1 and 2 overall			Track 1 overall			Track 2 overall		
		PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)
Practice size and staffing										
A1	Number of full-time equivalent[b] practitioners[c] (primary care and specialty) at the practice site									
	0-1.5	18%	16%	15%	23%	21%	20%	13%	12%	11%
	2-2.5	18%	18%	18%	18%	18%	19%	19%	18%	17%
	3-3.5	15%	16%	16%	15%	16%	16%	16%	16%	15%
	4-6.5	28%	28%	29%	26%	26%	26%	31%	29%	31%
	7+	20%	22%	22%	18%	18%	19%	22%	25%	26%
	N	2,624	2,623	2,616	1,206	1,206	1,203	1,418	1,417	1,413
A1a	Number of full-time equivalent[b] physicians (primary care and specialty) at the practice site									
	0-1.5	31%	31%	31%	36%	36%	36%	26%	27%	26%
	2-2.5	22%	22%	22%	22%	22%	22%	22%	21%	21%
	3-3.5	16%	15%	15%	14%	14%	15%	17%	16%	16%
	4-6.5	20%	21%	21%	17%	18%	18%	23%	23%	24%
	7+	11%	11%	11%	10%	10%	9%	12%	13%	13%
	N	2,624	2,623	2,616	1,206	1,206	1,203	1,418	1,417	1,413
A1b-e	Number of full-time equivalent[b] non-physician practitioners[c] (primary care and specialty) at the practice site									
	0-1.5	71%	66%	64%	73%	69%	68%	69%	64%	60%
	2-2.5	14%	15%	17%	12%	15%	16%	16%	16%	18%
	3-3.5	6%	6%	8%	6%	6%	7%	5%	7%	9%
	4-6.5	6%	6%	6%	5%	5%	5%	6%	6%	6%
	7+	5%	6%	6%	4%	5%	5%	5%	7%	7%
	N	2,624	2,623	2,616	1,206	1,206	1,203	1,418	1,417	1,413

Table 3.B.8a. ***(continued)***

Question[a]		Track 1 and 2 overall			Track 1 overall			Track 2 overall		
		PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)
A2	Number of full-time equivalent[b] primary care practitioners[c] with own NPI at the practice site									
	0-1.5	19%	17%	16%	24%	22%	21%	14%	13%	11%
	2-2.5	19%	18%	18%	19%	19%	19%	19%	18%	17%
	3-3.5	16%	17%	16%	16%	17%	16%	16%	17%	16%
	4-6.5	29%	28%	30%	26%	27%	28%	31%	30%	32%
	7+	18%	20%	20%	15%	16%	16%	20%	23%	24%
	N	2,624	2,624	2,624	1,206	1,206	1,206	1,418	1,418	1,418
A2a	Number of full-time equivalent[b] primary care physicians with own NPI at the practice site									
	0-1.5	32%	32%	31%	38%	37%	37%	27%	28%	26%
	2-2.5	23%	22%	22%	23%	23%	22%	22%	21%	22%
	3-3.5	16%	16%	15%	14%	15%	15%	18%	17%	16%
	4-6.5	21%	21%	22%	18%	17%	19%	23%	24%	25%
	7+	9%	9%	9%	7%	8%	7%	10%	10%	11%
	N	2,624	2,624	2,624	1,206	1,206	1,206	1,418	1,418	1,418
A2b-e	Number of full-time equivalent[b] non-physician primary care practitioners[c] with own NPI at the practice site									
	0-1.5	72%	69%	65%	74%	71%	69%	70%	66%	62%
	2-2.5	14%	15%	17%	12%	14%	16%	15%	15%	18%
	3-3.5	5%	6%	8%	6%	5%	6%	5%	7%	9%
	4-6.5	5%	5%	5%	4%	4%	4%	5%	6%	6%
	7+	4%	5%	5%	4%	5%	4%	4%	5%	6%
	N	2,624	2,624	2,624	1,206	1,206	1,206	1,418	1,418	1,418
C10	Number of full-time equivalent[b] care managers/care coordinators[d]									
	0	20%	5%	4%	29%	7%	7%	13%	3%	2%
	0.5	23%	23%	21%	22%	27%	23%	24%	20%	20%
	1-1.5	37%	40%	45%	35%	39%	45%	40%	41%	45%
	2-2.5	11%	18%	16%	8%	15%	14%	14%	21%	16%
	3+	8%	14%	14%	6%	12%	11%	9%	15%	16%
	N	2,606	2,606	2,610	1,194	1,198	1,201	1,412	1,408	1,409

Table 3.B.8a. ***(continued)***

Question[a]		Track 1 and 2 overall			Track 1 overall			Track 2 overall		
		PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)
C11	Among practices with a care manager/coordinator, clinical background of care managers/care coordinators (multiple responses possible)									
	Registered nurse (RN)	75%	77%	77%	70%	73%	73%	78%	79%	80%
	Licensed practical nurse (LPN) or licensed vocational nurse (LVN)	19%	20%	23%	17%	18%	22%	21%	22%	24%
	Medical assistant (MA)	22%	23%	26%	26%	27%	32%	19%	20%	21%
	Social worker	12%	19%	20%	9%	15%	18%	13%	23%	22%
	Other clinical background	10%	12%	12%	10%	11%	10%	10%	13%	12%
	No clinical background	5%	4%	5%	5%	3%	4%	4%	5%	5%
	N	2,079	2,473	2,499	845	1,110	1,119	1,234	1,363	1,380
C11a (PYs 2 and 3 only)	Among practices with a care manager/coordinator, care managers and/or care coordinators have behavioral health training									
	Yes	n.a.	44%	53%	n.a.	37%	50%	n.a.	49%	57%
	No	n.a.	56%	47%	n.a.	63%	50%	n.a.	51%	43%
	N	n.a.	2,459	2,483	n.a.	1,104	1,112	n.a.	1,355	1,371
	Practice site has full- or part-time:									
C8a	Registered nurse (RN)	51%	57%	58%	45%	55%	52%	55%	59%	63%
C8b	Licensed practical nurse (LPN) or licensed vocational nurse (LVN)	47%	47%	47%	43%	42%	44%	49%	50%	49%
C8c	Medical assistant	93%	92%	94%	92%	90%	92%	94%	94%	96%
C9a	Clinical psychologist, psychiatrist, or clinical social worker (behavioral health specialists)	25%	41%	49%	18%	25%	33%	30%	55%	63%
C9b	Referral coordinator or referral specialist	63%	69%	68%	61%	66%	65%	63%	71%	70%
C9c	Quality Improvement (QI) specialist	33%	41%	44%	27%	41%	40%	37%	42%	47%
C9d	Health educator, dietitian, or nutritionist	27%	30%	33%	19%	24%	27%	34%	35%	39%
C9e	Clinical pharmacist or doctor of pharmacy	17%	20%	31%	13%	14%	19%	20%	25%	42%
	N	2,617	2,616	2,608	1,204	1,206	1,203	1,416	1,414	1,406

Table 3.B.8a. ***(continued)***

Question[a]		Track 1 and 2 overall			Track 1 overall			Track 2 overall		
		PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)
Practice characteristics										
C1	Medical organization that employs clinicians at this practice site[e]									
	Independent physician owned	41%	n.a.	n.a.	43%	n.a.	n.a.	39%	n.a.	n.a.
	Solely owned by 1 to 9 practitioners and/or non-practitioners	n.a.	24%	24%	n.a.	30%	30%	n.a.	20%	20%
	Solely owned by 10 or more practitioners and/or non-practitioners	n.a.	13%	12%	n.a.	8%	8%	n.a.	17%	16%
	Co-owned by a group of practitioners and a hospital, hospital system, or medical school	n.a.	2%	1%	n.a.	3%	1%	n.a.	2%	1%
	Hospital, hospital system, or medical school	55%	56%	58%	53%	57%	57%	57%	56%	59%
	HMO - group or staff model	2%	0%	0%	2%	0%	0%	2%	0%	0%
	Health insurance company	0%	0%	n.a.	0%	0%	0%	0%	0%	0%
	Community health center or clinic	1%	0%	1%	1%	0%	1%	1%	0%	0%
	Other	1%	4%	3%	1%	2%	2%	1%	5%	4%
	N	2,619	2,614	2,615	1,202	1,201	1,201	1,417	1,413	1,414
C2 (PYs 2 and 3 only)	Medical organization that employs physicians at the practice site is a multispecialty group that includes both specialists and primary care physicians[f]									
	Yes	n.a.	65%	67%	n.a.	61%	61%	n.a.	69%	72%
	No	n.a.	35%	33%	n.a.	39%	39%	n.a.	31%	28%
	N	n.a.	2,616	2,617	n.a.	1,201	1,203	n.a.	1,415	1,414
Practice site autonomy to make decisions[g]										
C3a	Staff hiring									
	High autonomy	70%	68%	71%	73%	70%	68%	68%	66%	74%
	Moderate autonomy	19%	21%	19%	17%	19%	19%	19%	23%	19%
	Some autonomy	9%	9%	8%	7%	9%	10%	11%	9%	7%
	Little/no autonomy	2%	2%	2%	3%	3%	3%	1%	2%	1%
	N	2,605	2,613	2,584	1,197	1,199	1,186	1,408	1,414	1,398

Table 3.B.8a. ***(continued)***

Question[a]		Track 1 and 2 overall			Track 1 overall			Track 2 overall		
		PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)
C3b	Organizational priorities (e.g., choosing a specific quality improvement goal)									
	High autonomy	43%	39%	39%	44%	41%	40%	43%	37%	39%
	Moderate autonomy	27%	27%	27%	28%	30%	27%	26%	25%	28%
	Some autonomy	23%	26%	26%	21%	21%	23%	24%	30%	29%
	Little/no autonomy	7%	9%	7%	6%	8%	10%	7%	9%	5%
	N	2,607	2,611	2,599	1,198	1,200	1,191	1,409	1,411	1,408
C3c	Clinical work processes (e.g., process for rooming patients)									
	High autonomy	64%	57%	57%	63%	58%	59%	64%	56%	56%
	Moderate autonomy	21%	25%	26%	19%	24%	25%	23%	26%	26%
	Some autonomy	14%	17%	15%	16%	16%	15%	13%	18%	15%
	Little/no autonomy	1%	1%	2%	2%	2%	2%	1%	1%	3%
	N	2,612	2,620	2,615	1,200	1,204	1,200	1,412	1,416	1,415
C3d	Choice of specialists to whom this practice site refers (for patients whose insurance permits referrals to any specialist)									
	High autonomy	63%	64%	62%	63%	69%	64%	62%	59%	62%
	Moderate autonomy	25%	26%	23%	25%	22%	23%	25%	30%	22%
	Some autonomy	10%	9%	14%	9%	7%	12%	11%	10%	16%
	Little/no autonomy	3%	1%	1%	3%	1%	1%	2%	0%	0%
	N	2,616	2,622	2,617	1,201	1,205	1,200	1,415	1,417	1,417
Types of patients seen										
C4a	Percentage of patients insured through Medicaid, including Medicaid managed care in the past year									
	Mean	15.4	14.13	13.94	15.49	13.91	14.35	15.32	14.31	13.59
	Median	10.00	10.00	9.00	9.50	9.00	9.00	10.00	10.00	9.00
	N	2,583	2,584	2,591	1,184	1,182	1,184	1,399	1,402	1,407
C4b	Percentage of patients uninsured or self-pay in the past year									
	Mean	4.68	4.04	4.02	4.88	4.26	4.44	4.51	3.85	3.67
	Median	3.00	2.00	2.00	3.00	2.00	2.00	3.00	2.00	2.00
	N	2,580	2,582	2,589	1,183	1,184	1,182	1,397	1,398	1,407

Table 3.B.8a. ***(continued)***

Question[a]		Track 1 and 2 overall			Track 1 overall			Track 2 overall		
		PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)
Patient dismissal										
C5	Number of patients dismissed in the past two years									
	No patients dismissed	10%	10%	11%	11%	10%	11%	9%	9%	10%
	1–5 patients	32%	34%	36%	36%	37%	39%	28%	32%	34%
	6–10 patients	19%	18%	20%	17%	17%	19%	20%	19%	20%
	11–20 patients	17%	18%	15%	16%	15%	13%	18%	20%	17%
	21–50 patients	13%	11%	11%	11%	11%	11%	15%	11%	11%
	51-99 patients	6%	5%	4%	5%	4%	3%	6%	5%	5%
	More than 99 patients	4%	4%	3%	5%	5%	3%	4%	4%	3%
	N	2,616	2,620	2,609	1,200	1,202	1,202	1,416	1,418	1,407
C6	Among practices that dismissed a patient from the practice in the past two years, reason(s) for patient dismissal (multiple responses possible)									
	Patient repeatedly missed appointments	72%	74%	75%	70%	71%	72%	75%	76%	77%
	Patient repeatedly violated bill payment policies	27%	25%	24%	26%	26%	23%	27%	24%	25%
	Patient violated chronic pain/controlled substance policies	72%	63%	58%	72%	67%	59%	72%	60%	57%
	Patient was extremely disruptive and/or behaved inappropriately toward physicians or staff	80%	82%	80%	79%	82%	79%	80%	82%	80%
	Patient repeatedly did not follow health care recommendations (such as medication regimens or getting lab tests done)	43%	39%	41%	45%	40%	44%	42%	37%	39%
	Patient repeatedly did not follow recommended lifestyle changes (such as diet, exercise, or smoking cessation)	6%	6%	6%	5%	6%	7%	7%	7%	5%
	Patient made frequent visits to the ED and/or frequently self-referred to specialists	5%	5%	5%	4%	5%	5%	6%	5%	4%
	Other	2%	2%	3%	3%	1%	3%	2%	2%	3%
	N	2,357	2,355	2,327	1,071	1,072	1,066	1,286	1,283	1,261

Table 3.B.8a. ***(continued)***

Question[a]		Track 1 and 2 overall			Track 1 overall			Track 2 overall		
		PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)
Sources of practice revenue and physician compensation										
G1	Percentage of practice site's revenue that came from fee-for-service (FFS) payments in [the prior year]									
	Mean	n.a.	76.55	76.52	n.a.	77.60	77.97	n.a.	75.64	75.30
	Median	n.a.	85.00	85.00	n.a.	89.00	88.00	n.a.	81.00	80.00
	N	n.a.	2,454	2,512	n.a.	1,134	1,146	n.a.	1,320	1,366
G2	Percentage of practices reporting a portion of practice site's revenue in the prior year came from the source (multiple responses possible)									
	Fee-for-service payments (calculated using G1)	99%	100%	99%	99%	99%	99%	99%	100%	99%
	Care management fees (prospective payments to support care management for patients, paid in addition to usual payments for services)	61%	81%	80%	54%	75%	74%	67%	85%	85%
	Capitation (per-patient per-month payment for specific patients, intended to cover costs of some or all services provided, regardless of amount or type in lieu of fee-for-service payments)	37%	60%	60%	33%	46%	46%	41%	72%	71%
	Episode-based payments (a fixed payment for all services needed for a patient with a particular condition)	10%	14%	10%	8%	13%	7%	13%	14%	12%
	Shared savings, in which costs of care are compared to an expenditure target or to costs for another group of practices and a proportion of savings are shared with practices	0%	41%	52%	0%	33%	47%	0%	49%	56%
	Financial rewards or bonuses from insurers for improving quality of care, patient experience, and/or controlling costs, not including shared savings	76%	76%	80%	75%	75%	75%	77%	77%	84%
	Other payments	10%	6%	8%	10%	6%	7%	9%	5%	9%
	N	2,605	2,587	2,604	1,196	1,187	1,197	1,410	1,404	1,407

Table 3.B.8a. ***(continued)***

Question[a]		Track 1 and 2 overall			Track 1 overall			Track 2 overall		
		PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)
G3 (PYs 2 and 3 only)	Percentage of practice site's [prior year's] revenue that was tied to cost or quality performance									
	Mean	n.a.	11.98	12.97	n.a.	11.99	11.93	n.a.	11.96	13.85
	Median	n.a.	7.00	9.00	n.a.	8.00	7.00	n.a.	7.00	10.00
	N	n.a.	2,428	2,498	n.a.	1,117	1,134	n.a.	1,311	1,364
CPC+ payments from Medicare FFS										
H1 (PYs 2 and 3 only)	Considering the amount of work required by CPC+, the adequacy of the CPC+ payments from Medicare FFS									
	More than adequate	n.a.	1%	1%	n.a.	1%	2%	n.a.	0%	1%
	Adequate	n.a.	46%	47%	n.a.	40%	40%	n.a.	50%	53%
	Less than adequate	n.a.	43%	43%	n.a.	47%	47%	n.a.	39%	39%
	Don't know - not familiar with CPC+ payments from Medicare FFS or costs of doing CPC+ work	n.a.	10%	8%	n.a.	11%	11%	n.a.	10%	6%
	N	n.a.	2,599	2,606	n.a.	1,197	1,198	n.a.	1,402	1,408
The Performance-Based Incentive Payment (PBIP) is paid prospectively by CMS at the beginning of each program year[h]										
H2a (PYs 2 and 3 only)	Practice understands how Medicare FFS calculates the proportion of the PBIP the practice will retain and the proportion CMS will recoup									
	Strongly agree	n.a.	10%	16%	n.a.	9%	14%	n.a.	10%	17%
	Agree	n.a.	61%	64%	n.a.	58%	61%	n.a.	64%	66%
	Disagree	n.a.	23%	16%	n.a.	26%	20%	n.a.	21%	14%
	Strongly disagree	n.a.	5%	4%	n.a.	6%	6%	n.a.	5%	3%
	N	n.a.	1,347	1,568	n.a.	543	599	n.a.	804	969

Table 3.B.8a. ***(continued)***

Question[a]		Track 1 and 2 overall			Track 1 overall			Track 2 overall		
		PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)
H2b (PYs 2 and 3 only)	Practice feels that Medicare FFS's methodology is fair in how it determines the proportion of the PBIP the practice will retain and the proportion CMS will recoup									
	Strongly agree	n.a.	3%	5%	n.a.	3%	7%	n.a.	3%	4%
	Agree	n.a.	43%	46%	n.a.	42%	46%	n.a.	44%	47%
	Disagree	n.a.	19%	26%	n.a.	17%	25%	n.a.	20%	27%
	Strongly disagree	n.a.	6%	6%	n.a.	7%	8%	n.a.	6%	5%
	Don't know	n.a.	29%	16%	n.a.	32%	15%	n.a.	27%	16%
	N	n.a.	1,371	1,599	n.a.	554	607	n.a.	817	992
The Comprehensive Primary Care Payment (CPCP) is paid quarterly as a lump sum to Track 2 practices for evaluation and management services[i]										
H3a (PYs 2 and 3 only)	Practice understands how Medicare FFS calculated its CPCPs									
	Strongly agree	n.a.	12%	19%	n.a.	n.a.	n.a.	n.a.	12%	19%
	Agree	n.a.	65%	61%	n.a.	n.a.	n.a.	n.a.	65%	61%
	Disagree	n.a.	21%	19%	n.a.	n.a.	n.a.	n.a.	21%	19%
	Strongly disagree	n.a.	3%	1%	n.a.	n.a.	n.a.	n.a.	3%	1%
	N	n.a.	1,341	1,365	n.a.	n.a.	n.a.	n.a.	1,341	1,365
H3b (PYs 2 and 3 only)	Practice feels that Medicare FFS's methodology is fair in how it calculates CPCPs									
	Strongly agree	n.a.	4%	6%	n.a.	n.a.	n.a.	n.a.	4%	6%
	Agree	n.a.	52%	54%	n.a.	n.a.	n.a.	n.a.	52%	54%
	Disagree	n.a.	19%	22%	n.a.	n.a.	n.a.	n.a.	19%	22%
	Strongly disagree	n.a.	3%	4%	n.a.	n.a.	n.a.	n.a.	3%	4%
	Don't know	n.a.	22%	14%	n.a.	n.a.	n.a.	n.a.	22%	14%
	N	n.a.	1,403	1,404	n.a.	n.a.	n.a.	n.a.	1,403	1,404
CPC+ payments from other CPC+ payer partners (not Medicare FFS)										
H4 (PYs 2 and 3 only)	Practice contracts with CPC+ payer partners (payers other than Medicare FFS) for CPC+									
	Yes	n.a.	79%	78%	n.a.	76%	71%	n.a.	82%	83%
	No	n.a.	21%	22%	n.a.	24%	29%	n.a.	18%	17%
	N	n.a.	2,574	2,599	n.a.	1,176	1,195	n.a.	1,398	1,404

Table 3.B.8a. ***(continued)***

Question[a]		Track 1 and 2 overall			Track 1 overall			Track 2 overall		
		PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)
H4a (PYs 2 and 3 only)	Among practices that contract with CPC+ payer partners for CPC+, considering the amount of work required by CPC+, the adequacy of the CPC+ payments from CPC+ payer partners									
	More than adequate	n.a.	0%	2%	n.a.	1%	2%	n.a.	0%	2%
	Adequate	n.a.	31%	38%	n.a.	29%	35%	n.a.	33%	41%
	Less than adequate	n.a.	56%	49%	n.a.	55%	48%	n.a.	57%	50%
	Don't know - not familiar with CPC+ payments from CPC+ payer partners or costs of doing CPC+ work	n.a.	13%	11%	n.a.	15%	15%	n.a.	10%	7%
	N	n.a.	2,054	2,011	n.a.	898	845	n.a.	1,156	1,166
H5a (PYs 2 and 3 only)	Among practices that contract with CPC+ payer partners for CPC+, practice understands which payments practice receives from CPC+ payer partners for CPC+									
	Strongly agree	n.a.	13%	13%	n.a.	13%	12%	n.a.	12%	14%
	Agree	n.a.	64%	61%	n.a.	60%	56%	n.a.	67%	64%
	Disagree	n.a.	18%	20%	n.a.	19%	23%	n.a.	17%	17%
	Strongly disagree	n.a.	5%	7%	n.a.	7%	9%	n.a.	3%	5%
	N	n.a.	1,848	1,989	n.a.	802	841	n.a.	1,046	1,148
H5b (PYs 2 and 3 only)	Among practices that contract with CPC+ payer partners for CPC+, practice understands how CPC+ payer partners calculated their CPC+ payments									
	Strongly agree	n.a.	9%	10%	n.a.	9%	7%	n.a.	8%	11%
	Agree	n.a.	55%	55%	n.a.	52%	51%	n.a.	57%	59%
	Disagree	n.a.	31%	27%	n.a.	31%	31%	n.a.	30%	24%
	Strongly disagree	n.a.	6%	8%	n.a.	8%	10%	n.a.	4%	7%
	N	n.a.	1,830	1,988	n.a.	790	840	n.a.	1,040	1,148

Table 3.B.8a. ***(continued)***

Question[a]		Track 1 and 2 overall			Track 1 overall			Track 2 overall		
		PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)
H5c (PYs 2 and 3 only)	Among practices that contract with CPC+ payer partners for CPC+, practice feels that CPC+ payer partners' methodology to calculate CPC+ payments is fair									
	Strongly agree	n.a.	3%	4%	n.a.	2%	3%	n.a.	4%	4%
	Agree	n.a.	34%	42%	n.a.	33%	36%	n.a.	35%	46%
	Disagree	n.a.	25%	27%	n.a.	20%	29%	n.a.	28%	26%
	Strongly disagree	n.a.	8%	9%	n.a.	6%	7%	n.a.	9%	10%
	Don't know	n.a.	30%	19%	n.a.	38%	26%	n.a.	24%	14%
	N	n.a.	2,060	2,018	n.a.	900	850	n.a.	1,160	1,168
Practice participation in other initiatives										
C7	Practice participation in other initiatives, demonstrations, or programs (multiple responses possible)									
	Health Care Innovation Awards (sponsored by CMS)	4%	5%	n.a.	4%	6%	n.a.	5%	4%	n.a.
	Accountable Care Organizations (ACOs) that are not sponsored by Medicare	23%	27%	30%	24%	31%	33%	22%	24%	28%
	State Innovation Model (SIM)[j]	14%	35%	35%	11%	26%	28%	16%	42%	41%
	Accountable Health Communities Model	n.a.	n.a.	4%	n.a.	n.a.	4%	n.a.	n.a.	3%
	Medicaid Health Home	12%	7%	8%	11%	7%	9%	13%	6%	7%
	A state- or community-based quality improvement program or collaborative (for example, Institute for Healthcare Improvement collaborative or EHR users' group)	16%	21%	27%	13%	17%	21%	18%	24%	32%
	An insurer-sponsored program linking payment to performance or value (such as a bonus payment from an insurer for quality)	75%	80%	84%	73%	78%	82%	77%	81%	86%
	N	2,589	2,580	2,593	1,189	1,189	1,190	1,400	1,393	1,403

Table 3.B.8a. ***(continued)***

Question[a]		Track 1 and 2 overall			Track 1 overall			Track 2 overall		
		PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)
Data feedback on cost of care to insurers										
E3 (PYs 2 and 3 only)	Practice site gets data on what insurers pay for specialists services (data provided by insurers or other organizations)									
	Yes, we get data on what all insurers pay	n.a.	40%	53%	n.a.	38%	51%	n.a.	41%	54%
	Yes, we get data on what some insurers pay	n.a.	3%	7%	n.a.	2%	5%	n.a.	4%	8%
	No, we do not get data on what any insurers pay	n.a.	57%	41%	n.a.	60%	44%	n.a.	55%	38%
	N	n.a.	2,599	2,604	n.a.	1,192	1,196	n.a.	1,407	1,408
E4 (PY 3 only)	If practice gets data on what insurers pay, how often practice site uses these data to inform where to refer patients for specialists services[k]									
	Usually or always	n.a.	n.a.	2%	n.a.	n.a.	3%	n.a.	n.a.	1%
	Frequently	n.a.	n.a.	15%	n.a.	n.a.	14%	n.a.	n.a.	16%
	Sometimes	n.a.	n.a.	52%	n.a.	n.a.	49%	n.a.	n.a.	54%
	Never or rarely	n.a.	n.a.	31%	n.a.	n.a.	34%	n.a.	n.a.	30%
	N	n.a.	n.a.	1,543	n.a.	n.a.	676	n.a.	n.a.	867
Data feedback on practice site's performance										
E1 (PYs 2 and 3 only)	Practice site received data feedback on the performance of the practice or physicians within the practice site in the past 12 months. This data feedback may have been provided by private health insurers, Medicaid, Medicare, your own organization, state health agencies, or others.									
	Yes	n.a.	97%	98%	n.a.	96%	97%	n.a.	98%	98%
	No	n.a.	3%	2%	n.a.	4%	3%	n.a.	2%	2%
	N	n.a.	2,623	2,614	n.a.	1,205	1,203	n.a.	1,418	1,411

Table 3.B.8a. ***(continued)***

Question[a]		Track 1 and 2 overall			Track 1 overall			Track 2 overall		
		PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)
E2 (PYs 2 and 3 only)	Percentage of practices that reported receiving…									
	Data feedback on patient experience (from surveys)	n.a.	89%	94%	n.a.	86%	93%	n.a.	92%	96%
	Data feedback on quality of care	n.a.	94%	95%	n.a.	92%	94%	n.a.	96%	96%
	Data feedback on cost	n.a.	90%	92%	n.a.	89%	90%	n.a.	90%	93%
	Data feedback on utilization	n.a.	92%	94%	n.a.	91%	93%	n.a.	93%	95%
	N	n.a.	2,624	2,624	n.a.	1,206	1,206	n.a.	1,418	1,418
Among practices that reported receiving each type of data feedback, practice site has changed how it delivers care in response to…										
E2a (PYs 2 and 3 only)	Data feedback on patient experience (from surveys)									
	Yes, major changes	n.a.	14%	18%	n.a.	14%	14%	n.a.	14%	21%
	Yes, minor changes	n.a.	78%	70%	n.a.	77%	72%	n.a.	79%	69%
	No change	n.a.	6%	9%	n.a.	6%	11%	n.a.	5%	7%
	Don't know if changes were made	n.a.	2%	3%	n.a.	2%	2%	n.a.	2%	4%
	N	n.a.	2,334	2,473	n.a.	1,035	1,116	n.a.	1,299	1,357
E2b (PYs 2 and 3 only)	Data feedback on quality of care									
	Yes, major changes	n.a.	30%	31%	n.a.	33%	28%	n.a.	27%	33%
	Yes, minor changes	n.a.	62%	58%	n.a.	58%	59%	n.a.	66%	56%
	No change	n.a.	7%	10%	n.a.	8%	11%	n.a.	6%	9%
	Don't know if changes were made	n.a.	1%	2%	n.a.	2%	1%	n.a.	1%	2%
	N	n.a.	2,467	2,496	n.a.	1,111	1,130	n.a.	1,356	1,366
E2c (PYs 2 and 3 only)	Data feedback on cost									
	Yes, major changes	n.a.	10%	15%	n.a.	7%	11%	n.a.	13%	18%
	Yes, minor changes	n.a.	54%	50%	n.a.	59%	54%	n.a.	50%	47%
	No change	n.a.	22%	27%	n.a.	23%	28%	n.a.	20%	26%
	Don't know if changes were made	n.a.	14%	8%	n.a.	11%	7%	n.a.	17%	8%
	N	n.a.	2,359	2,411	n.a.	1,079	1,088	n.a.	1,280	1,323

Table 3.B.8a. ***(continued)***

Question[a]		Track 1 and 2 overall			Track 1 overall			Track 2 overall		
		PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)
E2d (PYs 2 and 3 only)	Data feedback on utilization									
	Yes, major changes	n.a.	21%	23%	n.a.	20%	20%	n.a.	23%	25%
	Yes, minor changes	n.a.	62%	61%	n.a.	63%	62%	n.a.	61%	59%
	No change	n.a.	11%	13%	n.a.	13%	14%	n.a.	10%	12%
	Don't know if changes were made	n.a.	5%	4%	n.a.	5%	4%	n.a.	5%	4%
	N	n.a.	2,413	2,462	n.a.	1,101	1,119	n.a.	1,312	1,343
Use of health information technology										
F1	Practice site uses an Electronic Health Record (EHR) system									
	Yes	100%	100%	100%	100%	100%	100%	100%	100%	100%
	No	0%	0%	0%	0%	0%	0%	0%	0%	0%
	N	2,616	2,607	2,609	1,200	1,196	1,201	1,416	1,411	1,408
F4	Practice site participates in state or regional health information exchange									
	Yes	63%	71%	75%	57%	66%	68%	68%	74%	81%
	No	25%	20%	18%	29%	23%	23%	22%	17%	13%
	Don't know	12%	9%	7%	15%	11%	9%	10%	8%	6%
	N	2,620	2,616	2,618	1,203	1,202	1,203	1,417	1,414	1,415
Completion of the survey										
K1	Who provided input in completing the survey (multiple responses possible)									
	Practice or office manager	82%	74%	75%	81%	71%	72%	83%	77%	76%
	Lead physician	33%	22%	17%	31%	20%	17%	35%	23%	17%
	Other physicians	7%	4%	3%	6%	3%	3%	8%	5%	3%
	Nurse practitioner (NP), clinical nurse specialist (CNS), or physician assistant (PA)	6%	3%	3%	6%	3%	3%	6%	3%	4%
	Care manager/coordinator	35%	30%	26%	30%	31%	27%	40%	30%	25%
	Nursing staff, including nurse manager or supervisor	12%	6%	5%	13%	7%	6%	11%	4%	4%
	Medical assistant staff	14%	7%	4%	16%	10%	5%	13%	5%	3%
	Quality improvement staff	29%	30%	31%	32%	33%	29%	27%	28%	32%
	Administrative support staff (e.g., billing or finance staff, front desk staff)	24%	19%	16%	27%	18%	14%	21%	20%	17%

Table 3.B.8a. ***(continued)***

Question[a]		Track 1 and 2 overall			Track 1 overall			Track 2 overall		
		PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)
	Non-physician owner of practice	n.a.	1%	0%	n.a.	0%	0%	n.a.	1%	0%
	Leadership or staff from larger health care system or medical group	24%	19%	19%	22%	15%	14%	25%	22%	24%
	Data analytics staff	n.a.	20%	17%	n.a.	20%	16%	n.a.	20%	17%
	CPC+ lead	n.a.	34%	37%	n.a.	35%	35%	n.a.	33%	39%
	Patients	0%	0%	0%	0%	0%	0%	0%	0%	1%
	Other	12%	3%	3%	13%	3%	3%	11%	4%	3%
	N	2,620	2,620	2,615	1,204	1,204	1,200	1,416	1,416	1,415

Source: CPC+ Practice Survey administered to the 2017 Starter CPC+ practices March through September 2017 (PY 1), June through September 2018 (PY 2), and July through November 2019 (PY 3). There are differences between the PY 1, PY 2, and PY 3 survey that could change how practices respond to questions, these differences are indicated with footnotes.

Notes: The data presented in this table represent responses from the practices that began CPC+ in 2017 (2017 Starters) and had completed all three waves of surveys.

[a] The question numbering is based on the PY 3 survey.

[b] Practices entered number of full time and part time staff separately. Full time equivalent counts were estimated by counting all full-time staff as 1 FTE and all part-time staff as 0.5 FTE.

[c] Practitioners include physicians (MD or DO, not including psychiatrists), physician residents or fellows (trainees), nurse practitioners, physician assistants, and clinical nurse specialists. Non-physician practitioners include all types of practitioners listed but the first.

[d] Item wording changed mid-field during the PY 1 survey to clarify that it was asking about care managers/coordinators who work as part of the practice's care team, regardless of where they physically work. 799 practices out of 2,833 2017 Starter practices responded to this question prior to the wording change.

[e] Response options to this question changed significantly from the PY 1 survey to the PY 2 survey, therefore comparisons over time should be evaluated carefully.

[f] This question was only asked of independent physician-owned practices in PY 1 and the question wording changed from the PY 1 to the PY 2 survey in a way that might change how practices answered this question (see Table 5). Because responses are not comparable over time, responses are not displayed for PY 1.

[g] The question wording changed from the PY 1 survey to the PY 2 survey in a way that might change how practices answered the question. In PY 1, the question asked: Please indicate how much autonomy the leaders of this practice site have in making decisions for this site in the following areas. In PY 2, the question asked: Please indicate how much autonomy this practice site has in making decisions for this site in the following areas.

[h] Practices participating in the Medicare Shared Savings Program (SSP) every year 2017-2019 did not receive the Performance-Based Incentive Payment (PBIP) and therefore were not asked these questions.

[i] The Comprehensive Primary Care Payment (CPCP) is a lump sum quarterly payment paid to Track 2 practices based on their historical FFS payment amounts for evaluation and management services. Track 2 practices' FFS payments for these services are reduced to account for the CPCP. Track 1 practices do not receive CPCPs and therefore were not asked these questions.

[j] The wording of this question changed from the PY 1 survey to the PY 2 survey in a way that might change how practices answered this question. In the PY 1 survey, practices were asked about their participation in “State Innovation Model (SIM) (sponsored by CMS; may have a state-specific name.” In the PY 2 survey, the question included the name of the SIM program in their state.

[k] The question was asked in the PY 2 survey, but incorrectly asked about “diagnostic or lab services” rather than specialist services. For this reason, PY 2 responses to this question are not reported.

n.a. = not applicable because the survey question was not asked in that wave or to the specified group of practices.

Table 3.B.8b. CPC+ practice characteristics, overall by track and SSP status and by region (2017 starters)

Question[a]		Track 1 – SSP			Track 1 – Not SSP			Track 2 – SSP			Track 2 – Not SSP		
		PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)
Practice size and staffing													
A1	Number of full-time equivalent[b] practitioners[c] (primary care and specialty) at the practice site												
	0-1.5	24%	22%	22%	23%	20%	18%	15%	14%	10%	12%	10%	11%
	2-2.5	21%	20%	20%	14%	17%	18%	20%	17%	17%	18%	20%	17%
	3-3.5	16%	19%	18%	13%	12%	15%	13%	16%	15%	18%	16%	15%
	4-6.5	26%	26%	27%	26%	27%	25%	29%	26%	29%	32%	31%	33%
	7+	13%	13%	14%	23%	24%	24%	23%	27%	28%	21%	23%	24%
	N	642	642	641	564	564	562	553	552	551	865	865	862
A1a	Number of full-time equivalent[b] physicians (primary care and specialty) at the practice site												
	0-1.5	38%	39%	38%	34%	33%	34%	27%	26%	24%	26%	27%	27%
	2-2.5	26%	24%	24%	19%	20%	20%	21%	19%	21%	22%	23%	22%
	3-3.5	14%	16%	17%	14%	13%	12%	16%	15%	16%	18%	17%	15%
	4-6.5	15%	15%	15%	20%	21%	22%	22%	24%	22%	24%	22%	25%
	7+	7%	7%	6%	13%	13%	13%	14%	15%	17%	10%	11%	10%
	N	642	642	641	564	564	562	553	552	551	865	865	862
A1b-e	Number of full-time equivalent2 non-physician practitioners3 (primary care and specialty) at the practice site												
	0-1.5	76%	73%	71%	69%	65%	64%	72%	68%	62%	67%	62%	59%
	2-2.5	12%	15%	15%	10%	15%	16%	14%	13%	16%	16%	17%	19%
	3-3.5	5%	5%	7%	7%	6%	8%	4%	6%	9%	6%	8%	9%
	4-6.5	3%	4%	4%	7%	7%	5%	5%	5%	5%	7%	7%	7%
	7+	3%	4%	3%	6%	7%	7%	6%	7%	8%	4%	6%	6%
	N	642	642	641	564	564	562	553	552	551	865	865	862

Table 3.B.8b. ***(continued)***

Question[a]		Track 1 – SSP			Track 1 – Not SSP			Track 2 – SSP			Track 2 – Not SSP		
		PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)
A2	Number of full-time equivalent[b] primary care practitioners[c] with own NPI at the practice site												
	0-1.5	24%	23%	22%	23%	21%	20%	15%	14%	10%	13%	12%	12%
	2-2.5	22%	20%	21%	15%	17%	16%	20%	17%	18%	18%	19%	17%
	3-3.5	17%	19%	17%	15%	15%	16%	14%	16%	15%	18%	17%	16%
	4-6.5	26%	27%	29%	26%	26%	26%	29%	27%	30%	33%	31%	33%
	7+	11%	12%	11%	20%	21%	21%	22%	25%	27%	18%	21%	22%
	N	642	642	642	564	564	564	553	553	553	865	865	865
A2a	Number of full-time equivalent[b] primary care physicians with own NPI at the practice site												
	0-1.5	39%	40%	39%	35%	34%	36%	27%	27%	24%	27%	28%	28%
	2-2.5	26%	24%	24%	20%	22%	19%	21%	19%	21%	23%	23%	23%
	3-3.5	15%	16%	17%	13%	13%	12%	18%	15%	17%	17%	17%	15%
	4-6.5	15%	15%	15%	21%	20%	22%	22%	26%	25%	24%	23%	25%
	7+	5%	6%	4%	10%	11%	11%	12%	12%	14%	9%	9%	9%
	N	642	642	642	564	564	564	553	553	553	865	865	865
A2b-e	Number of full-time equivalent[b] non-physician primary care practitioners[c] with own NPI at the practice site												
	0-1.5	77%	74%	72%	71%	68%	65%	74%	70%	64%	68%	64%	60%
	2-2.5	12%	15%	15%	12%	14%	18%	13%	13%	17%	17%	17%	19%
	3-3.5	5%	5%	6%	6%	7%	7%	4%	7%	8%	6%	7%	9%
	4-6.5	2%	3%	4%	6%	6%	5%	4%	5%	5%	6%	7%	6%
	7+	3%	4%	3%	5%	6%	5%	5%	5%	6%	4%	5%	6%
	N	642	642	642	564	564	564	553	553	553	865	865	865
C10	Number of full-time equivalent[b] care managers/care coordinators[d]												
	0	27%	6%	8%	31%	8%	6%	11%	3%	2%	13%	3%	2%
	0.5	24%	34%	25%	20%	20%	20%	33%	28%	27%	18%	15%	16%
	1-1.5	40%	41%	46%	30%	36%	45%	34%	34%	41%	44%	46%	47%
	2-2.5	6%	10%	14%	10%	21%	15%	15%	24%	15%	14%	20%	17%
	3+	4%	9%	7%	9%	15%	15%	8%	12%	15%	10%	17%	17%
	N	633	635	638	561	563	563	552	549	550	860	859	859

Table 3.B.8b. ***(continued)***

Question[a]		Track 1 – SSP			Track 1 – Not SSP			Track 2 – SSP			Track 2 – Not SSP		
		PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)
C11	Among practices with a care manager/coordinator, clinical background of care managers/care coordinators (multiple responses possible)												
	Registered nurse (RN)	76%	77%	76%	63%	70%	70%	84%	87%	87%	74%	75%	76%
	Licensed practical nurse (LPN) or licensed vocational nurse (LVN)	18%	17%	23%	15%	19%	21%	19%	22%	21%	23%	23%	25%
	Medical assistant (MA)	21%	19%	29%	32%	35%	36%	13%	13%	14%	24%	25%	26%
	Social worker	9%	13%	17%	10%	17%	21%	9%	18%	16%	16%	26%	25%
	Other clinical background	6%	6%	7%	15%	15%	15%	8%	10%	11%	11%	15%	13%
	No clinical background	6%	4%	2%	4%	3%	7%	4%	4%	3%	4%	5%	7%
	N	462	592	588	383	518	531	491	533	541	743	830	839
C11a (PYs 2 and 3 only)	Among practices with a care manager/coordinator, care managers and/or care coordinators have behavioral health training												
	Yes	n.a.	36%	47%	n.a.	38%	52%	n.a.	44%	56%	n.a.	53%	57%
	No	n.a.	64%	53%	n.a.	62%	48%	n.a.	56%	44%	n.a.	47%	43%
	N	n.a.	590	586	n.a.	514	526	n.a.	530	539	n.a.	825	832
	Practice site has full- or part-time:												
C8a	Registered nurse (RN)	41%	55%	53%	50%	55%	52%	58%	60%	66%	54%	58%	61%
C8b	Licensed practical nurse (LPN) or licensed vocational nurse (LVN)	43%	42%	44%	44%	42%	44%	50%	49%	51%	49%	51%	48%
C8c	Medical assistant	91%	90%	92%	93%	91%	93%	95%	95%	97%	93%	93%	96%
C9a	Clinical psychologist, psychiatrist, or clinical social worker (behavioral health specialists)	16%	24%	30%	20%	27%	37%	28%	56%	68%	32%	55%	59%
C9b	Referral coordinator or referral specialist	60%	61%	59%	63%	71%	72%	52%	62%	66%	71%	77%	72%
C9c	Quality Improvement (QI) specialist	26%	42%	41%	29%	40%	39%	29%	40%	54%	42%	43%	43%
C9d	Health educator, dietitian, or nutritionist	18%	21%	25%	19%	26%	30%	28%	38%	43%	37%	34%	35%
C9e	Clinical pharmacist or doctor of pharmacy	12%	11%	15%	15%	18%	25%	17%	31%	45%	22%	21%	39%
	N	641	642	641	564	564	562	551	552	552	865	863	856

Table 3.B.8b. ***(continued)***

Question[a]		Track 1 – SSP			Track 1 – Not SSP			Track 2 – SSP			Track 2 – Not SSP		
		PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)
Practice characteristics													
C1	Medical organization that employs clinicians at this practice site[e]												
	Independent physician owned	35%	n.a.	n.a.	51%	n.a.	n.a.	27%	n.a.	n.a.	47%	n.a.	n.a.
	Solely owned by 1 to 9 practitioners and/or non-practitioners	n.a.	24%	23%	n.a.	37%	37%	n.a.	13%	13%	n.a.	24%	24%
	Solely owned by 10 or more practitioners and/or non-practitioners	n.a.	5%	6%	n.a.	13%	11%	n.a.	9%	9%	n.a.	22%	20%
	Co-owned by a group of practitioners and a hospital, hospital system, or medical school	n.a.	1%	1%	n.a.	4%	2%	n.a.	1%	0%	n.a.	2%	1%
	Hospital, hospital system, or medical school	61%	69%	67%	44%	42%	46%	70%	69%	75%	49%	48%	49%
	HMO - group or staff model	3%	0%	0%	2%	0%	0%	2%	0%	0%	2%	0%	0%
	Health insurance company	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Community health center or clinic	0%	0%	0%	2%	1%	2%	1%	0%	0%	1%	0%	0%
	Other	1%	1%	2%	0%	2%	3%	1%	8%	3%	1%	3%	5%
	N	640	640	640	562	561	561	553	553	551	864	860	863
C2 (PYs 2 and 3 only)	Medical organization that employs physicians at the practice site is a multispecialty group that includes both specialists and primary care physicians[f]												
	Yes	n.a.	65%	70%	n.a.	55%	51%	n.a.	76%	83%	n.a.	65%	65%
	No	n.a.	35%	30%	n.a.	45%	49%	n.a.	24%	17%	n.a.	35%	35%
	N	n.a.	640	641	n.a.	561	562	n.a.	552	550	n.a.	863	864
Practice site autonomy to make decisions[g]													
C3a	Staff hiring												
	High autonomy	71%	65%	63%	74%	75%	74%	64%	58%	71%	71%	71%	75%
	Moderate autonomy	19%	22%	25%	16%	14%	13%	19%	24%	20%	20%	22%	18%
	Some autonomy	7%	9%	10%	7%	8%	10%	15%	15%	8%	8%	5%	6%
	Little/no autonomy	3%	3%	1%	3%	3%	4%	1%	2%	1%	2%	2%	0%
	N	638	640	630	559	559	556	549	553	548	859	861	850

Table 3.B.8b. ***(continued)***

Question[a]		Track 1 – SSP			Track 1 – Not SSP			Track 2 – SSP			Track 2 – Not SSP		
		PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)
C3b	Organizational priorities (e.g., choosing a specific quality improvement goal)												
	High autonomy	36%	34%	33%	54%	49%	48%	36%	25%	32%	47%	44%	43%
	Moderate autonomy	32%	33%	29%	25%	27%	25%	23%	24%	31%	28%	25%	26%
	Some autonomy	25%	26%	30%	16%	15%	15%	31%	33%	31%	20%	27%	27%
	Little/no autonomy	7%	7%	8%	6%	9%	12%	11%	17%	6%	4%	4%	4%
	N	639	637	634	559	563	557	550	552	553	859	859	855
C3c	Clinical work processes (e.g., process for rooming patients)												
	High autonomy	62%	51%	51%	65%	66%	68%	67%	50%	56%	61%	59%	56%
	Moderate autonomy	19%	27%	29%	20%	20%	20%	20%	21%	23%	24%	28%	29%
	Some autonomy	18%	20%	19%	13%	11%	10%	12%	28%	17%	13%	11%	14%
	Little/no autonomy	2%	2%	2%	2%	3%	2%	1%	1%	5%	1%	1%	1%
	N	639	642	639	561	562	561	549	551	551	863	865	864
C3d	Choice of specialists to whom this practice site refers (for patients whose insurance permits referrals to any specialist)												
	High autonomy	60%	66%	56%	67%	73%	73%	60%	51%	53%	63%	65%	67%
	Moderate autonomy	29%	26%	30%	20%	19%	15%	26%	38%	26%	24%	24%	20%
	Some autonomy	9%	8%	14%	10%	7%	10%	12%	10%	20%	11%	11%	13%
	Little/no autonomy	3%	1%	0%	3%	2%	2%	2%	0%	1%	2%	1%	0%
	N	640	642	639	561	563	561	551	553	553	864	864	864
Types of patients seen													
C4a	Percentage of patients insured through Medicaid, including Medicaid managed care in the past year												
	Mean	14.21	13.08	13.46	16.95	14.84	15.34	13.83	13.22	12.29	16.27	15.01	14.43
	Median	8.00	9.00	8.00	10.00	8.50	10.00	8.00	9.00	8.00	10.00	10.00	9.00
	N	629	624	626	555	558	558	544	545	550	855	857	857
C4b	Percentage of patients uninsured or self-pay in the past year												
	Mean	4.55	3.92	4.25	5.25	4.63	4.64	4.66	3.52	3.55	4.41	4.06	3.75
	Median	3.00	2.00	3.00	3.00	2.50	2.00	3.00	3.00	3.00	2.00	2.00	2.00
	N	628	626	624	555	558	558	544	542	550	853	856	857

Table 3.B.8b. ***(continued)***

Question[a]		Track 1 – SSP			Track 1 – Not SSP			Track 2 – SSP			Track 2 – Not SSP		
		PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)
Patient dismissal													
C5	Number of patients dismissed in the past two years												
	No patients dismissed	11%	11%	12%	10%	9%	11%	14%	13%	12%	5%	7%	9%
	1–5 patients	37%	38%	38%	34%	36%	41%	24%	30%	33%	32%	33%	35%
	6–10 patients	17%	17%	21%	17%	17%	16%	20%	14%	21%	20%	22%	20%
	11–20 patients	14%	15%	11%	18%	15%	15%	18%	21%	15%	17%	19%	18%
	21–50 patients	12%	11%	13%	10%	11%	9%	15%	12%	12%	14%	11%	10%
	51-99 patients	5%	4%	3%	5%	5%	3%	6%	6%	4%	6%	4%	5%
	More than 99 patients	3%	4%	2%	6%	7%	4%	2%	4%	3%	6%	4%	3%
	N	637	638	640	563	564	562	552	553	551	864	865	856
C6	Among practices that dismissed a patient from the practice in the past two years, reason(s) for patient dismissal (multiple responses possible)												
	Patient repeatedly missed appointments	68%	72%	74%	71%	71%	69%	74%	75%	77%	75%	76%	78%
	Patient repeatedly violated bill payment policies	20%	20%	17%	34%	32%	30%	24%	19%	23%	28%	28%	26%
	Patient violated chronic pain/controlled substance policies	71%	69%	59%	73%	64%	58%	68%	57%	59%	74%	61%	56%
	Patient was extremely disruptive and/or behaved inappropriately toward physicians or staff	75%	81%	77%	83%	82%	82%	75%	81%	76%	84%	82%	82%
	Patient repeatedly did not follow health care recommendations (such as medication regimens or getting lab tests done)	46%	40%	48%	45%	41%	39%	45%	38%	42%	40%	37%	37%
	Patient repeatedly did not follow recommended lifestyle changes (such as diet, exercise, or smoking cessation)	7%	7%	9%	3%	5%	5%	7%	6%	4%	7%	7%	5%
	Patient made frequent visits to the ED and/or frequently self-referred to specialists	4%	5%	4%	4%	5%	6%	5%	8%	4%	6%	3%	4%
	Other	1%	1%	1%	4%	2%	6%	5%	4%	3%	1%	1%	2%
	N	563	563	565	508	509	501	469	479	485	817	804	776

Table 3.B.8b. ***(continued)***

Question[a]		Track 1 – SSP			Track 1 – Not SSP			Track 2 – SSP			Track 2 – Not SSP		
		PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)
Sources of practice revenue and physician compensation													
G1	Percentage of practice site's revenue that came from fee-for-service (FFS) payments in [the prior year]												
	Mean	n.a.	76.43	78.06	n.a.	78.89	77.86	n.a.	80.65	79.84	n.a.	72.77	72.28
	Median	n.a.	90.00	90.00	n.a.	89.00	85.00	n.a.	85.00	84.00	n.a.	80.00	80.00
	N	n.a.	595	602	n.a.	539	544	n.a.	481	546	n.a.	839	820
G2	Percentage of practices reporting a portion of practice site's revenue in the prior year came from the source (multiple responses possible)												
	Fee-for-service payments (calculated using G1)	99%	99%	100%	99%	99%	99%	100%	100%	99%	99%	100%	99%
	Care management fees (prospective payments to support care management for patients, paid in addition to usual payments for services)	51%	76%	75%	59%	75%	73%	62%	87%	91%	70%	84%	81%
	Capitation (per-patient per-month payment for specific patients, intended to cover costs of some or all services provided, regardless of amount or type in lieu of fee-for-service payments)	38%	48%	44%	28%	43%	48%	37%	71%	69%	44%	73%	73%
	Episode-based payments (a fixed payment for all services needed for a patient with a particular condition)	7%	13%	4%	9%	12%	11%	17%	12%	11%	10%	16%	13%
	Shared savings, in which costs of care are compared to an expenditure target or to costs for another group of practices and a proportion of savings are shared with practices	0%	35%	53%	0%	31%	40%	0%	55%	63%	0%	44%	52%
	Financial rewards or bonuses from insurers for improving quality of care, patient experience, and/or controlling costs, not including shared savings	76%	71%	72%	73%	80%	78%	80%	74%	82%	75%	79%	85%
	Other payments	8%	2%	8%	13%	9%	5%	16%	6%	6%	5%	5%	10%
	N	638	628	638	559	560	559	550	546	553	862	858	856

Table 3.B.8b. ***(continued)***

Question[a]		Track 1 – SSP			Track 1 – Not SSP			Track 2 – SSP			Track 2 – Not SSP		
		PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)
G3 (PYs 2 and 3 only)	Percentage of practice site's [prior year's] revenue that was tied to cost or quality performance												
	Mean	n.a.	11.89	10.02	n.a.	12.10	14.05	n.a.	10.46	10.98	n.a.	12.83	15.75
	Median	n.a.	5.50	5.00	n.a.	10.00	10.00	n.a.	7.00	5.00	n.a.	8.00	10.00
	N	n.a.	586	598	n.a.	531	536	n.a.	477	544	n.a.	834	820
CPC+ payments from Medicare FFS													
H1 (PYs 2 and 3 only)	Considering the amount of work required by CPC+, the adequacy of the CPC+ payments from Medicare FFS												
	More than adequate	n.a.	0%	2%	n.a.	2%	2%	n.a.	1%	1%	n.a.	0%	1%
	Adequate	n.a.	41%	40%	n.a.	40%	41%	n.a.	53%	66%	n.a.	49%	45%
	Less than adequate	n.a.	44%	46%	n.a.	51%	48%	n.a.	35%	30%	n.a.	42%	45%
	Don't know - not familiar with CPC+ payments from Medicare FFS or costs of doing CPC+ work	n.a.	14%	12%	n.a.	8%	9%	n.a.	11%	2%	n.a.	9%	9%
	N	n.a.	636	638	n.a.	561	560	n.a.	542	551	n.a.	860	857
The Performance-Based Incentive Payment (PBIP) is paid prospectively by CMS at the beginning of each program year[h]													
H2a (PYs 2 and 3 only)	Practice understands how Medicare FFS calculates the proportion of the PBIP the practice will retain and the proportion CMS will recoup												
	Strongly agree	n.a.	6%	23%	n.a.	10%	12%	n.a.	1%	10%	n.a.	12%	18%
	Agree	n.a.	48%	41%	n.a.	60%	65%	n.a.	67%	68%	n.a.	63%	65%
	Disagree	n.a.	28%	22%	n.a.	26%	19%	n.a.	17%	7%	n.a.	22%	15%
	Strongly disagree	n.a.	18%	15%	n.a.	4%	4%	n.a.	15%	14%	n.a.	3%	1%
	N	n.a.	89	93	n.a.	454	506	n.a.	125	134	n.a.	679	835

Table 3.B.8b. ***(continued)***

Question[a]		Track 1 – SSP			Track 1 – Not SSP			Track 2 – SSP			Track 2 – Not SSP		
		PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)
H2b (PYs 2 and 3 only)	Practice feels that Medicare FFS's methodology is fair in how it determines the proportion of the PBIP the practice will retain and the proportion CMS will recoup												
	Strongly agree	n.a.	4%	19%	n.a.	3%	5%	n.a.	1%	9%	n.a.	4%	4%
	Agree	n.a.	39%	45%	n.a.	42%	46%	n.a.	54%	55%	n.a.	42%	46%
	Disagree	n.a.	15%	15%	n.a.	17%	26%	n.a.	15%	7%	n.a.	20%	30%
	Strongly disagree	n.a.	16%	13%	n.a.	5%	7%	n.a.	16%	10%	n.a.	4%	5%
	Don't know	n.a.	25%	8%	n.a.	33%	17%	n.a.	14%	18%	n.a.	29%	16%
	N	n.a.	92	95	n.a.	462	512	n.a.	125	137	n.a.	692	855
The Comprehensive Primary Care Payment (CPCP) is paid quarterly as a lump sum to Track 2 practices for evaluation and management services[i]													
H3a (PYs 2 and 3 only)	Practice understands how Medicare FFS calculated its CPCPs												
	Strongly agree	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	11%	26%	n.a.	12%	14%
	Agree	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	64%	60%	n.a.	65%	62%
	Disagree	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	20%	13%	n.a.	21%	23%
	Strongly disagree	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	5%	1%	n.a.	2%	1%
	N	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	520	537	n.a.	821	828
H3b (PYs 2 and 3 only)	Practice feels that Medicare FFS's methodology is fair in how it calculates CPCPs												
	Strongly agree	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	7%	12%	n.a.	2%	1%
	Agree	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	59%	62%	n.a.	48%	49%
	Disagree	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	10%	15%	n.a.	24%	27%
	Strongly disagree	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	4%	2%	n.a.	2%	6%
	Don't know	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	20%	8%	n.a.	24%	17%
	N	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	543	548	n.a.	860	856
CPC+ payments from other CPC+ payer partners (not Medicare FFS)													
H4 (PYs 2 and 3 only)	Practice contracts with CPC+ payer partners (payers other than Medicare FFS) for CPC+												
	Yes	n.a.	73%	68%	n.a.	79%	75%	n.a.	80%	87%	n.a.	83%	81%
	No	n.a.	27%	32%	n.a.	21%	25%	n.a.	20%	13%	n.a.	17%	19%
	N	n.a.	626	635	n.a.	550	560	n.a.	538	550	n.a.	860	854

Table 3.B.8b. ***(continued)***

Question[a]		Track 1 – SSP			Track 1 – Not SSP			Track 2 – SSP			Track 2 – Not SSP		
		PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)
H4a (PYs 2 and 3 only)	Among practices that contract with CPC+ payer partners for CPC+, considering the amount of work required by CPC+, the adequacy of the CPC+ payments from CPC+ payer partners												
	More than adequate	n.a.	0%	2%	n.a.	1%	2%	n.a.	0%	0%	n.a.	0%	3%
	Adequate	n.a.	27%	29%	n.a.	31%	41%	n.a.	45%	53%	n.a.	25%	33%
	Less than adequate	n.a.	55%	50%	n.a.	54%	47%	n.a.	43%	45%	n.a.	65%	53%
	Don't know - not familiar with CPC+ payments from CPC+ payer partners or costs of doing CPC+ work	n.a.	18%	19%	n.a.	13%	11%	n.a.	12%	2%	n.a.	10%	11%
	N	n.a.	461	429	n.a.	437	416	n.a.	437	476	n.a.	719	690
H5a (PYs 2 and 3 only)	Among practices that contract with CPC+ payer partners for CPC+, practice understands which payments practice receives from CPC+ payer partners for CPC+												
	Strongly agree	n.a.	16%	10%	n.a.	11%	14%	n.a.	12%	15%	n.a.	13%	12%
	Agree	n.a.	52%	51%	n.a.	69%	61%	n.a.	72%	62%	n.a.	64%	66%
	Disagree	n.a.	21%	25%	n.a.	18%	21%	n.a.	15%	16%	n.a.	19%	17%
	Strongly disagree	n.a.	11%	13%	n.a.	3%	4%	n.a.	1%	6%	n.a.	5%	5%
	N	n.a.	409	426	n.a.	393	415	n.a.	393	475	n.a.	653	673
H5b (PYs 2 and 3 only)	Among practices that contract with CPC+ payer partners for CPC+, practice understands how CPC+ payer partners calculated their CPC+ payments												
	Strongly agree	n.a.	14%	7%	n.a.	5%	7%	n.a.	10%	14%	n.a.	8%	9%
	Agree	n.a.	40%	48%	n.a.	64%	54%	n.a.	56%	60%	n.a.	58%	57%
	Disagree	n.a.	38%	28%	n.a.	24%	34%	n.a.	34%	18%	n.a.	28%	27%
	Strongly disagree	n.a.	8%	16%	n.a.	7%	4%	n.a.	1%	8%	n.a.	6%	6%
	N	n.a.	402	425	n.a.	388	415	n.a.	394	476	n.a.	646	672

Table 3.B.8b. ***(continued)***

Question[a]		Track 1 – SSP			Track 1 – Not SSP			Track 2 – SSP			Track 2 – Not SSP		
		PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)
H5c (PYs 2 and 3 only)	Among practices that contract with CPC+ payer partners for CPC+, practice feels that CPC+ payer partners' methodology to calculate CPC+ payments is fair												
	Strongly agree	n.a.	3%	2%	n.a.	1%	5%	n.a.	7%	5%	n.a.	1%	4%
	Agree	n.a.	30%	37%	n.a.	36%	34%	n.a.	43%	51%	n.a.	30%	42%
	Disagree	n.a.	18%	26%	n.a.	23%	32%	n.a.	14%	22%	n.a.	37%	28%
	Strongly disagree	n.a.	6%	7%	n.a.	6%	6%	n.a.	12%	15%	n.a.	8%	7%
	Don't know	n.a.	43%	28%	n.a.	33%	24%	n.a.	24%	8%	n.a.	24%	18%
	N	n.a.	464	433	n.a.	436	417	n.a.	440	477	n.a.	720	691
Practice participation in other initiatives													
C7	Practice participation in other initiatives, demonstrations, or programs (multiple responses possible)												
	Health Care Innovation Awards (sponsored by CMS)	4%	8%	n.a.	3%	3%	n.a.	5%	4%	n.a.	4%	4%	n.a.
	Accountable Care Organizations (ACOs) that are not sponsored by Medicare	33%	46%	48%	13%	15%	16%	24%	31%	43%	21%	19%	19%
	State Innovation Model (SIM)[j]	8%	21%	24%	14%	32%	32%	20%	52%	49%	13%	35%	36%
	Accountable Health Communities Model	n.a.	n.a.	3%	n.a.	n.a.	6%	n.a.	n.a.	2%	n.a.	n.a.	4%
	Medicaid Health Home	11%	8%	8%	12%	7%	10%	13%	4%	7%	13%	8%	7%
	A state- or community-based quality improvement program or collaborative (for example, Institute for Healthcare Improvement collaborative or EHR users' group)	9%	18%	24%	17%	15%	18%	20%	30%	43%	17%	21%	25%
	An insurer-sponsored program linking payment to performance or value (such as a bonus payment from an insurer for quality)	74%	82%	83%	72%	73%	80%	82%	86%	92%	74%	78%	83%
	N	634	633	639	558	558	554	547	548	546	856	847	857

Table 3.B.8b. ***(continued)***

Question[a]		Track 1 – SSP			Track 1 – Not SSP			Track 2 – SSP			Track 2 – Not SSP		
		PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)
Data feedback on cost of care to insurers													
E3 (PYs 2 and 3 only)	Practice site gets data on what insurers pay for specialists services (data provided by insurers or other organizations)												
	Yes, we get data on what all insurers pay	n.a.	41%	48%	n.a.	34%	55%	n.a.	40%	56%	n.a.	42%	53%
	Yes, we get data on what some insurers pay	n.a.	2%	3%	n.a.	3%	7%	n.a.	5%	13%	n.a.	4%	5%
	No, we do not get data on what any insurers pay	n.a.	57%	49%	n.a.	63%	38%	n.a.	54%	31%	n.a.	55%	43%
	N	n.a.	631	635	n.a.	561	561	n.a.	546	553	n.a.	861	855
E4 (PY 3 only)	If practice gets data on what insurers pay, how often practice site uses these data to inform where to refer patients for specialists services[k]												
	Usually or always	n.a.	n.a.	3%	n.a.	n.a.	3%	n.a.	n.a.	1%	n.a.	n.a.	1%
	Frequently	n.a.	n.a.	14%	n.a.	n.a.	14%	n.a.	n.a.	17%	n.a.	n.a.	15%
	Sometimes	n.a.	n.a.	60%	n.a.	n.a.	39%	n.a.	n.a.	52%	n.a.	n.a.	55%
	Never or rarely	n.a.	n.a.	23%	n.a.	n.a.	44%	n.a.	n.a.	31%	n.a.	n.a.	29%
	N	n.a.	n.a.	330	n.a.	n.a.	346	n.a.	n.a.	380	n.a.	n.a.	487
Data feedback on practice site's performance													
E1 (PYs 2 and 3 only)	Practice site received data feedback on the performance of the practice or physicians within the practice site in the past 12 months. This data feedback may have been provided by private health insurers, Medicaid, Medicare, your own organization, state health agencies, or others.												
	Yes	n.a.	97%	97%	n.a.	95%	97%	n.a.	99%	99%	n.a.	97%	98%
	No	n.a.	3%	3%	n.a.	5%	3%	n.a.	1%	1%	n.a.	3%	2%
	N	n.a.	641	640	n.a.	564	563	n.a.	553	553	n.a.	865	858

Table 3.B.8b. ***(continued)***

Question[a]		Track 1 – SSP			Track 1 – Not SSP			Track 2 – SSP			Track 2 – Not SSP		
		PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)
E2 (PYs 2 and 3 only)	Percentage of practices that reported receiving…												
	Data feedback on patient experience (from surveys)	n.a.	91%	92%	n.a.	80%	94%	n.a.	96%	97%	n.a.	89%	95%
	Data feedback on quality of care	n.a.	94%	93%	n.a.	90%	94%	n.a.	98%	96%	n.a.	94%	96%
	Data feedback on cost	n.a.	91%	90%	n.a.	88%	90%	n.a.	88%	92%	n.a.	92%	94%
	Data feedback on utilization	n.a.	92%	93%	n.a.	90%	93%	n.a.	90%	93%	n.a.	94%	96%
	N	n.a.	642	642	n.a.	564	564	n.a.	553	553	n.a.	865	865
Among practices that reported receiving each type of data feedback, practice site has changed how it delivers care in response to…													
E2a (PYs 2 and 3 only)	Data feedback on patient experience (from surveys)												
	Yes, major changes	n.a.	13%	16%	n.a.	15%	13%	n.a.	10%	19%	n.a.	18%	22%
	Yes, minor changes	n.a.	81%	73%	n.a.	73%	72%	n.a.	85%	74%	n.a.	75%	65%
	No change	n.a.	4%	10%	n.a.	10%	12%	n.a.	4%	5%	n.a.	5%	8%
	Don't know if changes were made	n.a.	2%	1%	n.a.	3%	3%	n.a.	2%	2%	n.a.	2%	5%
	N	n.a.	582	588	n.a.	453	528	n.a.	533	534	n.a.	766	823
E2b (PYs 2 and 3 only)	Data feedback on quality of care												
	Yes, major changes	n.a.	34%	32%	n.a.	31%	23%	n.a.	28%	41%	n.a.	26%	28%
	Yes, minor changes	n.a.	57%	56%	n.a.	58%	64%	n.a.	66%	44%	n.a.	66%	64%
	No change	n.a.	7%	11%	n.a.	9%	11%	n.a.	4%	13%	n.a.	7%	7%
	Don't know if changes were made	n.a.	1%	1%	n.a.	2%	2%	n.a.	1%	2%	n.a.	1%	1%
	N	n.a.	606	600	n.a.	505	530	n.a.	542	533	n.a.	814	833
E2c (PYs 2 and 3 only)	Data feedback on cost												
	Yes, major changes	n.a.	7%	12%	n.a.	6%	10%	n.a.	7%	18%	n.a.	17%	18%
	Yes, minor changes	n.a.	64%	58%	n.a.	52%	50%	n.a.	51%	48%	n.a.	49%	47%
	No change	n.a.	19%	24%	n.a.	29%	33%	n.a.	16%	28%	n.a.	23%	26%
	Don't know if changes were made	n.a.	9%	6%	n.a.	13%	8%	n.a.	26%	6%	n.a.	11%	10%
	N	n.a.	583	578	n.a.	496	510	n.a.	486	507	n.a.	794	816

Table 3.B.8b. ***(continued)***

Question[a]		Track 1 – SSP			Track 1 – Not SSP			Track 2 – SSP			Track 2 – Not SSP		
		PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)
E2d (PYs 2 and 3 only)	Data feedback on utilization												
	Yes, major changes	n.a.	20%	20%	n.a.	19%	19%	n.a.	23%	25%	n.a.	23%	25%
	Yes, minor changes	n.a.	64%	62%	n.a.	62%	62%	n.a.	65%	58%	n.a.	59%	60%
	No change	n.a.	12%	13%	n.a.	14%	14%	n.a.	6%	14%	n.a.	13%	10%
	Don't know if changes were made	n.a.	5%	4%	n.a.	5%	5%	n.a.	6%	3%	n.a.	5%	4%
	N	n.a.	591	596	n.a.	510	523	n.a.	497	512	n.a.	815	831
Use of health information technology													
F1	Practice site uses an Electronic Health Record (EHR) system												
	Yes	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	No	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	N	639	637	638	561	559	563	552	550	551	864	861	857
F4	Practice site participates in state or regional health information exchange												
	Yes	60%	70%	71%	53%	61%	65%	74%	83%	86%	64%	69%	78%
	No	25%	20%	21%	33%	27%	25%	17%	11%	11%	26%	22%	15%
	Don't know	15%	10%	9%	15%	11%	9%	9%	6%	3%	10%	10%	7%
	N	641	639	640	562	563	563	553	551	552	864	863	863
Completion of the survey													
K1	Who provided input in completing the survey (multiple responses possible)												
	Practice or office manager	81%	69%	72%	81%	74%	72%	81%	76%	79%	83%	77%	75%
	Lead physician	24%	13%	10%	39%	28%	25%	29%	18%	10%	39%	26%	21%
	Other physicians	5%	2%	3%	7%	4%	3%	5%	3%	2%	9%	6%	3%
	Nurse practitioner (NP), clinical nurse specialist (CNS), or physician assistant (PA)	5%	2%	2%	6%	4%	4%	5%	2%	1%	7%	4%	6%
	Care manager/coordinator	31%	34%	26%	28%	29%	28%	42%	28%	27%	38%	30%	23%
	Nursing staff, including nurse manager or supervisor	10%	5%	3%	15%	10%	8%	10%	4%	3%	12%	5%	5%
	Medical assistant staff	13%	8%	3%	19%	12%	7%	10%	5%	2%	14%	5%	4%
	Quality improvement staff	33%	35%	31%	30%	30%	27%	26%	26%	42%	29%	30%	26%

Table 3.B.8b. ***(continued)***

Question[a]		Track 1 – SSP			Track 1 – Not SSP			Track 2 – SSP			Track 2 – Not SSP		
		PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)	PY 1 (2017)	PY 2 (2018)	PY 3 (2019)
K1 *(continued)*	Administrative support staff (e.g., billing or finance staff, front desk staff)	30%	22%	13%	25%	12%	15%	22%	33%	28%	21%	12%	11%
	Non-physician owner of practice	n.a.	0%	0%	n.a.	1%	0%	n.a.	1%	0%	n.a.	1%	0%
	Leadership or staff from larger health care system or medical group	27%	21%	16%	17%	9%	11%	34%	25%	42%	19%	19%	13%
	Data analytics staff	n.a.	24%	18%	n.a.	14%	14%	n.a.	26%	27%	n.a.	16%	11%
	CPC+ lead	n.a.	39%	38%	n.a.	31%	31%	n.a.	44%	55%	n.a.	26%	29%
	Patients	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	1%
	Other	12%	2%	1%	13%	4%	6%	12%	6%	2%	10%	2%	3%
	N	641	641	637	563	563	563	553	552	553	863	864	862

Source: CPC+ Practice Survey administered to the 2017 Starter CPC+ practices March through September 2017 (PY 1), June through September 2018 (PY 2), and July through November 2019 (PY 3). There are differences between the PY 1, PY 2, and PY 3 survey that could change how practices respond to questions, these differences are indicated with footnotes.

Notes: The data presented in this table represent responses from the practices that began CPC+ in 2017 (2017 Starters) and had completed all three waves of surveys.

[a] The question numbering is based on the PY 3 survey.

[b] Practices entered number of full time and part time staff separately. Full time equivalent counts were estimated by counting all full-time staff as 1 FTE and all part-time staff as 0.5 FTE.

[c] Practitioners include physicians (MD or DO, not including psychiatrists), physician residents or fellows (trainees), nurse practitioners, physician assistants, and clinical nurse specialists. Non-physician practitioners include all types of practitioners listed but the first.

[d] Item wording changed mid-field during the PY 1 survey to clarify that it was asking about care managers/coordinators who work as part of the practice's care team, regardless of where they physically work. 799 practices out of 2,833 2017 Starter practices responded to this question prior to the wording change.

[e] Response options to this question changed significantly from the PY 1 survey to the PY 2 survey, therefore comparisons over time should be evaluated carefully.

[f] This question was only asked of independent physician-owned practices in PY 1 and the question wording changed from the PY 1 to the PY 2 survey in a way that might change how practices answered this question (see Table 5). Because responses are not comparable over time, responses are not displayed for PY 1.

[g] The question wording changed from the PY 1 survey to the PY 2 survey in a way that might change how practices answered the question. In PY 1, the question asked: Please indicate how much autonomy the leaders of this practice site have in making decisions for this site in the following areas. In PY 2, the question asked: Please indicate how much autonomy this practice site has in making decisions for this site in the following areas.

[h] Practices participating in the Medicare Shared Savings Program (SSP) every year 2017-2019 did not receive the Performance-Based Incentive Payment (PBIP) and therefore were not asked these questions.

[i] The Comprehensive Primary Care Payment (CPCP) is a lump sum quarterly payment paid to Track 2 practices based on their historical FFS payment amounts for evaluation and management services. Track 2 practices' FFS payments for these services are reduced to account for the CPCP. Track 1 practices do not receive CPCPs and therefore were not asked these questions.

[j] The wording of this question changed from the PY 1 survey to the PY 2 survey in a way that might change how practices answered this question. In the PY 1 survey, practices were asked about their participation in “State Innovation Model (SIM) (sponsored by CMS; may have a state-specific name.” In the PY 2 survey, the question included the name of the SIM program in their state.

Table 3.B.8b. ***(continued)***

[k] The question was asked in the PY 2 survey, but incorrectly asked about "diagnostic or lab services" rather than specialist services. For this reason, PY 2 responses to this question are not reported.

n.a. = not applicable because the survey question was not asked in that wave or to the specified group of practices; SSP = Medicare Shared Savings Program (reflects 2019 participation, or else 2018 participation for practices that withdrew from CPC+).

Table 3.B.9a. CPC+ practices' perceptions of CPC+ and CPC+ supports, overall and by track (2017 starters)

		Track 1 and 2 overall		Track 1 overall		Track 2 overall	
Question[a]		PY 2 (2018)	PY 3 (2019)	PY 2 (2018)	PY 3 (2019)	PY 2 (2018)	PY 3 (2019)
Learning activities and assistance							
I1	Rating of services from regional learning network organizations in meeting practice site's CPC+-related needs and helping improve primary care						
	Excellent	17%	17%	16%	13%	18%	20%
	Very good	29%	29%	30%	32%	29%	26%
	Good	37%	38%	38%	36%	36%	40%
	Fair	15%	15%	14%	17%	16%	13%
	Poor	2%	1%	2%	2%	1%	1%
	N	2,604	2,599	1,195	1,194	1,409	1,405
Usefulness of assistance received from CPC+ national learning community and regional learning network							
I2	Percentage of practices reporting that they received this type of assistance from the CPC+ national learning community or regional learning network in the past six months						
	Webinars	90%	89%	86%	87%	94%	91%
	Health IT Affinity Groups	71%	67%	67%	63%	75%	71%
	In-person learning sessions	87%	87%	85%	85%	89%	90%
	In-person coaching at the practice site to improve practice processes and workflows	59%	64%	59%	65%	59%	64%
	One-on-one telephone/virtual coaching with the practice site to improve practice processes and workflows	68%	67%	64%	68%	71%	66%
	CPC+ Connect	93%	93%	93%	92%	94%	94%
	CPC+ Implementation Guides	95%	95%	95%	94%	94%	95%
	CPC+ Practice Spotlights	90%	90%	90%	87%	90%	92%
	CPC+ Support	89%	90%	89%	90%	89%	90%
	Regional Implementation Networking Groups	n.a.	65%	n.a.	64%	n.a.	67%
	N	2,624	2,622	1,206	1,205	1,418	1,417

Table 3.B.9a. ***(continued)***

Question[a]		Track 1 and 2 overall		Track 1 overall		Track 2 overall	
		PY 2 (2018)	PY 3 (2019)	PY 2 (2018)	PY 3 (2019)	PY 2 (2018)	PY 3 (2019)
Among practices that reported receiving each type of assistance, rating of usefulness of assistance received in the past six months from the CPC+ national learning community and regional learning network in improving primary care							
I2a	Webinars						
	Very useful	28%	29%	33%	32%	24%	27%
	Somewhat useful	60%	61%	55%	58%	64%	63%
	Not very useful	11%	9%	11%	9%	11%	9%
	Not at all useful	1%	1%	1%	1%	1%	2%
	N	2,366	2,336	1,039	1,049	1,327	1,287
I2b	Health IT Affinity Groups						
	Very useful	27%	21%	39%	27%	18%	16%
	Somewhat useful	52%	55%	39%	48%	61%	60%
	Not very useful	17%	19%	17%	18%	18%	20%
	Not at all useful	4%	6%	5%	8%	3%	4%
	N	1,871	1,761	810	760	1,061	1,001
I2c	In-person learning sessions						
	Very useful	48%	51%	48%	52%	48%	50%
	Somewhat useful	44%	43%	43%	41%	44%	44%
	Not very useful	7%	6%	7%	7%	6%	5%
	Not at all useful	1%	1%	1%	0%	2%	2%
	N	2,287	2,294	1,020	1,024	1,267	1,270
I2d	In-person coaching at the practice site to improve practice processes and workflows						
	Very useful	55%	62%	57%	62%	54%	62%
	Somewhat useful	33%	32%	32%	32%	34%	31%
	Not very useful	9%	6%	9%	6%	9%	5%
	Not at all useful	3%	1%	3%	0%	3%	1%
	N	1,543	1,689	711	788	832	901
I2e	One-on-one telephone/virtual coaching with the practice site to improve practice processes and workflows						
	Very useful	51%	50%	56%	55%	48%	47%
	Somewhat useful	34%	41%	33%	38%	36%	44%
	Not very useful	10%	7%	7%	7%	13%	8%
	Not at all useful	4%	1%	5%	1%	4%	1%
	N	1,777	1,765	774	824	1,003	941

Table 3.B.9a. ***(continued)***

Question[a]		Track 1 and 2 overall		Track 1 overall		Track 2 overall	
		PY 2 (2018)	PY 3 (2019)	PY 2 (2018)	PY 3 (2019)	PY 2 (2018)	PY 3 (2019)
I2f	CPC+ Connect						
	Very useful	43%	45%	46%	45%	41%	46%
	Somewhat useful	46%	44%	42%	42%	50%	45%
	Not very useful	9%	8%	10%	10%	8%	7%
	Not at all useful	2%	3%	2%	3%	2%	3%
	N	2,446	2,432	1,116	1,107	1,330	1,325
I2g	CPC+ Implementation Guides						
	Very useful	60%	63%	55%	61%	65%	65%
	Somewhat useful	34%	32%	36%	34%	31%	31%
	Not very useful	5%	4%	8%	4%	3%	3%
	Not at all useful	0%	1%	1%	1%	0%	1%
	N	2,484	2,489	1,150	1,138	1,334	1,351
I2h	CPC+ Practice Spotlights						
	Very useful	25%	26%	27%	27%	24%	25%
	Somewhat useful	54%	57%	52%	54%	55%	60%
	Not very useful	19%	13%	18%	15%	20%	10%
	Not at all useful	2%	4%	2%	3%	1%	5%
	N	2,356	2,349	1,080	1,049	1,276	1,300
I2i	CPC+ Support						
	Very useful	60%	69%	56%	70%	63%	69%
	Somewhat useful	34%	26%	36%	25%	32%	27%
	Not very useful	5%	4%	7%	5%	3%	3%
	Not at all useful	2%	1%	1%	1%	2%	1%
	N	2,329	2,353	1,069	1,079	1,260	1,274
I2j (PY 3 only)	Regional Implementation Networking Groups						
	Very useful	n.a.	23%	n.a.	28%	n.a.	19%
	Somewhat useful	n.a.	52%	n.a.	48%	n.a.	55%
	Not very useful	n.a.	20%	n.a.	20%	n.a.	20%
	Not at all useful	n.a.	5%	n.a.	4%	n.a.	6%
	N	n.a.	1,715	n.a.	772	n.a.	943

Table 3.B.9a. ***(continued)***

Question[a]		Track 1 and 2 overall		Track 1 overall		Track 2 overall	
		PY 2 (2018)	PY 3 (2019)	PY 2 (2018)	PY 3 (2019)	PY 2 (2018)	PY 3 (2019)
Usefulness of assistance received from CPC+ payer partners							
I3	Among practices with CPC+ payer partners (based on responses to H4), percentage of practices reporting that they received each type of assistance from CPC+ payer partners in the past six months						
	On-site care manager provided by the payer	19%	23%	21%	25%	17%	22%
	Telephone-based care manager provided by the payer	31%	39%	29%	36%	32%	40%
	Explanation of payers' CPC+ payment methodologies	51%	58%	52%	58%	51%	58%
	Training on how to access data feedback provided by the payer	55%	62%	55%	59%	55%	64%
	Training on how to use data feedback provided by the payer	54%	61%	55%	60%	52%	62%
	Coaching on how to improve practice processes and workflows	48%	55%	49%	54%	47%	56%
	N	2,093	2,038	925	859	1,168	1,179
Among practices that reported receiving each type of assistance from CPC+ payer partners, rating of usefulness of assistance received in the past six months from CPC+ payer partners in improving primary care							
I3a	On-site care manager provided by the payer						
	Very useful	45%	46%	48%	50%	41%	42%
	Somewhat useful	36%	42%	33%	42%	40%	42%
	Not very useful	13%	10%	13%	7%	13%	12%
	Not at all useful	6%	3%	6%	1%	6%	4%
	N	392	471	193	214	199	257
I3b	Telephone-based care manager provided by the payer						
	Very useful	29%	26%	28%	25%	30%	27%
	Somewhat useful	47%	46%	45%	47%	47%	46%
	Not very useful	18%	21%	20%	25%	17%	18%
	Not at all useful	6%	7%	7%	3%	6%	9%
	N	640	788	264	311	376	477

Table 3.B.9a. ***(continued)***

Question[a]		Track 1 and 2 overall		Track 1 overall		Track 2 overall	
		PY 2 (2018)	PY 3 (2019)	PY 2 (2018)	PY 3 (2019)	PY 2 (2018)	PY 3 (2019)
I3c	Explanation of payers' CPC+ payment methodologies						
	Very useful	23%	20%	26%	20%	21%	20%
	Somewhat useful	57%	58%	55%	53%	59%	62%
	Not very useful	15%	18%	15%	21%	16%	16%
	Not at all useful	4%	4%	4%	6%	4%	2%
	N	1,075	1,180	482	498	593	682
I3d	Training on how to access data feedback provided by the payer						
	Very useful	25%	22%	28%	27%	22%	19%
	Somewhat useful	60%	63%	52%	53%	66%	70%
	Not very useful	13%	11%	17%	16%	9%	8%
	Not at all useful	2%	4%	2%	4%	2%	4%
	N	1,153	1,262	509	511	644	751
I3e	Training on how to use data feedback provided by the payer						
	Very useful	26%	21%	28%	25%	24%	18%
	Somewhat useful	58%	60%	55%	54%	61%	65%
	Not very useful	13%	14%	14%	17%	12%	12%
	Not at all useful	4%	4%	3%	4%	4%	4%
	N	1,122	1,252	509	518	613	734
I3f	Coaching on how to improve practice processes and workflows						
	Very useful	23%	28%	28%	29%	19%	27%
	Somewhat useful	54%	51%	50%	50%	57%	51%
	Not very useful	19%	15%	18%	16%	20%	15%
	Not at all useful	4%	6%	4%	5%	4%	7%
	N	1,004	1,127	457	462	547	665

Table 3.B.9a. ***(continued)***

Question[a]		Track 1 and 2 overall		Track 1 overall		Track 2 overall	
		PY 2 (2018)	PY 3 (2019)	PY 2 (2018)	PY 3 (2019)	PY 2 (2018)	PY 3 (2019)
Staff involvement in implementing CPC+							
J1a	Medical director or clinician lead at the practice site						
	Very involved	63%	64%	57%	60%	68%	68%
	Somewhat involved	29%	29%	33%	32%	26%	27%
	Not very involved	5%	4%	7%	5%	4%	4%
	Not at all involved	2%	2%	3%	3%	2%	2%
	N	2,595	2,583	1,190	1,188	1,405	1,395
J1b	Physicians						
	Very involved	43%	44%	39%	44%	46%	45%
	Somewhat involved	47%	48%	49%	47%	46%	49%
	Not very involved	9%	6%	10%	7%	7%	6%
	Not at all involved	1%	1%	2%	2%	1%	1%
	N	2,607	2,595	1,201	1,196	1,406	1,399
J1c	Nurse practitioners (NPs), clinical nurse specialists (CNSs), or physician assistants (PAs)						
	Very involved	25%	26%	19%	22%	30%	29%
	Somewhat involved	32%	35%	34%	34%	31%	36%
	Not very involved	8%	6%	9%	6%	7%	6%
	Not at all involved	2%	1%	2%	2%	2%	1%
	No NPs/PAs/CNSs	34%	31%	36%	36%	31%	27%
	N	2,611	2,615	1,200	1,204	1,411	1,411
J1d	Clinical support staff						
	Very involved	48%	53%	42%	50%	53%	56%
	Somewhat involved	46%	40%	51%	44%	42%	37%
	Not very involved	5%	6%	6%	5%	4%	6%
	Not at all involved	1%	1%	1%	1%	1%	0%
	N	2,614	2,603	1,204	1,197	1,410	1,406
J1e	Clerical support staff						
	Very involved	37%	37%	32%	35%	42%	39%
	Somewhat involved	47%	47%	51%	48%	42%	46%
	Not very involved	13%	14%	14%	15%	12%	14%
	Not at all involved	3%	2%	3%	2%	3%	1%
	N	2,611	2,603	1,202	1,197	1,409	1,406

Table 3.B.9a. ***(continued)***

Question[a]		Track 1 and 2 overall		Track 1 overall		Track 2 overall	
		PY 2 (2018)	PY 3 (2019)	PY 2 (2018)	PY 3 (2019)	PY 2 (2018)	PY 3 (2019)
J2	System-level leadership (e.g., chief executive officer or chief medical officer)						
	Very involved	52%	48%	42%	40%	60%	54%
	Somewhat involved	20%	25%	23%	28%	18%	23%
	Not very involved	7%	6%	9%	9%	5%	4%
	Not at all involved	3%	1%	4%	1%	1%	1%
	Practice site is independent and not part of a system	19%	20%	22%	23%	16%	17%
	N	2,611	2,598	1,198	1,195	1,413	1,403
Overall perceptions of CPC+							
J3	Given practice's overall experience in CPC+, likelihood practice would participate in CPC+ if practice could do it all over again						
	Very likely	65%	66%	62%	59%	67%	72%
	Somewhat likely	28%	27%	29%	32%	27%	22%
	Not very likely	5%	5%	7%	6%	4%	5%
	Not at all likely	2%	2%	2%	3%	1%	1%
	N	2,612	2,606	1,203	1,199	1,409	1,407
J4	The extent to which participation in CPC+ improved the quality of care that the practice provides to its patients						
	A lot	44%	54%	41%	51%	47%	56%
	Somewhat	49%	41%	50%	42%	48%	41%
	Not very much	6%	4%	8%	7%	4%	3%
	Not at all	1%	1%	1%	1%	1%	1%
	N	2,615	2,606	1,202	1,202	1,413	1,404
Extent to which CPC+ requirements are burdensome							
J5a	Meeting care delivery requirements						
	Not at all burdensome	4%	6%	4%	5%	5%	7%
	Not very burdensome	28%	28%	31%	27%	26%	30%
	Somewhat burdensome	49%	51%	46%	53%	52%	49%
	Very burdensome	17%	13%	17%	13%	16%	13%
	Don't know	2%	1%	2%	1%	2%	1%
	N	2,616	2,611	1,201	1,200	1,415	1,411

Table 3.B.9a. ***(continued)***

Question[a]		Track 1 and 2 overall		Track 1 overall		Track 2 overall	
		PY 2 (2018)	PY 3 (2019)	PY 2 (2018)	PY 3 (2019)	PY 2 (2018)	PY 3 (2019)
J5b	Completing care delivery reporting requirements						
	Not at all burdensome	4%	4%	2%	3%	5%	5%
	Not very burdensome	20%	26%	19%	25%	20%	27%
	Somewhat burdensome	49%	50%	51%	49%	47%	50%
	Very burdensome	26%	18%	27%	21%	25%	15%
	Don't know	2%	2%	2%	1%	2%	2%
	N	2,617	2,614	1,202	1,200	1,415	1,414
J5c	Completing financial reporting requirements						
	Not at all burdensome	2%	2%	1%	2%	2%	2%
	Not very burdensome	13%	15%	13%	15%	12%	15%
	Somewhat burdensome	27%	34%	25%	36%	29%	32%
	Very burdensome	48%	41%	48%	38%	48%	44%
	Don't know	11%	8%	13%	9%	9%	7%
	N	2,613	2,613	1,199	1,200	1,414	1,413
J5d	Meeting health IT requirements						
	Not at all burdensome	7%	12%	7%	12%	7%	12%
	Not very burdensome	30%	35%	31%	36%	28%	34%
	Somewhat burdensome	33%	34%	31%	34%	34%	34%
	Very burdensome	21%	12%	19%	11%	22%	13%
	Don't know	10%	7%	11%	8%	9%	6%
	N	2,614	2,612	1,201	1,199	1,413	1,413
Usefulness of CPC+ supports in improving primary care (supports from all payers)							
J6a	Financial support						
	Very useful	48%	50%	46%	48%	50%	51%
	Somewhat useful	31%	35%	30%	34%	31%	36%
	Not very useful	8%	5%	10%	7%	6%	4%
	Not at all useful	1%	1%	1%	1%	1%	1%
	Don't know	12%	9%	12%	10%	12%	8%
	N	2,610	2,600	1,202	1,193	1,408	1,407

Table 3.B.9a. ***(continued)***

Question[a]		Track 1 and 2 overall		Track 1 overall		Track 2 overall	
		PY 2 (2018)	PY 3 (2019)	PY 2 (2018)	PY 3 (2019)	PY 2 (2018)	PY 3 (2019)
J6b	Learning support						
	Very useful	33%	32%	34%	33%	31%	32%
	Somewhat useful	55%	57%	51%	54%	58%	59%
	Not very useful	6%	6%	7%	7%	5%	5%
	Not at all useful	1%	0%	1%	1%	1%	0%
	Don't know	6%	4%	6%	5%	5%	4%
	N	2,610	2,604	1,201	1,193	1,409	1,411
J6c	Data feedback						
	Very useful	36%	32%	35%	33%	36%	32%
	Somewhat useful	47%	52%	47%	51%	47%	52%
	Not very useful	11%	10%	10%	10%	11%	11%
	Not at all useful	1%	1%	2%	1%	1%	1%
	Don't know	6%	4%	6%	5%	6%	3%
	N	2,609	2,608	1,203	1,195	1,406	1,413
J6d	Health IT vendor support						
	Very useful	17%	18%	16%	18%	18%	18%
	Somewhat useful	35%	39%	32%	36%	37%	43%
	Not very useful	22%	17%	21%	18%	22%	17%
	Not at all useful	5%	6%	8%	5%	3%	8%
	Don't know	21%	18%	22%	23%	20%	15%
	N	2,611	2,605	1,203	1,194	1,408	1,411

Source: CPC+ Practice Survey administered to the 2017 Starter CPC+ practices June through September 2018 (PY 2) and July through November 2019 (PY 3).

Notes: The data presented in this table represent responses from the practices that began CPC+ in 2017 (2017 Starters) and had completed all three waves of surveys, regardless of whether they were still participating in CPC+.

[a] Survey questions in this table were not asked in the PY 1 survey. The question numbering is based on the PY 3 survey.

n.a. = not applicable because the survey question was not asked in that wave or to the specified group of practices.

Table 3.B.9b. CPC+ practices' perceptions of CPC+ and CPC+ supports, overall by track and SSP status (2017 starters)

Question[a]		Track 1 – SSP		Track 1 – Not SSP		Track 2 – SSP		Track 2 – Not SSP	
		PY 2 (2018)	PY 3 (2019)	PY 2 (2018)	PY 3 (2019)	PY 2 (2018)	PY 3 (2019)	PY 2 (2018)	PY 3 (2019)
Learning activities and assistance									
I1	Rating of services from regional learning network organizations in meeting practice site's CPC+-related needs and helping improve primary care								
	Excellent	20%	10%	10%	17%	17%	22%	18%	19%
	Very good	29%	33%	32%	31%	32%	25%	27%	28%
	Good	34%	40%	43%	32%	33%	48%	38%	35%
	Fair	15%	16%	13%	18%	17%	5%	16%	17%
	Poor	2%	1%	2%	3%	1%	1%	2%	1%
	N	634	637	561	557	551	551	858	854
Usefulness of assistance received from CPC+ national learning community and regional learning network									
I2	Percentage of practices reporting that they received this type of assistance from the CPC+ national learning community or regional learning network in the past six months								
	Webinars	87%	85%	85%	90%	94%	93%	93%	89%
	Health IT Affinity Groups	69%	60%	66%	67%	75%	68%	74%	72%
	In-person learning sessions	86%	85%	83%	85%	90%	91%	89%	89%
	In-person coaching at the practice site to improve practice processes and workflows	62%	62%	55%	70%	62%	61%	57%	65%
	One-on-one telephone/virtual coaching with the practice site to improve practice processes and workflows	67%	67%	61%	70%	80%	72%	65%	63%
	CPC+ Connect	91%	90%	95%	94%	95%	95%	93%	93%
	CPC+ Implementation Guides	94%	94%	97%	95%	94%	97%	94%	94%
	CPC+ Practice Spotlights	88%	85%	91%	90%	91%	94%	89%	90%
	CPC+ Support	88%	89%	90%	90%	89%	93%	89%	88%
	Regional Implementation Networking Groups	n.a.	64%	n.a.	64%	n.a.	74%	n.a.	62%
	N	642	642	564	563	553	552	865	865

Table 3.B.9b. ***(continued)***

Question[a]		Track 1 – SSP		Track 1 – Not SSP		Track 2 – SSP		Track 2 – Not SSP	
		PY 2 (2018)	PY 3 (2019)	PY 2 (2018)	PY 3 (2019)	PY 2 (2018)	PY 3 (2019)	PY 2 (2018)	PY 3 (2019)
Among practices that reported receiving each type of assistance, rating of usefulness of assistance received in the past six months from the CPC+ national learning community and regional learning network in improving primary care									
I2a	Webinars								
	Very useful	38%	30%	28%	35%	22%	26%	25%	27%
	Somewhat useful	54%	64%	57%	52%	70%	64%	60%	62%
	Not very useful	8%	6%	14%	12%	8%	8%	14%	9%
	Not at all useful	0%	0%	1%	1%	1%	2%	2%	2%
	N	557	545	482	504	519	513	808	774
I2b	Health IT Affinity Groups								
	Very useful	47%	30%	29%	24%	13%	10%	21%	21%
	Somewhat useful	34%	53%	45%	42%	75%	70%	52%	54%
	Not very useful	16%	12%	19%	24%	10%	16%	23%	22%
	Not at all useful	3%	5%	7%	10%	1%	5%	4%	4%
	N	440	383	370	377	417	378	644	623
I2c	In-person learning sessions								
	Very useful	50%	52%	47%	51%	48%	51%	48%	49%
	Somewhat useful	44%	42%	43%	40%	49%	43%	41%	44%
	Not very useful	6%	6%	8%	8%	2%	4%	9%	5%
	Not at all useful	1%	0%	2%	0%	1%	2%	2%	1%
	N	550	543	470	481	498	504	769	766
I2d	In-person coaching at the practice site to improve practice processes and workflows								
	Very useful	58%	61%	54%	62%	50%	67%	57%	59%
	Somewhat useful	34%	35%	30%	29%	33%	30%	35%	32%
	Not very useful	7%	4%	11%	9%	16%	1%	4%	7%
	Not at all useful	1%	1%	5%	0%	1%	1%	4%	2%
	N	401	396	310	392	341	335	491	566
I2e	One-on-one telephone/virtual coaching with the practice site to improve practice processes and workflows								
	Very useful	62%	54%	48%	55%	48%	47%	48%	46%
	Somewhat useful	29%	39%	37%	36%	32%	51%	39%	39%
	Not very useful	7%	6%	7%	8%	20%	1%	7%	13%
	Not at all useful	1%	1%	8%	1%	0%	1%	7%	2%
	N	431	432	343	392	440	397	563	544

Table 3.B.9b. ***(continued)***

Question[a]		Track 1 – SSP		Track 1 – Not SSP		Track 2 – SSP		Track 2 – Not SSP	
		PY 2 (2018)	PY 3 (2019)	PY 2 (2018)	PY 3 (2019)	PY 2 (2018)	PY 3 (2019)	PY 2 (2018)	PY 3 (2019)
I2f	CPC+ Connect								
	Very useful	51%	48%	40%	41%	38%	43%	42%	48%
	Somewhat useful	42%	40%	43%	45%	53%	47%	48%	43%
	Not very useful	6%	9%	14%	10%	7%	5%	8%	8%
	Not at all useful	1%	3%	2%	4%	2%	5%	2%	1%
	N	582	579	534	528	524	524	806	801
I2g	CPC+ Implementation Guides								
	Very useful	56%	64%	55%	57%	69%	74%	62%	59%
	Somewhat useful	38%	32%	34%	36%	27%	24%	35%	36%
	Not very useful	5%	3%	10%	6%	4%	1%	3%	5%
	Not at all useful	1%	1%	1%	1%	0%	1%	0%	0%
	N	602	605	548	533	520	537	814	814
I2h	CPC+ Practice Spotlights								
	Very useful	29%	22%	26%	33%	24%	25%	24%	24%
	Somewhat useful	55%	64%	50%	44%	54%	57%	56%	61%
	Not very useful	14%	11%	23%	20%	21%	7%	19%	13%
	Not at all useful	2%	3%	2%	3%	1%	10%	2%	2%
	N	564	543	516	506	502	520	774	780
I2i	CPC+ Support								
	Very useful	56%	70%	56%	69%	64%	74%	62%	66%
	Somewhat useful	36%	25%	36%	24%	33%	24%	31%	29%
	Not very useful	8%	4%	6%	6%	3%	1%	4%	5%
	Not at all useful	0%	0%	2%	1%	0%	1%	3%	1%
	N	563	573	506	506	493	516	767	758
I2j (PY 3 only)	Regional Implementation Networking Groups								
	Very useful	n.a.	26%	n.a.	30%	n.a.	12%	n.a.	25%
	Somewhat useful	n.a.	46%	n.a.	52%	n.a.	52%	n.a.	56%
	Not very useful	n.a.	23%	n.a.	16%	n.a.	23%	n.a.	18%
	Not at all useful	n.a.	6%	n.a.	2%	n.a.	13%	n.a.	1%
	N	n.a.	413	n.a.	359	n.a.	408	n.a.	535

Table 3.B.9b. ***(continued)***

Question[a]		Track 1 – SSP		Track 1 – Not SSP		Track 2 – SSP		Track 2 – Not SSP	
		PY 2 (2018)	PY 3 (2019)	PY 2 (2018)	PY 3 (2019)	PY 2 (2018)	PY 3 (2019)	PY 2 (2018)	PY 3 (2019)
Usefulness of assistance received from CPC+ payer partners									
I3	Among practices with CPC+ payer partners (based on responses to H4), percentage of practices reporting that they received each type of assistance from CPC+ payer partners in the past six months								
	On-site care manager provided by the payer	20%	20%	22%	30%	17%	19%	17%	24%
	Telephone-based care manager provided by the payer	30%	35%	27%	38%	40%	38%	27%	42%
	Explanation of payers' CPC+ payment methodologies	46%	54%	58%	62%	37%	52%	59%	62%
	Training on how to access data feedback provided by the payer	48%	53%	62%	66%	50%	64%	58%	63%
	Training on how to use data feedback provided by the payer	48%	53%	62%	68%	45%	60%	57%	64%
	Coaching on how to improve practice processes and workflows	46%	47%	53%	61%	44%	53%	48%	58%
	N	474	438	451	421	447	478	721	701
Among practices that reported receiving each type of assistance from CPC+ payer partners, rating of usefulness of assistance received in the past six months from CPC+ payer partners in improving primary care									
I3a	On-site care manager provided by the payer								
	Very useful	40%	44%	56%	54%	43%	59%	40%	33%
	Somewhat useful	35%	48%	31%	37%	51%	37%	34%	45%
	Not very useful	15%	4%	11%	9%	5%	2%	17%	17%
	Not at all useful	11%	3%	2%	0%	1%	2%	9%	4%
	N	95	89	98	125	77	92	122	165
I3b	Telephone-based care manager provided by the payer								
	Very useful	21%	17%	35%	33%	46%	42%	17%	17%
	Somewhat useful	51%	50%	40%	45%	43%	37%	51%	51%
	Not very useful	18%	31%	22%	20%	10%	15%	23%	20%
	Not at all useful	10%	2%	3%	3%	1%	5%	10%	12%
	N	140	152	124	159	178	182	198	295
I3c	Explanation of payers' CPC+ payment methodologies								
	Very useful	29%	20%	23%	20%	26%	20%	20%	20%
	Somewhat useful	52%	38%	58%	66%	66%	67%	57%	59%
	Not very useful	15%	32%	15%	12%	8%	12%	19%	19%
	Not at all useful	5%	11%	4%	2%	1%	1%	5%	3%
	N	220	237	262	261	167	250	426	432

Table 3.B.9b. ***(continued)***

Question[a]		Track 1 – SSP		Track 1 – Not SSP		Track 2 – SSP		Track 2 – Not SSP	
		PY 2 (2018)	PY 3 (2019)	PY 2 (2018)	PY 3 (2019)	PY 2 (2018)	PY 3 (2019)	PY 2 (2018)	PY 3 (2019)
I3d	Training on how to access data feedback provided by the payer								
	Very useful	28%	22%	29%	31%	28%	12%	19%	23%
	Somewhat useful	49%	56%	55%	51%	66%	79%	66%	63%
	Not very useful	21%	21%	14%	12%	3%	5%	13%	10%
	Not at all useful	2%	2%	2%	6%	4%	4%	2%	4%
	N	229	234	280	277	225	306	419	445
I3e	Training on how to use data feedback provided by the payer								
	Very useful	27%	24%	29%	27%	33%	14%	19%	21%
	Somewhat useful	60%	52%	51%	56%	59%	72%	61%	60%
	Not very useful	11%	24%	16%	12%	4%	10%	16%	14%
	Not at all useful	2%	1%	4%	6%	4%	4%	4%	5%
	N	228	232	281	286	202	287	411	447
I3f	Coaching on how to improve practice processes and workflows								
	Very useful	28%	22%	29%	33%	16%	39%	21%	20%
	Somewhat useful	56%	59%	45%	44%	68%	48%	51%	54%
	Not very useful	12%	18%	24%	15%	12%	7%	24%	20%
	Not at all useful	5%	1%	2%	8%	4%	6%	4%	7%
	N	216	205	241	257	198	255	349	410
Staff involvement in implementing CPC+									
J1a	Medical director or clinician lead at the practice site								
	Very involved	56%	58%	59%	62%	66%	65%	69%	69%
	Somewhat involved	33%	34%	32%	30%	29%	31%	24%	25%
	Not very involved	8%	4%	6%	7%	3%	2%	5%	4%
	Not at all involved	3%	4%	3%	2%	1%	1%	2%	2%
	N	631	636	559	552	549	547	856	848
J1b	Physicians								
	Very involved	36%	42%	42%	47%	34%	32%	54%	53%
	Somewhat involved	52%	50%	46%	44%	61%	64%	37%	39%
	Not very involved	11%	6%	10%	9%	5%	3%	8%	7%
	Not at all involved	2%	2%	2%	1%	1%	1%	1%	0%
	N	637	639	564	557	549	549	857	850

Table 3.B.9b. ***(continued)***

Question[a]		Track 1 – SSP		Track 1 – Not SSP		Track 2 – SSP		Track 2 – Not SSP	
		PY 2 (2018)	PY 3 (2019)	PY 2 (2018)	PY 3 (2019)	PY 2 (2018)	PY 3 (2019)	PY 2 (2018)	PY 3 (2019)
J1c	Nurse practitioners (NPs), clinical nurse specialists (CNSs), or physician assistants (PAs)								
	Very involved	18%	20%	21%	25%	22%	19%	34%	36%
	Somewhat involved	34%	37%	34%	31%	33%	49%	29%	29%
	Not very involved	8%	5%	9%	7%	7%	3%	6%	8%
	Not at all involved	2%	1%	2%	2%	1%	1%	2%	1%
	No NPs/PAs/CNSs	38%	37%	34%	35%	36%	28%	28%	26%
	N	639	641	561	563	549	551	862	860
J1d	Clinical support staff								
	Very involved	39%	45%	46%	55%	43%	46%	60%	63%
	Somewhat involved	54%	47%	47%	40%	52%	44%	35%	33%
	Not very involved	7%	5%	5%	5%	4%	10%	3%	3%
	Not at all involved	0%	2%	1%	0%	1%	0%	2%	0%
	N	640	640	564	557	550	550	860	856
J1e	Clerical support staff								
	Very involved	30%	31%	34%	40%	42%	32%	42%	43%
	Somewhat involved	52%	52%	51%	43%	42%	48%	43%	45%
	Not very involved	15%	14%	13%	16%	13%	19%	12%	11%
	Not at all involved	3%	3%	2%	2%	3%	1%	3%	1%
	N	639	640	563	557	550	551	859	855
J2	System-level leadership (e.g., chief executive officer or chief medical officer)								
	Very involved	45%	39%	38%	40%	72%	65%	53%	48%
	Somewhat involved	22%	31%	24%	24%	13%	21%	21%	25%
	Not very involved	10%	11%	6%	6%	5%	4%	5%	5%
	Not at all involved	4%	0%	4%	1%	1%	0%	1%	1%
	Practice site is independent and not part of a system	18%	18%	27%	29%	9%	10%	20%	21%
	N	637	639	561	556	551	545	862	858

Table 3.B.9b. ***(continued)***

Question[a]		Track 1 – SSP		Track 1 – Not SSP		Track 2 – SSP		Track 2 – Not SSP	
		PY 2 (2018)	PY 3 (2019)	PY 2 (2018)	PY 3 (2019)	PY 2 (2018)	PY 3 (2019)	PY 2 (2018)	PY 3 (2019)
Overall perceptions of CPC+									
J3	Given practice's overall experience in CPC+, likelihood practice would participate in CPC+ if practice could do it all over again								
	Very likely	64%	61%	59%	57%	70%	83%	66%	65%
	Somewhat likely	28%	32%	31%	33%	27%	13%	27%	28%
	Not very likely	6%	5%	8%	7%	2%	3%	5%	5%
	Not at all likely	2%	2%	3%	3%	1%	1%	2%	1%
	N	639	640	564	559	553	551	856	856
J4	The extent to which participation in CPC+ improved the quality of care that the practice provides to its patients								
	A lot	44%	56%	37%	45%	47%	61%	47%	53%
	Somewhat	48%	37%	51%	49%	49%	38%	48%	42%
	Not very much	6%	7%	11%	7%	4%	1%	5%	3%
	Not at all	1%	1%	1%	0%	0%	0%	1%	1%
	N	639	641	563	561	550	548	863	856
Extent to which CPC+ requirements are burdensome									
J5a	Meeting care delivery requirements								
	Not at all burdensome	4%	5%	3%	5%	5%	7%	5%	6%
	Not very burdensome	31%	24%	31%	30%	24%	29%	27%	30%
	Somewhat burdensome	45%	59%	47%	46%	45%	47%	56%	51%
	Very burdensome	18%	11%	17%	17%	25%	15%	10%	12%
	Don't know	2%	1%	1%	2%	1%	1%	2%	1%
	N	639	639	562	561	552	550	863	861
J5b	Completing care delivery reporting requirements								
	Not at all burdensome	3%	3%	1%	4%	2%	3%	6%	7%
	Not very burdensome	19%	27%	19%	24%	20%	29%	20%	26%
	Somewhat burdensome	50%	47%	51%	51%	45%	50%	49%	50%
	Very burdensome	27%	23%	27%	20%	31%	18%	22%	14%
	Don't know	2%	1%	1%	2%	2%	1%	2%	3%
	N	639	640	563	560	552	552	863	862

Table 3.B.9b. ***(continued)***

Question[a]		Track 1 – SSP		Track 1 – Not SSP		Track 2 – SSP		Track 2 – Not SSP	
		PY 2 (2018)	PY 3 (2019)	PY 2 (2018)	PY 3 (2019)	PY 2 (2018)	PY 3 (2019)	PY 2 (2018)	PY 3 (2019)
J5c	Completing financial reporting requirements								
	Not at all burdensome	2%	1%	1%	3%	2%	1%	2%	3%
	Not very burdensome	13%	12%	12%	20%	11%	10%	13%	19%
	Somewhat burdensome	21%	35%	30%	36%	27%	37%	29%	29%
	Very burdensome	47%	42%	50%	34%	51%	50%	46%	40%
	Don't know	17%	10%	7%	8%	8%	3%	10%	9%
	N	638	640	561	560	551	552	863	861
J5d	Meeting health IT requirements								
	Not at all burdensome	7%	10%	8%	14%	8%	10%	7%	14%
	Not very burdensome	29%	35%	35%	36%	22%	34%	32%	35%
	Somewhat burdensome	33%	38%	28%	30%	38%	39%	31%	31%
	Very burdensome	17%	10%	22%	13%	25%	14%	19%	12%
	Don't know	14%	7%	8%	8%	7%	3%	11%	8%
	N	639	640	562	559	552	552	861	861
Usefulness of CPC+ supports in improving primary care (supports from all payers)									
J6a	Financial support								
	Very useful	41%	45%	51%	52%	61%	59%	44%	46%
	Somewhat useful	31%	36%	30%	32%	25%	31%	35%	38%
	Not very useful	14%	9%	6%	5%	4%	3%	7%	5%
	Not at all useful	1%	1%	2%	1%	2%	1%	1%	1%
	Don't know	13%	10%	12%	10%	9%	6%	14%	10%
	N	639	636	563	557	546	549	862	858
J6b	Learning support								
	Very useful	37%	35%	32%	31%	33%	32%	30%	32%
	Somewhat useful	50%	56%	52%	52%	57%	61%	58%	57%
	Not very useful	5%	5%	9%	10%	4%	5%	6%	5%
	Not at all useful	1%	1%	1%	1%	0%	0%	1%	0%
	Don't know	7%	3%	6%	7%	5%	2%	5%	5%
	N	639	637	562	556	546	552	863	859

Table 3.B.9b. ***(continued)***

Question[a]		Track 1 – SSP		Track 1 – Not SSP		Track 2 – SSP		Track 2 – Not SSP	
		PY 2 (2018)	PY 3 (2019)	PY 2 (2018)	PY 3 (2019)	PY 2 (2018)	PY 3 (2019)	PY 2 (2018)	PY 3 (2019)
J6c	Data feedback								
	Very useful	35%	30%	35%	36%	39%	25%	34%	36%
	Somewhat useful	47%	54%	47%	48%	41%	56%	51%	50%
	Not very useful	10%	11%	11%	8%	14%	15%	9%	8%
	Not at all useful	1%	2%	2%	1%	0%	3%	1%	1%
	Don't know	7%	4%	5%	6%	5%	2%	6%	5%
	N	640	637	563	558	544	552	862	861
J6d	Health IT vendor support								
	Very useful	15%	19%	17%	17%	24%	21%	14%	16%
	Somewhat useful	36%	38%	29%	33%	29%	40%	42%	44%
	Not very useful	18%	13%	25%	24%	23%	15%	21%	18%
	Not at all useful	5%	4%	12%	6%	2%	14%	3%	4%
	Don't know	26%	25%	17%	20%	21%	10%	19%	18%
	N	640	636	563	558	546	551	862	860

Source: CPC+ Practice Survey administered to the 2017 Starter CPC+ practices June through September 2018 (PY 2) and July through November 2019 (PY 3).

Notes: The data presented in this table represent responses from the practices that began CPC+ in 2017 (2017 Starters) and had completed all three waves of surveys, regardless of whether they were still participating in CPC+.

[a] Survey questions in this table were not asked in the PY 1 survey. The question numbering is based on the PY 3 survey.

n.a. = not applicable because the survey question was not asked in that wave or to the specified group of practices; SSP = Medicare Shared Savings Program (reflects 2019 participation, or else 2018 participation for practices that withdrew from CPC+).

Table 3.B.10. Differences in the wording of questions and response categories between survey waves

PY 3 question number	PY 1 question stem	PY 1 response categories	PY 2 question stem	PY 2 response categories	PY 2 modifications	PY 3 question stem	PY 3 response categories	PY 3 modifications
A1	This question is about all practitioners at this practice site, regardless of specialty. How many total practitioners work full-time (35 hours or more per week) and part time (fewer than 35 hours per week) at this practice site? Please include all practitioners who work at this practice site, regardless of who employs them. Please enter "0" if there are no such practitioners at this practice site.	Total Practitioners a. Physician (MD or DO), not including psychiatrist b. Physician resident or fellow (trainee) c. Nurse practitioner (NP) d. Physician assistant (PA) e. Clinical Nurse Specialist (CNS)	This question is about all practitioners at this practice site, regardless of specialty **[CPC+ PRACTICES ONLY: or whether they are involved in CPC+]**[a]. How many total practitioners work full-time (35 hours or more per week) and part time (fewer than 35 hours per week) at this practice site? Please include all practitioners who work at this practice site, regardless of who employs them. Please enter "0" if there are no such practitioners at this practice site.	Total Practitioners a. Physician (MD or DO), not including psychiatrist b. Physician resident or fellow (trainee) c. Nurse practitioner (NP) d. Physician assistant (PA) e. Clinical **n**urse **s**pecialist (CNS)[a]	Question stem and response categories			None
B30	Feedback to the practice from patient surveys or a patient and family advisory council …	…is not collected. …is collected but is not used to guide practice improvements. …is collected and is occasionally used to guide practice improvements. …is collected and is consistently used to guide practice improvements.	Feedback to the practice from a patient **and family advisory council (PFAC)**…[a] A PFAC is a formal committee of patients, family, and caregivers that provides patient feedback to the practice.		Question stem			None

Table 3.B.10. ***(continued)***

PY 3 question number	PY 1 question stem	PY 1 response categories	PY 2 question stem	PY 2 response categories	PY 2 modifications	PY 3 question stem	PY 3 response categories	PY 3 modifications
C1	Which of the following best describes the organization that employs the physicians at this practice site?	1. Independent physician owned 2. Group- or staff-model HMO 3. Hospital, hospital system, or medical school 4. Health insurance company 5. Community health center or clinic 99. Other (specify)		**1. Solely owned by 1 to 9 practitioners and/or non-practitioners[a]** **2. Solely owned by 10 or more practitioners and/or non-practitioners[a]** **3. Co-owned by a group of practitioners and a hospital, hospital system, or medical school[a]** 4. Hospital, hospital system, or medical school **5. HMO – group or staff model[a]** 6. Health insurance company 7. Community health center or clinic 99. Other (specify)	Response categories			None
C2	Is this organization a multispecialty group that includes both specialists and primary care physicians?	Yes No	Is the organization that employs physicians **at this practice site[a]** a multispecialty group that includes both specialists and primary care physicians? **Please do not include behavioral health workers as specialists.[a]**		Question stem			None

Table 3.B.10. ***(continued)***

PY 3 question number	PY 1 question stem	PY 1 response categories	PY 2 question stem	PY 2 response categories	PY 2 modifications	PY 3 question stem	PY 3 response categories	PY 3 modifications
C3	Please indicate how much autonomy the leaders of this practice site have in making decisions for this site in the following areas. a. Staff hiring b. Organizational priorities (e.g., choosing a specific quality improvement goal) c. Clinical work processes (e.g., a process for rooming patients) d. Choice of specialists to whom this practice site refers (for patients whose insurance permits referrals to any specialist)	Little/no autonomy Some autonomy Moderate autonomy High autonomy	Please indicate how much autonomy **this practice site has**[a] in making decisions for this site in the following areas. a. Staff hiring b. Organizational priorities (e.g., choosing a specific quality improvement goal) c. Clinical work processes (e.g., a process for rooming patients) d. Choice of specialists to whom this practice site refers (for patients whose insurance permits referrals to any specialist)		Question stem			None

Table 3.B.10. ***(continued)***

PY 3 question number	PY 1 question stem	PY 1 response categories	PY 2 question stem	PY 2 response categories	PY 2 modifications	PY 3 question stem	PY 3 response categories	PY 3 modifications
C7	[CPC+ practices: Other than CPC+, does]/[Comparison practices: Does] this practice site currently participate in any of the following initiatives, demonstrations, or programs? a. Health Care Innovation Awards (sponsored by CMS) b. Accountable Care Organizations (ACOs) that are not sponsored by Medicare c. State Innovation Model (SIM) (sponsored by CMS; may have a state-specific program name) d. Medicaid Health Home e. A state- or community-based quality improvement program or collaborative (for example, Institute for Healthcare Improvement collaborative or EHR users' group) f. An insurer-sponsored program linking payment to performance or value (such as a bonus payment from an insurer for quality)	Yes No	[CPC+ practices: Other than CPC+, does]/[Comparison practices: Does] this practice site currently participate in any of the following initiatives, demonstrations, or programs? a. Health Care Innovation Awards (sponsored by CMS) b. Accountable Care Organizations (ACOs) that are not sponsored by Medicare **c. [Name of program] (a State Innovation Model (SIM) sponsored by CMS**[a] d. Medicaid Health Home e. A state- or community-based quality improvement program or collaborative (for example, Institute for Healthcare Improvement collaborative or EHR users' group) f. An insurer-sponsored program linking payment to performance or value (such as a bonus payment from an insurer for quality)		Question stem	[CPC+ practices: Other than CPC+, does]/**[COMPARISON OR TWD:**[a] Does] this practice site currently participate in any of the following initiatives, demonstrations, or programs? a. Accountable Care Organizations (ACOs) that are not sponsored by Medicare b. [Name of program] (a State Innovation Model (SIM) sponsored by CMS) c. **Accountable Health Communities Model**[a] d. Medicaid Health Home e. A state- or community-based quality improvement program or collaborative (for example, Institute for Healthcare Improvement collaborative or EHR users' group) f. An insurer-sponsored program linking payment to performance or value (such as a bonus payment from an insurer for quality)		Question stem and response options
E4	Not asked.		How often does this practice site use these data on what insurers pay for specialist services to inform where to refer patients for diagnostic or lab services?	Never or rarely Sometimes Frequently Usually or always	New	How often does this practice site use these data on what insurers pay for specialist services to inform where to refer patients for **specialist services?**[a]		Question stem

Table 3.B.10. ***(continued)***

PY 3 question number	PY 1 question stem	PY 1 response categories	PY 2 question stem	PY 2 response categories	PY 2 modifications	PY 3 question stem	PY 3 response categories	PY 3 modifications
G1, G2	During the 2016 calendar year, did any portion of this practice site's revenue come from the following sources? **a. Fee-for-service payments (payments for specific services billed to insurers)[a]** b. Care management fees (per-patient per-month payments to support care management for patients) c. Capitation (per-patient per-month payment for specific patients, intended to cover costs of all services provided regardless of amount or type). Do not include the care management fees described in b above d. Episode-based payments (a fixed payment for all services needed for a patient with a particular condition, such as a hip fracture) e. Financial rewards or bonuses from insurers for improving quality of care, patient experience, and/or controlling costs f. Other payments (please describe)	Yes No Don't know	During the 2017 calendar year, what percentage of this practice site's revenue came from fee-for-service (FFS) payments? Please include FFS payments from all insurers. Your best estimate is fine. During the 2017 calendar year, did any portion of this practice site's revenue come from the following sources? a. Care management fees **(prospective payments to support care management for patients, paid in addition to usual payments for services)[a]** b. Capitation (per-patient per-month payment for specific patients, intended to cover costs of **some or[a]** all services provided, regardless of amount or type, **in lieu of fee-for-service payments).[a]** Do not include the care management fees described in **item a. above. [T2 CPC+ PRACTICES ONLY: Please include the CPC+ Comprehensive Primary Care Payment (CPCP) here.][a]** c. Episode-based payments (a fixed payment for all services needed for a patient with a particular condition, such as an upper respiratory infection or urinary tract infection) **d. Shared savings, in which costs of care are compared to an expenditure target or to costs for another group of practices and a proportion of any savings are shared with practices.[a]** e. Financial rewards or bonuses from insurers for improving quality of care, patient experience, and/or controlling costs, not including shared savings. **[T NON-SSP CPC+ PRACTICES ONLY: Please include the CPC+ Performance-Based Incentive Payment (PBIP) here.][a]** f. Other payments (please describe)	[Open percentage] Yes No Don't know	Question stem and response options (split into two items)	During the 2018 calendar year, what percentage of this practice site's revenue came from fee-for-service (FFS) payments? Please include FFS payments from all insurers. Your best estimate is fine. During the 2018 calendar year, did any portion of this practice site's revenue come from the following sources? a. Care management fees (prospective payments to support care management for patients, paid in addition to usual payments for services) b. Capitation (per-patient per-month payment for specific patients, intended to cover costs of some or all services provided, regardless of amount or type, in lieu of fee-for-service payments). Do not include the care management fees described in item a. above. **[TRACK 2[a]** CPC+ PRACTICES, **OR FORMERLY TRACK 2 TWD PRACTICES, THAT JOINED CPC+ IN 2017[a]** ONLY: Please include the CPC+ Comprehensive Primary Care Payment (CPCP) here.] c. Episode-based payments (a fixed payment for all services needed for a patient with a particular condition, such as an upper respiratory infection or urinary tract infection) d. Shared savings, in which costs of care are compared to an expenditure target or to costs for another group of practices and a proportion of any savings are shared with practices. e. Financial rewards or bonuses from insurers for improving quality of care, patient experience, and/or controlling costs, not including shared savings. [NON-SSP **(FOR 2018)[a]** CPC+ PRACTICES **THAT JOINED CPC+ IN 2017[a]** ONLY: Please include **CMS's[a]** CPC+ Performance-Based Incentive Payment (PBIP) here./ **NON-SSP (FOR 2018) TWD PRACTICES THAT JOINED CPC+ IN 2017 ONLY: Please include CMS's CPC+ Performance-Based Incentive Payment (PBIP) unless your practice stopped participating in CPC+ during the 2018 calendar year][a]**		Question stem

Table 3.B.10. ***(continued)***

PY 3 question number	PY 1 question stem	PY 1 response categories	PY 2 question stem	PY 2 response categories	PY 2 modifications	PY 3 question stem	PY 3 response categories	PY 3 modifications
H2	Not asked.		The Performance-Based Incentive Payment (PBIP) is paid by CMS prospectively at the beginning of each program year. After each program year ends, CMS retrospectively reconciles the amount of PBIP that a practice earned based on how well the practice performed on patient experience of care measures, clinical quality measures, and utilization measures that drive total cost of care. Thinking about this practice's experience with the PBIP payments from Medicare FFS, please indicate how much you agree or disagree with the following statements. a. Our practice understands how Medicare FFS calculates the proportion of the Performance-Based Incentive Payment (PBIP) my practice will retain and the proportion CMS will recoup b. Our practice feels that Medicare FFS's methodology is fair in how it determines the proportion of the Performance-Based Incentive Payment (PBIP) my practice will retain and the proportion CMS will recoup	Strongly disagree Disagree Agree Strongly agree Don't know	New	The Performance-Based Incentive Payment (PBIP) is paid by CMS prospectively at the beginning of each program year. After each program year ends, CMS retrospectively reconciles the amount of PBIP that a practice earned based on how well the practice performed on patient experience of care measures, clinical quality measures, and utilization measures that drive total cost of care. Thinking about this practice's experience with the PBIP payments **and recoupments**[a] from Medicare FFS, please indicate how much you agree or disagree with the following statements. a. Our practice understands how Medicare FFS calculates the proportion of the Performance-Based Incentive Payment (PBIP) my practice **retains**[a] and the proportion CMS **recoups**[a] b. Our practice feels that Medicare FFS's methodology is fair in how it determines the proportion of the Performance-Based Incentive Payment (PBIP) my practice **retains**[a] and the proportion CMS **recoups**[a]		Question stem

Table 3.B.10. ***(continued)***

PY 3 question number	PY 1 question stem	PY 1 response categories	PY 2 question stem	PY 2 response categories	PY 2 modifications	PY 3 question stem	PY 3 response categories	PY 3 modifications
I2a	Not asked.		The CPC+ National Learning Community and Regional Learning Network offer assistance to practices in a variety of ways. For each of the following types of assistance that this practice site may have received in the past six months, please rate how useful this assistance has been to this practice site in improving primary care. a. Webinars (for example, Action Groups or Practices in Action meetings) b. Health IT Affinity Groups (groups enabling CPC+ practices to network with their health IT vendors or other practices that use the same health IT) c. In-person learning sessions d. In-person coaching at this practice site to improve practice processes and workflows e. One-on-one telephone/virtual coaching with this practice site to improve practice processes and workflows f. CPC+ Connect (the online information resource and collaboration website for CPC+) g. CPC+ Implementation Guides h. CPC+ Practice Spotlights (articles highlighting the work of individual CPC+ practices) i. CPC+ Support (CPC+ help desk managed by Telligen)		New	The CPC+ National Learning Community and Regional Learning Network offer assistance to practices in a variety of ways. For each of the following types of assistance that this practice site may have received in the past six months, please rate how useful this assistance has been to this practice site in improving primary care. a. Webinars (for example, Action Groups, Practices in Action meetings, **or national webinars**[a]) b. Health IT Affinity Groups (groups enabling CPC+ practices to network with their health IT vendors or other practices that use the same health IT) c. In-person learning sessions d. **In-person coaching at this practice site**[a] e. One-on-one telephone/virtual coaching with this practice site to improve practice processes and workflows f. CPC+ Connect (the online information resource and collaboration website for CPC+) g. CPC+ Implementation Guides h. CPC+ Practice Spotlights (articles highlighting the work of individual CPC+ practices) i. CPC+ Support (CPC+ help desk managed by Telligen) **j. Regional Implementation Networking Groups (also called RINGs; attended by care managers and practice managers)**[a]		Question stem
J1	Thinking of the different types of staff at this practice site, how involved is each staff type in implementing CPC+? a. Clinical leadership b. Physicians c. Clinical support staff d. Administrative support staff	Very involved Somewhat involved Not very involved Not at all involved	Thinking of the different types of staff at this practice site, how involved is each type of staff in implementing CPC+? **a. Medical director or clinician lead at this practice site**[a] b. Physicians **c. Nurse practitioners (NPs), clinical nurse specialists (CNSs), or physician assistants (PAs)**[a] d. Clinical support staff e. Clerical support staff		Question stem			None

Table 3.B.10. ***(continued)***

PY 3 question number	PY 1 question stem	PY 1 response categories	PY 2 question stem	PY 2 response categories	PY 2 modifications	PY 3 question stem	PY 3 response categories	PY 3 modifications
K4	Who provided input in completing this survey?	1. Practice manager 2. Lead physician 3. Other physicians 4. Nurse practitioner (NP), Clinical Nurse Specialist (CNS), or physician assistant (PA) 5. Care manager/coordinator 6. Staff from our larger health care system or medical group 7. Quality improvement staff 8. Nursing staff 9. Medical assistant staff 10. Administrative support staff (e.g., billing staff, front desk staff) 11. Patients 99. Other (specify)	**Who filled out this survey or provided input to complete this survey?**[a]	**1. Practice or office manager (e.g., Clinic manager, office coordinator, office supervisor)**[a] **2.** Lead physician 3. Other physicians 4. Nurse practitioner (NP), clinical nurse specialist (CNS), or physician assistant (PA) 5. Care manager/coordinator **6. Nursing staff, including nurse manager or supervisor**[a] **7.** Medical assistant staff **8. Quality improvement staff**[a] **9.** Administrative support staff (e.g., billing or finance staff, front desk staff) **10. Nonphysician owner of practice**[a] **11. Leadership or staff from our larger health care system or medical group (e.g., CEO, CMO)**[a] **12. Data analytics staff (e.g., EMR analyst, health IT team)**[a] **13. CPC+ lead**[a] **14. Patients**[a] **99. Other (specify)**[a]	Question stem and response categories			None

[a] **Red, bolded text** indicates differences.

3.B.6. 2019 CPC+ Practice Survey (PY 3)

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Comprehensive Primary Care Plus (CPC+)
2019 Survey of Primary Care Practices

FINAL – May 22, 2019

Sponsored by
The Centers for Medicare & Medicaid Services
(CMS)

Citation: Mathematica. "Evaluation of the Comprehensive Primary Care Plus (CPC+) Model: 2019 Survey of Primary Care Practices." Princeton, NJ: Mathematica, administered starting July 2019.

[INSTRUCTIONS FOR TREATMENT PRACTICES]

The 2019 Comprehensive Primary Care Plus (CPC+) Practice Survey is a critical component of the independent study sponsored by the Centers for Medicare & Medicaid Services (CMS), and its completion is a condition of your participation in CPC+. This survey is being conducted by Mathematica, an independent research company hired by CMS to conduct the study of CPC+.

The practice manager (or the person most knowledgeable about the practice) should complete the survey. **We strongly encourage you to get input from others in your practice;** for example, you may ask others to review answers to questions and discuss the survey at a practice meeting. The survey will be most helpful to you—and most accurate—if it represents a consensus view of your practice site's clinical and support staff, arriving at the best answers after discussion.

Please complete all questions in the survey to the best of your knowledge and that of others in the practice from whom you seek input.

- For practices that have more than one physical location/practice site that participates in CPC+, we will contact each site to complete the survey.
- If this practice has multiple locations/practice sites, please respond only about the site identified in the cover letter or email, and be as accurate as possible.

We encourage your candid responses and remind you that there is no "passing grade" for this survey. This survey was developed to understand how practices provide patient care and is different from the biannual care delivery reporting you complete for CMS in the CPC+ Practice Portal.

Your responses to this survey will never be tied to your name or your practice in any report to CMS, other payers, or the public. Your responses will only be reported to CMS in aggregate (with all CPC+ practices combined). Your responses will **not** have any consequences for payment or for your participation in CPC+. We are genuinely interested in your observations of how your practice operates today.

For the purposes of providing learning support, both nationally and in your region, your practice's name and answers **will be shared with the CPC+ learning team who will not share this information with CMS or other payers.** This information will also be shared with independent researchers to study the effects of CPC+.

Questions? Contact CPC+ Support at CPCPlus@telligen.com or by telephone (toll free) at 1-888-372-3280.

[INSTRUCTIONS FOR COMPARISON AND TREATMENT WITHDRAWN PRACTICES]

The 2019 Comprehensive Primary Care Plus (CPC+) Practice Survey is an important part of the study of the CPC+ initiative, sponsored by the Centers for Medicare & Medicaid Services (CMS), which seeks to improve the quality of primary care (https://innovation.cms.gov/initiatives/comprehensive-primary-care-plus). This survey is being conducted by Mathematica, an independent research company hired by CMS to conduct the study of CPC+.

Even though your practice is [COMPARISON: not/TWD: no longer] participating in CPC+, we must collect information from practices that are participating in CPC+ and practices that are not to study the impact of how CPC+ is changing how primary care practices deliver care. We are asking you to complete the survey to help us understand how primary care practices deliver care. It is vital to the study that we understand the range of current approaches to the delivery of primary care and organizational characteristics across primary care practices.

You will receive [COMPARISON: $100/TWD: $200] for completing this survey.

The survey should be completed by the practice manager (or the person most knowledgeable about the practice). **We encourage you to get input from others in the practice**. For example, you can ask others to review answers to questions as needed. The survey will be most accurate if it represents a consensus view of the practice site's clinical and support staff, arriving at the best answers after discussion.

Please complete all questions in the survey to the best of your knowledge. If this practice has multiple physical locations/practice sites, please respond only about the site identified in the cover letter or email, and be as accurate as possible.

We encourage your candid responses and remind you that there is no "passing grade" for this survey. This survey was developed to understand how practices provide patient care.

Your responses to this survey will never be tied to your name or your practice in any report to CMS, other payers, or the public. Your responses will only be reported to CMS in aggregate (with all practices combined). Your responses will not have any consequences for Medicare payments. We are genuinely interested in your observations of how your practice operates today.

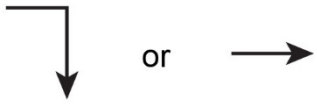
If you have difficulty or questions when completing this survey, please contact Mathematica by email at CPCPlusPracticeSurvey@mathematica-mpr.com or by telephone (toll-free) at 1-844-684-9433.

IMPORTANT

- If this practice has multiple physical locations/practice sites, **please respond only about the site identified in the cover letter or email,** and be as accurate as possible.
- We use the term "**physician**" in this survey. If your practice has nurse practitioners, physician assistants, and/or clinical nurse specialists who also act as lead clinicians with patients, please consider them as well in your responses to questions that refer to physicians.

INSTRUCTIONS TO COMPLETE THE SURVEY

- Answer all questions to the best of your ability.
- If you answer "Other" for a question, please write what you mean on the "specify" line.
- When answering questions that require marking a check box, please use an *X.*
- For each item, please mark only one answer unless instructions say to "MARK ALL THAT APPLY."
- Some check boxes are followed by a directional arrow. Please proceed to the appropriate question as indicated by the arrow.



Follow all "GO TO" instructions after marking a box. If no such instruction is provided, you should continue to the next question.

- You may use either a pen or pencil.

A. INFORMATION ABOUT THIS PRACTICE SITE

These questions focus on background information about this practice site.

PRACTITIONERS AT THIS PRACTICE SITE

A1. This question is about <u>all practitioners</u> at this practice site, regardless of specialty [CPC+ PRACTICES ONLY: or whether they are involved in CPC+]. How many <u>total practitioners</u> work *<u>full-time</u>*** <u>(35 hours or more per week)</u> and ***<u>part-time</u>*** <u>(fewer than 35 hours per week)</u> at this practice site?**

Please include all practitioners who work at this practice site, regardless of who employs them. Please enter "0" if there are no such practitioners at this practice site.

Total Practitioners	**NUMBER <u>FULL-TIME</u> AT PRACTICE SITE**	**NUMBER <u>PART-TIME</u> AT PRACTICE SITE**
a. Physician (MD or DO), not including psychiatrist	|___|___|___|	|___|___|___|
b. Physician resident or fellow (trainee)	|___|___|___|	|___|___|___|
c. Nurse practitioner (NP)	|___|___|___|	|___|___|___|
d. Physician assistant (PA)	|___|___|___|	|___|___|___|
e. Clinical nurse specialist (CNS)	|___|___|___|	|___|___|___|

A2. This question focuses on the primary care practitioners at this practice site. A primary care practitioner is defined as a physician (MD or DO), nurse practitioner (NP), physician assistant (PA), or clinical nurse specialist (CNS) who has a primary specialty designation of family medicine, internal medicine, or geriatric medicine, and who practices under their own National Provider ID (NPI).

How many primary care practitioners work *full-time* (35 hours or more per week) and *part-time* (fewer than 35 hours per week) at this practice site?

Please include all primary care practitioners who work at this practice site, regardless of who employs them. Please enter "0" if there are no such primary care practitioners at this practice site.

Primary Care Practitioners with Own NPI	NUMBER FULL-TIME AT PRACTICE SITE	NUMBER PART-TIME AT PRACTICE SITE
a. Physician (MD or DO)	|___|___|___|	|___|___|___|
b. Physician resident or fellow (trainee)	|___|___|___|	|___|___|___|
c. Nurse practitioner (NP)	|___|___|___|	|___|___|___|
d. Physician assistant (PA)	|___|___|___|	|___|___|___|
e. Clinical nurse specialist (CNS)	|___|___|___|	|___|___|___|

KEY APPROACHES TO PROVIDING PRIMARY CARE

General Instructions. In this section, each row pertains to a particular aspect of primary care. The four response boxes in each row represent different approaches to providing a specific aspect of primary care.

For each row, **please mark the box** that best describes the level of care that this practice site currently provides.

A3.	Patients …	…are not assigned to specific practitioner panels. ☐	…are assigned to specific practitioner panels but panel assignments are <u>not routinely used</u> by the practice for administrative or other purposes. ☐	…are assigned to specific practitioner panels and panel assignments are <u>routinely used</u> by the practice mainly for scheduling purposes. ☐	…are assigned to specific practitioner panels and panel assignments are routinely used for scheduling purposes and are <u>continuously monitored</u> to balance supply and demand. ☐
A4.	Non-physician practice team members …	…play a limited role in providing clinical care. ☐	…are primarily tasked with managing patient flow and triage. ☐	…provide <u>some</u> clinical services such as assessment or self-management support. ☐	…perform <u>key</u> clinical service roles that match their abilities and credentials. ☐
A8.	A standard method or tool(s) to stratify patients by risk level … [dropped for comparison practices]	…is not available. ☐	…is available but not consistently used to stratify all patients. ☐	…is available and is consistently used to stratify all patients, but is <u>inconsistently integrated</u> into all aspects of care delivery. ☐	…is available, consistently used to stratify all patients, and is <u>integrated</u> into all aspects of care delivery. ☐
A9.	Follow-up by this primary care practice with patients seen in the emergency department (ED) or hospital …	…generally does not occur. ☐	…occurs only if the ED or hospital alerts this primary care practice. ☐	…occurs because this primary care practice makes proactive efforts to identify patients. ☐	…is done routinely because this primary care practice has arrangements in place with the ED and hospital to both track these patients and ensure that follow-up is completed within a few days. ☐

❖ Please note question numbers in Section A may skip as some questions have been omitted from this year's survey.

A10. Linking patients to supportive community-based resources … [dropped for comparison practices]	…is not done systematically. ☐	…is limited to providing patients a list of identified community resources in an accessible format. ☐	…is accomplished through a designated staff person or resource responsible for connecting patients with community resources. ☐	…is accomplished through active coordination between the health system, community service agencies, and patients, and accomplished by a designated staff person. ☐
A11. Patient after-hours access (24 hours, 7 days a week) to a physician, PA/NP, or nurse …	...is not available or is limited to an answering machine. ☐	…is available from a coverage arrangement (e.g., answering service) that does not offer a standardized communication protocol back to the practice for urgent problems. ☐	…is provided by a coverage arrangement (e.g., answering service) that shares necessary patient data with and provides a summary to the practice. ☐	…is available via the patient's choice of email or phone directly with the practice team or a practitioner who has real-time access to the patient's electronic medical record. ☐
A12. Quality improvement (QI) activities …	…are not organized or supported consistently. ☐	…are conducted on an ad hoc basis in reaction to specific problems. ☐	…are based on a proven improvement strategy in reaction to specific problems. ☐	…are based on a proven improvement strategy and used continuously in meeting organizational goals. ☐
A13. Staff, resources, and time for QI activities…	…are not readily available in this practice. ☐	…are occasionally available but are limited in scope (due to some deficiencies in staff, resources, or time). ☐	…are generally available and usually at the level needed. ☐	…are all fully available in the practice. ☐

❖ Please note question numbers in Section A may skip as some questions have been omitted from this year's survey.

B. CURRENT APPROACHES TO PROVIDING PRIMARY CARE

General Instructions. In this section, each row pertains to a particular aspect of primary care. The four response boxes in each row represent different approaches to providing a specific aspect of primary care.

For each row, please mark the box that best describes the level of care that this practice site currently provides.

ACCESS

B1.	Same-day appointments for patients who need them are available at this practice site for …	…none of this practice's patients. ☐	…some of this practice's patients. ☐	…many of this practice's patients. ☐	…most or all of this practice's patients. ☐
B3.	Communicating with the practice team through email, text messaging, or accessing a patient portal occurs for …	…none of this practice's patients. ☐	…some of this practice's patients. ☐	…many of this practice's patients. ☐	…most or all of this practice's patients. ☐
B4.	Scheduled phone or video visits with a physician … [dropped for comparison practices]	…are not regularly available to patients. ☐	…are available on a limited basis to patients. ☐	…are generally available at a patient's request. ☐	…are generally available, and patients are regularly asked about their preferences for in-person versus phone/video visits. ☐

- Please note question numbers in Section B may skip as some questions have been omitted from this year's survey.

CONTINUITY

B6.	Patients …	…do not have a specific physician that they see at this practice. ☐	…have a specific physician, and the patient is sometimes scheduled with that physician. ☐	….have a specific physician, and the patient is frequently scheduled with that physician. ☐	….have a specific physician, and the patient is almost always scheduled with that physician. ☐
B8.	When patients contact the practice with clinical questions or concerns (e.g., a new problem or questions about their treatment) between scheduled encounters …	…they do not have a specific physician that they see at the practice, so any member of the practice responds. ☐	…their specific physician or practice care team that has primarily worked with the patient sometimes responds. ☐	…their specific physician or practice care team that has primarily worked with the patient frequently responds. ☐	…their specific physician or practice care team that has primarily worked with the patient almost always responds. ☐
B9.	Visits by primary care physicians or staff from this practice site to patients in the hospital occur for …	…none of this practice's hospitalized patients. ☐	…some of this practice's hospitalized patients. ☐	…many of this practice's hospitalized patients. ☐	…most or all of this practice's hospitalized patients. ☐

❖ Please note question numbers in Section B may skip as some questions have been omitted from this year's survey.

CARE MANAGEMENT

Care management is a set of activities designed to assist patients and their caregivers in managing medical conditions and related psychosocial problems. Care management activities include providing support and education to high-risk patients to monitor and manage their chronic condition(s), working with patients during primary care visits and between visits (e.g., by phone), and monitoring transitions in care such as after a hospitalization.

B10. Care management services for high-risk patients …	…are not provided at this practice. ☐	…are provided by care managers from an outside organization (e.g., a health insurance plan). ☐	…are provided by a care manager within this practice's organization who is not physically located at this practice site. ☐	…are provided by a care manager located at this practice site. ☐
B11. [IF B10 = 2-4] Care managers engage in meetings, huddles, or conversations with the physicians at this practice site about the high-risk patients they manage … [dropped for comparison practices] ☐ Not applicable – care management services for high-risk patients are not provided	…never or rarely. ☐	…a few times a month. ☐	…weekly. ☐	…daily. ☐

❖ Please note question numbers in Section B may skip as some questions have been omitted from this year's survey.

COORDINATION OF CARE ACROSS PROVIDERS AND SETTINGS IN YOUR COMMUNITY

Please answer the questions in this section based on the providers that serve most of your patients.

B14. Receipt of clinical information (e.g., a discharge summary) from an emergency department (ED) about this practice's patients who had an ED visit …	…does not occur consistently. ☐	…usually occurs more than 3 days after the visit. ☐	…usually occurs 1–3 days after the visit. ☐	…usually occurs within a day of the visit. ☐
B15. Outreach by this practice site to patients within one week of an ED visit occurs for …	…none of this practice's patients. ☐	…some of this practice's patients. ☐	…many of this practice's patients. ☐	…most or all of this practice's patients. ☐
B17. Receipt of clinical information (e.g., a discharge summary) from hospitals about this practice's patients who had a hospital visit …	…does not occur consistently. ☐	…usually occurs more than 3 days after discharge. ☐	…usually occurs 1–3 days after discharge. ☐	…usually occurs within a day of discharge. ☐
B18. Outreach by this practice site to patients within 3 days of hospital discharge occurs for …	…none of this practice's patients. ☐	…some of this practice's patients. ☐	…many of this practice's patients. ☐	…most or all of this practice's patients. ☐

❖ Please note question numbers in Section B may skip as some questions have been omitted from this year's survey.

B19. Discussing recommended medication, diet, or activity plans with patients who have had recent hospital stays is done for …	…none of these patients. ☐	…some of these patients. ☐	…many of these patients. ☐	…most or all of these patients. ☐
B21. Timely receipt of information (e.g., consultation reports, diagnoses, new medications) about your patients after they visit specialists occurs for…	…none of this practice's patients. ☐	…some of this practice's patients. ☐	…many of this practice's patients. ☐	…most or all of this practice's patients. ☐
B22. Practices may or may not have agreements with specialists they refer patients to. A formal, written agreement with a specialist describes expectations for timely patient visits, the frequency and type of information communicated between the primary care practice and specialist, and their respective roles. This practice site has formal, written agreements with ...	…no medical or surgical specialist groups. ☐	…some medical and surgical specialist groups. ☐	…many medical and surgical specialist groups. ☐	…most or all medical and surgical specialist groups. ☐
B23. This practice site assesses the social and functional support needs (e.g., transportation, home equipment) for …	…none of this practice's patients. ☐	…some of this practice's patients. ☐	…many of this practice's patients. ☐	…most or all of this practice's patients. ☐

❖ Please note question numbers in Section B may skip as some questions have been omitted from this year's survey.

PATIENT AND CAREGIVER ENGAGEMENT

B27. Assessing patient and family values and preferences … [dropped for comparison practices]	…is not done. ☐	…is done but not used in planning and organizing care. ☐	…is done and sometimes incorporated in planning and organizing care. ☐	…is done and consistently incorporated in planning and organizing care. ☐
B29. Self-management support is help for patients to better manage their health on a day-to-day basis. At this practice site, self-management support for most patients who have chronic conditions … [dropped for comparison practices]	…is limited to either (1) the distribution of information (e.g., pamphlets, booklets) with no or little discussion or (2) referral to self-management classes or educators. ☐	…is provided by practice staff but they do not set specific goals with patients (e.g., they just offer patient education). ☐	…is provided by practice staff who set specific goals with patients but are not trained in assessing how ready patients are to change their health behavior and how to motivate patient behavior change. ☐	…is provided by practice staff who set specific goals with patients and are trained in assessing how ready patients are to change their health behavior and how to motivate patient behavior change. ☐
B30. Feedback to the practice from a patient and family advisory council (PFAC)… ***A PFAC is a formal committee of patients, family, and caregivers that provides patient feedback to the practice.***	…is not collected. ☐	…is collected but is not used to guide practice improvements. ☐	…is collected and is occasionally used to guide practice improvements. ☐	…is collected and is consistently used to guide practice improvements. ☐

❖ Please note question numbers in Section B may skip as some questions have been omitted from this year's survey.

PLANNED CARE FOR CHRONIC CONDITIONS AND POPULATION HEALTH

B32. A registry is a data system that identifies and tracks patients with specific health conditions, risk states, or medications. **At this practice site, registry data to assess or manage care for groups of patients …**	…are not available. ☐	…are available for 1–2 diseases and/or risk states. ☐	…are available for 3–5 diseases and/or risk states. ☐	…are available for 6 or more diseases and/or risk states. ☐
B33. Pre-visit planning (gathering and organizing patient information to prepare for the visit) prior to the day of the visit …	…is not done. ☐	…is done but primarily focuses on reviewing test results and consultation reports from specialist referrals. ☐	…is done and includes (1) reviewing test results and consultation reports from specialist referrals, and (2) identifying gaps in health care (e.g., a needed flu shot or cancer screenings). ☐	…is done and includes (1) reviewing test results and consultation reports from specialists, (2) identifying gaps in health care, and (3) conducting outreach before the visit, to ask the patient to obtain needed tests prior to the visit. ☐

❖ Please note question numbers in Section B may skip as some questions have been omitted from this year's survey.

C. PRACTICE SITE'S CHARACTERISTICS

PRACTICE OWNERSHIP AND AFFILIATIONS

C1. Which of the following best describes the organization that employs the physicians at this practice site?

MARK ONE ONLY

1 ☐ Solely owned by 1 to 9 practitioners and/or non-practitioners

2 ☐ Solely owned by 10 or more practitioners and/or non-practitioners

3 ☐ Co-owned by a group of practitioners and a hospital, hospital system, or medical school

4 ☐ Hospital, hospital system, or medical school

5 ☐ HMO – group or staff model

6 ☐ Health insurance company

7 ☐ Community health center or clinic

99 ☐ Other *(specify)* _____

C2. Is the organization that employs physicians at this practice site a multispecialty group that includes both specialists and primary care physicians? Please do not include behavioral health workers as specialists.

1 ☐ Yes

0 ☐ No

C3. Please indicate how much autonomy this practice site has in making decisions for this site in the following areas.

MARK ONE RESPONSE PER ROW

	LITTLE/NO AUTONOMY	SOME AUTONOMY	MODERATE AUTONOMY	HIGH AUTONOMY
a. Staff hiring	1 ☐	2 ☐	3 ☐	4 ☐
b. Organizational priorities (e.g., choosing a specific quality improvement goal)	1 ☐	2 ☐	3 ☐	4 ☐
c. Clinical work processes (e.g., a process for rooming patients)	1 ☐	2 ☐	3 ☐	4 ☐
d. Choice of specialists to whom this practice site refers (for patients whose insurance permits referrals to any specialist)	1 ☐	2 ☐	3 ☐	4 ☐

THIS PRACTICE SITE'S PATIENTS

C4. Among this practice site's patients seen during the past 12 months, what percentage of patients were in the following two categories? Your best estimate is fine.

Please enter "0" if there are no such patients at this practice site.

	PERCENTAGE OF PATIENTS
a. Insured through Medicaid, including Medicaid managed care	|___|___|___|%
b. Uninsured or self-pay patients	|___|___|___|%

C5. During the past two years, approximately how many patients has this practice site dismissed? By dismissing patients, we mean directing patients to leave this practice site and seek primary care elsewhere. Your best estimate is fine.

MARK ONE ONLY

0 ☐ No patients dismissed → **GO TO C7**
1 ☐ 1–5 patients
2 ☐ 6–10 patients
3 ☐ 11–20 patients
4 ☐ 21–50 patients
5 ☐ 51–99 patients
6 ☐ More than 99 patients

C6. Please indicate the reasons this practice site has dismissed patients from this practice site during the past two years.

MARK ALL THAT APPLY

1 ☐ Patient repeatedly missed appointments
2 ☐ Patient repeatedly violated bill payment policies
3 ☐ Patient violated chronic pain/controlled substance policies
4 ☐ Patient was extremely disruptive and/or behaved inappropriately toward physicians or staff
5 ☐ Patient repeatedly did not follow health care recommendations (such as medication regimens or getting lab tests done)
6 ☐ Patient repeatedly did not follow recommended lifestyle changes (such as diet, exercise, or smoking cessation)
7 ☐ Patient made frequent visits to the ED and/or frequently self-referred to specialists
99 ☐ Other *(specify)* _____

PARTICIPATION IN INITIATIVES

C7. [CPC+ practices: Other than CPC+, does]/[COMPARISON OR TWD: Does] this practice site currently participate in any of the following initiatives, demonstrations, or programs?

	MARK ONE RESPONSE PER ROW	
	YES	**NO**
a. Accountable Care Organizations (ACOs) that are <u>not</u> sponsored by Medicare	1 ☐	0 ☐
b. [Name of program] (a State Innovation Model (SIM) sponsored by CMS)	1 ☐	0 ☐
c. Accountable Health Communities Model	1 ☐	0 ☐
d. Medicaid Health Home	1 ☐	0 ☐
e. A state- or community-based quality improvement program or collaborative (for example, Institute for Healthcare Improvement collaborative or EHR users' group)	1 ☐	0 ☐
f. An insurer-sponsored program linking payment to performance or value (such as a bonus payment from an insurer for quality)	1 ☐	0 ☐

PRACTICE STAFF AND ROLES

C8. How many of the following staff work *<u>full-time</u>* <u>(35 hours or more per week)</u> and *<u>part-time</u>* <u>(fewer than 35 hours per week) in primary care</u> at this practice site?

Please include all staff who work at this practice site, regardless of who employs them. Please enter "0" if there are no such staff at this practice site.

	NUMBER <u>FULL-TIME</u> AT PRACTICE SITE	**NUMBER <u>PART-TIME</u> AT PRACTICE SITE**
a. Registered Nurse (RN)	|___|___|___|	|___|___|___|
b. Licensed practical nurse (LPN) or licensed vocational nurse (LVN)	|___|___|___|	|___|___|___|
c. Medical Assistant	|___|___|___|	|___|___|___|

C9. Does this practice site have individuals working full-time or part-time in any of the following job roles? Please include all staff who work at this practice site, regardless of who employs them.

MARK ONE RESPONSE PER ROW

	YES	NO
a. Clinical psychologist, psychiatrist, or clinical social worker (behavioral health specialists)	1 ☐	0 ☐
b. Referral coordinator or referral specialist (someone who obtains prior authorizations, helps patients obtain appointments with specialists, and/or tracks referrals to specialists)	1 ☐	0 ☐
c. Quality improvement (QI) specialist	1 ☐	0 ☐
d. Health educator, dietitian, or nutritionist	1 ☐	0 ☐
e. Clinical pharmacist or doctor of pharmacy	1 ☐	0 ☐

C10. This question is about <u>care managers/care coordinators who work as part of a practice's care team, regardless of who employs them or where they are located</u>.

A care manager/care coordinator works with high-risk patients between and during visits to provide ongoing support and education on chronic care management, and coordinates care from other providers. A care team consists of staff who regularly work together to provide patient care.

How many <u>full-time</u> and <u>part-time</u> care manager(s) and/or care coordinator(s) work as part of a care team at this practice site to address the needs of its patients? Please include all staff who work at this practice site, regardless of who employs them. Please enter "0" if no care managers or care coordinators work as part of a care team at this practice site.

	NUMBER OF STAFF
a. Full-time care managers and care coordinators	|___|___|___|
b. Part-time care managers and care coordinators	|___|___|___|

C11. What is the clinical background of the care managers or care coordinators at this practice site?

MARK ALL THAT APPLY

1 ☐ Registered nurse (RN)

2 ☐ Licensed practical nurse (LPN) or licensed vocational nurse (LVN)

3 ☐ Medical assistant (MA)

4 ☐ Social worker

5 ☐ Other clinical background

6 ☐ No clinical background

7 ☐ No care manager or care coordinator at this practice site

C11a. Do any care managers and/or care coordinators at this practice site have behavioral health training (such as screening for and monitoring of mental health conditions, and providing education and self-management support)?

1 ☐ Yes

0 ☐ No

SECTION D: Omitted from this year's survey.

E. DATA FEEDBACK ON PRACTICE SITE'S PERFORMANCE

Practices may receive data feedback on the performance of the practice, including feedback on patient experience, quality, cost, or utilization. This data feedback may be provided by private health insurers, Medicaid, Medicare, your own organization, state health agencies, or others.

E1. In the past 12 months, has this practice site received any data feedback on the performance of the practice or physicians within the practice site?

1 ☐ Yes

0 ☐ No → **GO TO E3**

E2. For each type of data feedback that this practice site may have received in the past 12 months, please indicate if this practice site has changed how it delivers care in response to this feedback.

MARK ONE RESPONSE PER ROW

	DID PRACTICE SITE CHANGE HOW IT DELIVERS CARE IN RESPONSE TO DATA FEEDBACK?				
	DID NOT RECEIVE THIS TYPE OF DATA FEEDBACK	YES, MAJOR CHANGES	YES, MINOR CHANGES	NO CHANGE	DON'T KNOW IF CHANGES WERE MADE
a. Patient experience (from surveys)	0 ☐	1 ☐	2 ☐	3 ☐	d ☐
b. Quality of care	0 ☐	1 ☐	2 ☐	3 ☐	d ☐
c. Cost	0 ☐	1 ☐	2 ☐	3 ☐	d ☐
d. Utilization	0 ☐	1 ☐	2 ☐	3 ☐	d ☐

E3. Does this practice site get data on what insurers pay for specialist services? These data may be provided by insurers or other organizations.

Please consider the costs to the insurer, not the cost to the patient.

MARK ONE ONLY

1 ☐ Yes, we get data on what all insurers pay

2 ☐ Yes, we get data on what some insurers pay

0 ☐ No, we do not get data on what any insurers pay → **SKIP TO SECTION F**

E4. How often does this practice site use these data on what insurers pay for specialist services to inform where to refer patients for specialist services?

MARK ONE ONLY

1 ☐ Never or rarely

2 ☐ Sometimes

3 ☐ Frequently

4 ☐ Usually or always

F. HEALTH INFORMATION TECHNOLOGY

F1. Does this practice site use an Electronic Health Record (EHR) system?

1 ☐ Yes

0 ☐ No → **GO TO F4**

F2. Does this practice site use data extracts or reports generated from the EHR to guide quality improvement (QI) efforts?

1 ☐ Yes

0 ☐ No

d ☐ Don't know

F3. For each of the following types of providers, please think of the specific providers where most of your patients obtain care. With how many of these providers does this practice site electronically send and receive patient clinical data?

MARK ONE RESPONSE PER ROW

	ELECTRONICALLY SENDS AND RECEIVES PATIENT CLINICAL DATA WITH…				
	NONE	SOME	MOST	ALL	DON'T KNOW
a. Hospitals	0 ☐	1 ☐	2 ☐	3 ☐	d ☐
b. Specialist practices	0 ☐	1 ☐	2 ☐	3 ☐	d ☐
c. Diagnostic service facilities (lab or imaging)	0 ☐	1 ☐	2 ☐	3 ☐	d ☐

F4. Does this practice site currently participate in a state or regional health information exchange?

1 ☐ Yes

0 ☐ No

d ☐ Don't know

G. PRACTICE SITE REVENUES

G1. During the 2018 calendar year, what percentage of this practice site's revenue came from fee-for-service (FFS) payments? Please include FFS payments from all insurers.

Your best estimate is fine.

PERCENTAGE OF 2018 PRACTICE REVENUE FROM FEE-FOR-SERVICE |___|___|___|%

G2. During the 2018 calendar year, did any portion of this practice site's revenue come from the following sources?

	MARK ONE RESPONSE PER ROW		
	YES	**NO**	**DON'T KNOW**
a. Care management fees (prospective payments to support care management for patients, paid in addition to usual payments for services)	1 ☐	0 ☐	d ☐
b. Capitation (per-patient per-month payment for specific patients, intended to cover costs of some or all services provided, regardless of amount or type, in lieu of fee-for-service payments). Do not include the care management fees described in item a. above. [TRACK 2 CPC+ PRACTICES THAT JOINED CPC+ IN 2017, INCLUDING PARTICIPATING AND WITHDRAWN PRACTICES: Please include the CPC+ Comprehensive Primary Care Payment (CPCP) here.]	1 ☐	0 ☐	d ☐
c. Episode-based payments (a fixed payment for all services needed for a patient with a particular condition, such as an upper respiratory infection or urinary tract infection)	1 ☐	0 ☐	d ☐
d. Shared savings, in which costs of care are compared to an expenditure target or to costs for another group of practices and a proportion of any savings are shared with practices.	1 ☐	0 ☐	d ☐
e. Financial rewards or bonuses from insurers for improving quality of care, patient experience, and/or controlling costs, not including shared savings. [CPC+ PARTICIPATING PRACTICES THAT JOINED CPC+ IN 2017 AND WERE NOT IN A SSP IN 2018: Please include CMS's CPC+ Performance-Based Incentive Payment (PBIP) here./ CPC+ TWD PRACTICES THAT JOINED CPC+ IN 2017 AND WERE NOT IN A SSP IN 2018: Please include CMS's CPC+ Performance-Based Incentive Payment (PBIP) unless your practice stopped participating in CPC+ during the 2018 calendar year.]	1 ☐	0 ☐	d ☐
f. Other payments *(please describe)* _____	1 ☐	0 ☐	d ☐

G3. During the 2018 calendar year, what portion of this practice site's revenue was tied to cost or quality performance?

Insurers may refer to payments tied to cost or quality performance as 'performance bonuses,' 'merit based incentive payments,' 'shared savings or shared losses,' or 'payment withholds.'

[CPC+ PARTICIPATING PRACTICES THAT JOINED CPC+ IN 2017 AND WERE NOT IN A SSP IN 2018: Please consider CMS's CPC+ Performance-Based Incentive Payment (PBIP) as revenue that is tied to cost or quality performance./ CPC+ TWD PRACTICES THAT JOINED CPC+ IN 2017 AND WERE NOT IN A SSP IN 2018: Please consider CMS's CPC+ Performance-Based Incentive Payment (PBIP) as revenue that is tied to cost or quality performance, unless your practice stopped participating in CPC+ during the 2018 calendar year.]

Your best estimate is fine.

PERCENTAGE OF 2018 PRACTICE REVENUE TIED TO COST OR QUALITY PERFORMANCE |___|___|___|%

H. CPC+ PAYMENTS

[SECTION H IS ONLY FOR CPC+ PARTICIPATING PRACTICES OR CPC+ TWD PRACTICES THAT HAVE WITHDRAWN WITHIN ONE YEAR OR LESS]

The following sections are about your practice's experience with CPC+. The questions in this section are about this practice site's CPC+ payments from Medicare FFS and CPC+ payer partners. Please note that we will NOT share practice-identifiable responses to this section (or any of your other responses to this survey) with CMS or CPC+ payer partners.

[CPC+ TWD PRACTICES THAT HAVE WITHDRAWN WITHIN ONE YEAR OR LESS: We are aware that this practice site is no longer participating in CPC+. Please answer the questions in this section to the best of your ability based on this practice site's experience when it was participating in CPC+.]

H1. [IF TRACK 1 AND PARTICIPATED IN AN SSP IN 2017 AND 2018 AND 2019 (ALL THREE YEARS): This question]/[ALL OTHERS: The first set of questions] is about CPC+ payments from Medicare fee-for-service (FFS).

Overall, considering the amount of work required by CPC+, how adequate or inadequate are the CPC+ payments from Medicare FFS?

1 ☐ More than adequate

2 ☐ Adequate

3 ☐ Less than adequate

d ☐ Don't know– not familiar with CPC+ payments from Medicare FFS or costs of doing CPC+ work

H2. [IF DID NOT PARTICIPATE IN AN SSP IN AT LEAST ONE OF THE YEARS BETWEEN 2017 - 2019]: The Performance-Based Incentive Payment (PBIP) is paid by CMS prospectively at the beginning of each program year. After each program year ends, CMS retrospectively reconciles the amount of PBIP that a practice earned based on how well the practice performed on patient experience of care measures, clinical quality measures, and utilization measures that drive total cost of care.

Thinking about this practice's experience with the PBIP payments and recoupments from Medicare FFS, please indicate how much you agree or disagree with the following statements.

MARK ONE RESPONSE PER ROW

	STRONGLY DISAGREE	DISAGREE	AGREE	STRONGLY AGREE	DON'T KNOW
a. Our practice <u>understands</u> how Medicare FFS calculates the proportion of the Performance-Based Incentive Payment (PBIP) my practice retains and the proportion CMS recoups	1 ☐	2 ☐	3 ☐	4 ☐	
b. Our practice feels that Medicare FFS's methodology <u>is fair</u> in how it determines the proportion of the Performance-Based Incentive Payment (PBIP) my practice retains and the proportion CMS recoups	1 ☐	2 ☐	3 ☐	4 ☐	d ☐

H3. [IF TRACK 2]: The Comprehensive Primary Care Payment (CPCP) is a lump sum quarterly payment paid to Track 2 practices based on their historical FFS payment amounts for evaluation and management (E&M) services. Track 2 practices' FFS payments for these services are reduced to account for the CPCP.

Thinking about this practice's experience with the CPCP payments from Medicare FFS for CPC+, please indicate how much you agree or disagree with the following statements.

MARK ONE RESPONSE PER ROW

	STRONGLY DISAGREE	DISAGREE	AGREE	STRONGLY AGREE	DON'T KNOW
a. Our practice <u>understands</u> how Medicare FFS calculated its Comprehensive Primary Care Payments (CPCPs)	1 ☐	2 ☐	3 ☐	4 ☐	
b. Our practice feels that Medicare FFS' methodology <u>is fair</u> in how it calculates Comprehensive Primary Care Payments (CPCPs)	1 ☐	2 ☐	3 ☐	4 ☐	d ☐

H4. CPC+ payer partners are payers other than Medicare FFS that participate in CPC+. The next set of questions is about CPC+ payments from CPC+ payer partners. These payers include private health insurers, Medicare Advantage, Medicaid FFS, and Medicaid Managed Care.

Does this practice contract with CPC+ payer partners for CPC+?

1 ☐ Yes

0 ☐ No → **GO TO SECTION I**

H4a. Overall, considering the amount of work required by CPC+, how adequate or inadequate are the CPC+ payments across the CPC+ payer partners you work with on CPC+?

CPC+ payments from these payers could include care management fees; full or partial capitated, global, or bundled payments; or payments that reward cost or quality performance.

1 ☐ More than adequate

2 ☐ Adequate

3 ☐ Less than adequate

d ☐ Don't know– not familiar with CPC+ payments from CPC+ payer partners or costs of doing CPC+ work

H5. Thinking across all of the CPC+ payer partners you work with on CPC+, please indicate how much you agree or disagree with the following statements about this practice's experience with CPC+ payments from these CPC+ payer partners.

MARK ONE RESPONSE PER ROW

	STRONGLY DISAGREE	DISAGREE	AGREE	STRONGLY AGREE	DON'T KNOW
a. Our practice understands which payments we receive from CPC+ payer partners for CPC+	1 ☐	2 ☐	3 ☐	4 ☐	
b. Our practice understands how CPC+ payer partners calculated their CPC+ payments	1 ☐	2 ☐	3 ☐	4 ☐	
c. Our practice feels that the CPC+ payer partners' methodology to calculate CPC+ payments is fair	1 ☐	2 ☐	3 ☐	4 ☐	d ☐

I. LEARNING ACTIVITIES AND ASSISTANCE IN CPC+

[Section I is only for CPC+ PARTICIPATING practices OR CPC+ TWD PRACTICES THAT HAVE WITHDRAWN WITHIN ONE YEAR OR LESS]

These questions are about the learning activities and assistance that the CPC+ National Learning Community and Regional Learning Network provided to this practice site as part of CPC+. Please note, we will NOT share practice-identifiable responses to these questions with the National Learning Community or Regional Learning Network.

[CPC+ TWD PRACTICES THAT HAVE WITHDRAWN WITHIN ONE YEAR OR LESS: We are aware that this practice site is no longer participating in CPC+. Please answer the questions in this section to the best of your ability based on this practice site's experience when it was participating in CPC+.]

I1. Overall, how would you rate the quality of all services from [NAMES OF REGIONAL LEARNING NETWORK ORGANIZATIONS] in meeting this practice site's CPC+-related needs and helping improve primary care?

MARK ONE ONLY

1 ☐ Excellent
2 ☐ Very good
3 ☐ Good
4 ☐ Fair
5 ☐ Poor

I2. The CPC+ National Learning Community and Regional Learning Network offer assistance to practices in a variety of ways. For each of the following types of assistance that this practice site may have received in the <u>past six months</u>, please rate how useful this assistance has been to this practice site in improving primary care.

MARK ONE RESPONSE PER ROW

	NOT AT ALL USEFUL	NOT VERY USEFUL	SOMEWHAT USEFUL	VERY USEFUL	NEVER RECEIVED OR ATTENDED
a. Webinars (for example, Action Groups, Practices in Action meetings, or national webinars)	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
b. Health IT Affinity Groups (groups enabling CPC+ practices to network with their health IT vendors or other practices that use the same health IT)	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
c. In-person learning sessions	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
d. In-person coaching at this practice site	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
e. One-on-one telephone/virtual coaching with this practice site to improve practice processes and workflows	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
f. CPC+ Connect (the online information resource and collaboration website for CPC+)	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
g. CPC+ Implementation Guides	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
h. CPC+ Practice Spotlights (articles highlighting the work of individual CPC+ practices)	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
i. CPC+ Support (CPC+ help desk managed by Telligen)	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
j. Regional Implementation Networking Groups (also called RINGs; attended by care managers and practice managers)	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐

I3. [IF HAD CPC+ PAYER PARTNERS]: In addition to the support from the CPC+ National Learning Community and Regional Learning Network, CPC+ payer partners may provide their own support and assistance. For each of the following types of assistance that this practice site may have received from CPC+ payer partners in the past six months, please rate how useful this assistance has been to this practice site in improving primary care.

CPC+ payer partners are payers other than Medicare FFS that participate in CPC+.

	MARK ONE RESPONSE PER ROW				
	NOT AT ALL USEFUL	**NOT VERY USEFUL**	**SOMEWHAT USEFUL**	**VERY USEFUL**	**NEVER RECEIVED OR ATTENDED**
a. On-site care manager provided by the payer	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
b. Telephone-based care manager provided by the payer	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
c. Explanation of payers' CPC+ payment methodologies	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
d. Training on how to access data feedback provided by the payer	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
e. Training on how to use data feedback provided by the payer	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
f. Coaching on how to improve practice processes and workflows	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐

J. PRACTICE SITE INVOLVEMENT AND PERCEPTIONS OF CPC+

[SECTION J IS ONLY FOR CPC+ PARTICIPATING PRACTICES OR CPC+ TWD PRACTICES THAT HAVE WITHDRAWN WITHIN ONE YEAR OR LESS]

[CPC+ TWD PRACTICES THAT HAVE WITHDRAWN WITHIN ONE YEAR OR LESS: We are aware that this practice site is no longer participating in CPC+. Please answer the questions in this section to the best of your ability based on this practice site's experience when it was participating in CPC+.]

J1. Thinking of the different types of staff at this practice site, how involved is each type of staff in implementing CPC+?

MARK ONE RESPONSE PER ROW

	VERY INVOLVED	SOMEWHAT INVOLVED	NOT VERY INVOLVED	NOT AT ALL INVOLVED
a. Medical director or clinician lead at this practice site	1 ☐	2 ☐	3 ☐	4 ☐
b. Physicians	1 ☐	2 ☐	3 ☐	4 ☐
c. Nurse practitioners (NPs), clinical nurse specialists (CNSs), or physician assistants (PAs)	1 ☐	2 ☐	3 ☐	4 ☐
d. Clinical support staff	1 ☐	2 ☐	3 ☐	4 ☐
e. Clerical support staff	1 ☐	2 ☐	3 ☐	4 ☐

J2. Thinking about this practice organization, how involved are system-level leadership (e.g., chief executive officer (CEO) or chief medical officer (CMO)) in implementing CPC+?

0 ☐ Practice site is independent and not part of a system

1 ☐ Very involved

2 ☐ Somewhat involved

3 ☐ Not very involved

4 ☐ Not at all involved

J3. In answering this question, please consider the:

- **Improvements made to the practice site's care delivery,**
- **CPC+ participation requirements (including care delivery, health IT, and reporting requirements), and**
- **CPC+ supports (payments, learning activities, data feedback, and health IT vendor support).**

Given this practice's overall experience participating in CPC+, how likely is it that this practice would participate in CPC+ if this practice could do it all over again?

MARK ONE ONLY

1 ☐ Very likely
2 ☐ Somewhat likely
3 ☐ Not very likely
4 ☐ Not at all likely

J4. How much has participation in CPC+ improved the quality of care that this practice currently provides to its patients?

MARK ONE ONLY

1 ☐ A lot
2 ☐ Somewhat
3 ☐ Not very much
4 ☐ Not at all

J5. How burdensome are the following requirements in CPC+?

MARK ONE RESPONSE PER ROW

	NOT AT ALL BURDENSOME	NOT VERY BURDENSOME	SOMEWHAT BURDENSOME	VERY BURDENSOME	DON'T KNOW
a. Meeting care delivery requirements	1 ☐	2 ☐	3 ☐	4 ☐	d ☐
b. Completing care delivery reporting requirements	1 ☐	2 ☐	3 ☐	4 ☐	d ☐
c. Completing financial reporting requirements	1 ☐	2 ☐	3 ☐	4 ☐	d ☐
d. Meeting health IT requirements	1 ☐	2 ☐	3 ☐	4 ☐	d ☐

J6. How useful are the following supports provided by CPC+ in improving primary care? Please consider supports from all payers participating in CPC+.

MARK ONE RESPONSE PER ROW

	NOT AT ALL USEFUL	NOT VERY USEFUL	SOMEWHAT USEFUL	VERY USEFUL	DON'T KNOW
a. Financial support	1 ☐	2 ☐	3 ☐	4 ☐	d ☐
b. Learning support	1 ☐	2 ☐	3 ☐	4 ☐	d ☐
c. Data feedback	1 ☐	2 ☐	3 ☐	4 ☐	d ☐
d. Health IT vendor support	1 ☐	2 ☐	3 ☐	4 ☐	d ☐

K. PRACTICE SITE CONTACT INFORMATION AND SURVEY COMPLETION

K1. Please provide the following information for this practice site.

Practice Site Name: _____

Physical Street Address: _____

City: _____ State: _____ Zip Code: _____

Practice Site Telephone Number: _____

Mailing Address: _____

City: _____ State: _____ Zip Code: _____

K2. Please provide the name, title, email, and phone number of the person who completed this survey so we know who to contact if we have any questions.

Name: _____

Title: _____

Email: _____

Telephone Number: _____

K3. Please confirm the name and address of the person who should receive the check for completing the survey. You may enter your practice name in the "Name of Check Recipient" field if you prefer that the check be made out to your practice. If you are unable to accept payment, please mark the box that says, "Do not send payment" and leave the remaining fields blank. [Only for comparison and treatment withdrawn practices]

☐ Do not send payment

Name of Check Recipient: _____

Address: _____

City: _____ State: _____ Zip Code: _____

K4. Who filled out this survey or provided input to complete this survey?

MARK ALL THAT APPLY

1 ☐ Practice or office manager (e.g., clinic manager, office coordinator, office supervisor)
2 ☐ Lead physician
3 ☐ Other physicians
4 ☐ Nurse practitioner (NP), clinical nurse specialist (CNS), or physician assistant (PA)
5 ☐ Care manager or coordinator
6 ☐ Nursing staff, including nurse manager or supervisor
7 ☐ Medical assistant staff
8 ☐ Quality improvement staff (e.g., quality manager or coach, population health staff)
9 ☐ Administrative support staff (e.g., billing or finance staff, front desk staff)
10 ☐ Non-physician owner of practice
11 ☐ Leadership or staff from our larger health care system or medical group (e.g., CEO, CMO)
12 ☐ Data analytics staff (e.g., EMR analyst, health IT team)
13 ☐ CPC+ lead
14 ☐ Patients
99 ☐ Other *(specify)* _____

K5. Please add any comments about this survey here.

Thank you for completing the survey!

INSTRUCTIONS TO SUBMIT THE COMPLETED SURVEY

If you complete a paper survey, please return your **completed** survey to:

BY MAIL: Mathematica – CPC Plus
P.O. Box 2393
Princeton, NJ 08543-9809

BY EMAIL: CPCPlusPracticeSurvey@mathematica-mpr.com

BY FAX: 1-609-799-0005
Attn: CPC Plus Practice Survey

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3.C. Physician Survey

This Appendix describes the CPC+ Physician Survey used to assess the experiences of primary care physicians in practices that began participating in Comprehensive Primary Care Plus (CPC+) in 2017 and in comparison (non-participating) practices. It details survey fielding (Section 1), sampling and weighting methods (Section 2), survey content (Section 3), and analytic methods (Section 4). Data tables are in Section 5, and the survey instrument is in Section 6.

3.C.1. Survey fielding

A. Timing of survey administration

Mathematica administered the 2019 CPC+ Physician Survey to a sample of primary care physicians in CPC+ and comparison practices during Program Year (PY) 3 from August 2019 through December 2019, about 2.5 to 3 years after CPC+ began.

B. Survey mode, fielding procedures, length, and incentives

Mathematica designed and administered the survey as both a web and a paper survey. We obtained mailing and email addresses for most CPC+ and comparison physicians in the sample we fielded the survey to (described in Section 2) from IQVIA, a marketing organization that collects information directly from all health care practices and physicians in the United States. We could not locate mailing addresses for 189 (4 percent) CPC+ physicians in our sample using IQVIA data, so we obtained addresses for these physicians from CPC+ practitioner tracking data. We obtained email addresses from IQVIA for 82 percent of the physicians in the sample. At the beginning of the fielding period, we sent an invitation packet describing how to complete the web survey to all physicians selected to participate in the survey; we sent the packet by email to most of these physicians, and by mail to those for whom we did not have email addresses. We later sent paper surveys to physicians who did not complete the web survey within a pre-set period. We ran an experiment within the survey, in which we randomly assigned physicians to receive a paper survey if they did not respond to the web survey after five or nine weeks.[16] Our fielding process included up to six reminder emails or postcards, and three reminder letters (Table 3.C.1).

While we administered the physician survey, Mathematica and Telligen were also administering the PY 3 CPC+ practice survey to all CPC+ and comparison practices.[17] To ensure that the physicians and practices that received both surveys understood that the CPC+ physician and CPC+ practice surveys were different, we included a note in the reminder letters and emails that

[16] We hypothesized that sending the paper survey to some physicians later in the fielding period would push more respondents to the web survey earlier in the fielding period. After 10 weeks, we did not see a difference in the return rates between the two experimental groups. At this point, we ended the experiment and continued with the same fielding schedule for all remaining nonrespondents.

[17] Mathematica administered the survey to comparison practices and Telligen administered the survey to CPC+ practices.

explained they had been selected for both samples and that it was important to participate in both surveys.

Table 3.C.1. Fielding procedures for the PY 3 CPC+ Physician Survey

Week of field period	Physicians with email address	Physicians without email address
Week 1	Invitation Packet (with targeted communication to physician overlap cases[a])	Invitation Packet (with targeted communication to physician overlap cases[a])
Week 2	No communication	Postcard Reminder #1
Week 3	Email Reminder #1	No communication
Week 4	Reminder letter #1 (with targeted communication to practice overlap cases[a])	Reminder letter #1 (with targeted communication to practice overlap cases[a])
Week 5	No communication	No communication
Week 6	Hard copy #1 to all Group A physicians[b] Reminder letter #2 to all Group B physicians[a]	Hard copy #1 to all Group A physicians[b] Reminder letter #2 to all Group B physicians[a]
Week 7	Email reminder #2	Postcard reminder #2
Week 8	No communication	No communication
Week 9	Reminder letter #2 to Group A physicians[a] Hard copy #1 to Group B physicians[b]	Reminder letter #2 to Group A physicians[a] Hard copy #1 to Group B physicians[b]
Week 10	Email reminder #3	Postcard reminder #3
Week 11	No communication	No communication
Week 12	No communication	No communication
Week 13	Hard copy #2, including replacement $100 check	Hard copy #2, including replacement $100 check
Week 14	Email reminder #4	Postcard reminder #4
Week 15	Reminder phone calls to physicians at small practices[c]	Reminder phone calls to physicians at small practices[c]
Week 16	Hard copy #3 to all physicians	Hard copy #3 to all physicians
Week 17	Email reminder #5	Postcard reminder #5
Week 18	No communication	No communication
Week 19	Reminder letter #3 to all physicians	Reminder letter #3 to all physicians
Week 20	Email reminder #6	No communication

[a] Physician overlap cases refer to physicians who were selected to respond to both the PY 3 CPC+ practice and physician surveys. There were 172 CPC+ and comparison physicians classified as overlap physicians at the start of survey fielding. *Practice* overlap cases refer to physicians whom we sampled for the physician survey who belonged to practices that were also contacted to respond to the practice survey, regardless of whether the individual *or someone else from the practice* was contacted to respond to the practice survey. There were 5,394 CPC+ and comparison physicians who were classified as being a practice overlap case at the start of survey fielding. Targeted communication in the invitation packet and reminder letter #1 highlighted the differences between the practice and physician surveys and encouraged the respondent to participate in the physician survey.

[b] We incorporated an experiment to test whether sending the hard copy survey to some physicians later in fielding would push more respondents to the web survey earlier in the fielding period. To test this, we constructed two experiment groups. Group A received a hard copy survey if they had not responded to the web survey after five weeks, and Group B received a hard copy survey if they had not responded to the web survey after nine weeks. After 10 weeks, we did not see a difference in the return rates between the two groups.

[c] We conducted reminder phone calls only to physicians in small practices (practices with only one or two total physicians) because we expected that it would be easier to reach physicians in small practices compared to large practices.

The survey required 20 to 25 minutes to complete for physicians in CPC+ practices and 15 to 20 minutes for physicians in comparison practices. All physicians received a $100 prepaid check as an incentive for completing the survey.

To encourage physicians to respond candidly, the survey introduction explained that responses would be collected in a confidential manner and would be anonymous in all reports (i.e., would never be linked to the physician's name or practice in any reports to the practice, CMS, other payers, or the public). In addition, respondents were told that their responses would not have any consequences for payment or for their participation in CPC+.

3.C.2. Sampling and weighting methods

A. Sampling methods

Sample frame. We surveyed a sample of primary care physicians from CPC+ and comparison practices. To be eligible for inclusion in the sample, we required physicians to have their own National Provider Identifier (NPI), to be a Doctor of Medicine (MD) or a Doctor of Osteopathic Medicine (DO), and to have a primary specialty of primary care. We identified the physicians at CPC+ and comparison practices using data from three sources: (1) a February 2019 extraction of IQVIA's OneKey database,[18] (2) an October 2018 extraction of IQVIA's SK&A databases (a legacy of OneKey), and (3) for physicians in CPC+ practices that we could not locate in the OneKey and SK&A databases, a May 2019 extraction of the CPC+ practitioner tracking data.

Using the OneKey database, we were able to identify physicians for 2,440 out of 2,888 CPC+ practices and 5,672 out of 6,921 comparison practices (Table 3.C.2). We then searched the SK&A database for the 448 CPC+ and 1,249 comparison practices that were not in OneKey. Using the SK&A database, we were able to identify physicians for 73 of the 448 CPC+ practices and 360 of the 1,249 comparison practices. Finally, we used the CPC+ practitioner tracking data to obtain the list of physicians in 128 of the remaining 375 CPC+ practices that were not in the SK&A or OneKey databases.[19] In total, we were able to identify physicians for our sampling frame from 2,641 (or 91 percent) of the 2,888 CPC+ practices[20] and 6,032 (87 percent) of the 6,921 comparison practices. Table 3.C.2 presents the sources of the sample frame. More specific details on the sample frame and selected physician sample can be found in Table 3.C.3.

[18] Sample frame data for 54 practices in OneKey were pulled in November 2018.

[19] CPC+ practices maintain practitioner rosters on the CPC+ Practice Portal and update these rosters quarterly to CMS for payment eligibility.

[20] Of the 247 CPC+ practices that were not included in the final sample, 119 were determined to be closed or merged with another practice. The remaining 128 CPC+ practices were excluded because they had no primary care physicians (MD or DO) eligible for sample selection.

Table 3.C.2. Number of CPC+ and comparison practices whose primary care physicians were identified for the sample frame using each data source

	CPC+ practices			Comparison practices		
Sample frame source	Track 1	Track 2	Total	Track 1	Track 2	Total
Total number of study practices	**1,382**	**1,515**	**2,888**	**5,267**	**3,801**	**6,921**
Total number of study practices in sample frame[a]	**1,247**	**1,403**	**2,641**	**4,578**	**3,349**	**6,032**
February 2019 OneKey	1,135	1,313	2,440	4,303	3,190	5,672
October 2018 SK&A	45	29	73	275	159	360
May 2019 CPC+ practitioner tracking data	67	61	128	--	--	--

Note: Counts of practices in each track are not mutually exclusive. There are 9 CPC+ practices included in both tracks in total and in the sample frame. Among comparison practices there are 2,147 total and 1,895 in the sample frame that are included in both tracks.

[a] The number of practices for which we were able to identify primary care physicians at the practice site for the survey using one of the three data sources listed.

Inclusion criteria. To be eligible for inclusion in the sample frame, in addition to having their own NPI and being an MD or DO, we required physicians to have one of the primary specialty descriptions listed below, depending on whether we identified them in OneKey, SK&A, or in the CPC+ practitioner tracking data.

If a physician was identified in the OneKey database, we required them to have one of the following primary specialty designations:

- Family medicine,
- Geriatric medicine (family medicine),
- General practice,
- Internal medicine/family medicine,
- Internal medicine,
- Geriatric medicine (internal medicine),
- Internal medicine/preventive medicine,
- Internal medicine/emergency medicine,
- General preventive medicine,
- Internal medicine/pediatrics,
- Hospice & palliative medicine (internal medicine),
- Hospice & palliative medicine,
- Hospice & palliative medicine (emergency medicine), or
- Hospice & palliative medicine (family medicine).

If a physician was identified in the SK&A database, we required them to have one of the following primary specialty designations:

- Internal medicine,
- Geriatrics,
- General practice,
- Family/medicine practice, or
- Internal medicine/pediatrics.

If a physician was identified using the CPC+ practitioner tracking data:

- We required the physician to be actively working at the practice as of May 2019, if the practice was still actively participating in CPC+. If the practice was no longer participating in CPC+, the physician's termination date had to be the same as the practice's withdrawal date.
- We assumed all physicians reported in the CPC+ practitioner tracking data were primary care physicians.

Sampling CPC+ physicians. Reflecting our goals to (1) have respondents from as many CPC+ practices as possible, and (2) obtain minimum detectable effects between 5.0 and 6.0 percentage points, we selected up to two physicians per CPC+ practice for the survey. If there were two or fewer physicians in the practice who met our eligibility criteria, we selected all of the physicians in the practice for the survey. If there were more than two eligible physicians in the practice, we randomly selected two physicians for the survey. We sampled physicians from about 90 percent of Track 1 CPC+ practices and about 92 percent of Track 2 CPC+ practices (see Table 3.C.3).

Sampling comparison physicians. Our goal for sampling the comparison physicians was to select a sample of physicians from comparison practices who had a similar distribution of practice-level characteristics as the CPC+ physicians. We had to focus on obtaining comparable practice-level characteristics for CPC+ and comparison physicians because we had very limited physician-level data (i.e., physician characteristics) for our sampling frame. By focusing on constructing a sample of comparison physicians who had practice characteristics similar to those of the CPC+ physicians, we placed less emphasis on having comparison physicians from a large percentage of the comparison practices and more emphasis on having comparison physicians from practices that were similar to the CPC+ practices. In doing so, we selected physicians from comparison practices with a probability proportional to their practice's matching weight. The practice's matching weight indicates how similar the practice's characteristics are to those of the CPC+ practices. Therefore, physicians in comparison practices that most resembled CPC+ practices (i.e., had large matching weights) had greater probability of being selected for the survey. On average, we selected about 0.6 physicians per comparison practice, with a minimum of 0 and a maximum of 22 physicians from each comparison practice. We sampled physicians from about 38 percent of Track 1 comparison practices and about 45 percent of Track 2 comparison practices (see Table 3.C.3).

B. Eligibility and weighting

Determining eligibility. After we received submitted questionnaires, we classified the eligibility status of all survey respondents as eligible, ineligible, or unknown eligibility using **survey responses and other information from the data collection process.**

We considered a case **eligible** if we could discern that the respondent is a physician who provided primary care at the practice from which we sampled them. There are two pathways to eligibility:

- The respondent indicated on the survey that they provide primary care to patients at the practice site listed on the survey (question A2 = 1), or
- The respondent did not answer question A2, but they indicated that their practice name and address are listed correctly on the survey (question I11 = 1) and they responded to most non-demographic survey questions.

We considered a case **ineligible** if we could discern that the respondent does not provide primary care at the practice from which we sampled them or if they are not a primary care physician. There are four pathways to ineligibility:

- The respondent indicated on the survey that they do not provide primary care to patients at the practice site listed on the survey (question A2 = 0), or
- We received notification via undeliverable mail, email, or phone call that the respondent does not provide primary care at the practice, or
- We received notification via email or phone call that the respondent is deceased, or
- The practice closed before the survey was fielded.

We considered a case to have **unknown eligibility** if we could not assign it to be eligible or ineligible, meaning that we do not know if the physician provides primary care at the practice. When we calculated weighting adjustments for nonresponse and response rates, we used additional data sources to provide more information on the status of physicians who were originally identified as having unknown eligibility. We used this information to reduce the number of those with unknown eligibility, improving the weighting adjustments and the accuracy of the response rates. More information on these adjustments for weighting and nonresponse is provided below.

Sample sizes and response rates. We invited 4,389 physicians[21] (2,003 in Track 1 and 2,402 in Track 2)[22] of the 8,344 physicians in CPC+ practices, and 3,846 physicians (3,007 in Track 1 and 2,770 in Track 2)[23] of the 17,752 physicians in comparison practices to participate in the survey (Table 3.C.3).[24]

Before calculating response rates, we obtained data from a more recent extraction of OneKey data, Medicare claims, and NPI deactivation data (from the National Plan and Provider Enumeration System) to update the eligibility for the nonresponding physicians who were originally determined to have an unknown eligibility status (described above). We did this to reduce the number of nonresponding physicians with unknown eligibility, meaning our calculated response rates would rely less on the estimated eligibility rate for those with unknown status. Specifically, we used OneKey data extracted in November 2019, the date of the last Medicare reimbursement claim made by the physician for evaluation and management services at the practice, or their NPI deactivation date. If the last Medicare reimbursement claim or NPI deactivation occurred prior to fielding the survey, we considered the physician ineligible. If the date of either occurred after the survey was in the field, we considered the physician eligible. If the physician had no Medicare reimbursement claim or an NPI deactivation date, we did not change their eligibility status.

We obtained response rates of about 68 percent for physicians in CPC+ practices (68 percent for Track 1 and 67 percent for Track 2) and 54 percent for comparison physicians in each track.

For the Track 1 analysis, our analytic sample includes responses from 1,257 CPC+ physicians and 1,427 comparison physicians. These respondents provide primary care in 935 (or 71 percent) of the 1,322 Track 1 CPC+ practices and 1,128 (23 percent) of the 5,007 comparison practices.

For the Track 2 analysis, our analytic sample includes responses from 1,537 CPC+ physicians and 1,319 comparison physicians. These respondents provide primary care in 1,101 (or 76 percent) of the 1,457 Track 2 CPC+ practices and 979 (27 percent) of the 3,612 comparison practices.

[21] Two physicians from one CPC+ practice asked Mathematica not to contact them for CPC+ surveys. These physicians were included in our response rate calculations as eligible nonrespondents.

[22] There are physicians sampled from 9 CPC+ practices that are in both tracks and therefore 16 physicians are included in the analysis for both tracks.

[23] There are 1,931 physicians sampled from 1,163 comparison practices that are in both tracks. Of those physicians, 914 responded to the survey and are included in the analysis for both tracks.

[24] The number of CPC+ physicians includes 75 physicians from 65 practices that withdrew from CPC+ prior to the start of survey fielding. Twenty-eight of these physicians are considered recent withdrawals because their practice withdrew from CPC+ within one year prior to survey fielding. These physicians received a survey similar to CPC+ physicians, with the only difference being that the survey language references their practice's previous participation in CPC+, and not current participation. Forty-seven of these physicians were in practices that withdrew from CPC+ more than one year before the start of the survey. These physicians received a survey similar to comparison physicians.

Table 3.C.3. Sample size and response rates for the PY 3 Physician Survey, CPC+ and comparison practices, by track

	CPC+			Comparison		
	Track 1	Track 2	Total	Track 1	Track 2	Total
Number of physicians						
In sampling frame[a]	3,568	4,808	8,344	13,317	11,262	17,752
Sent surveys	2,003	2,402	4,389	3,007	2,770	3,846
Returned surveys	1,293	1,578	2,861	1,480	1,362	1,900
In analysis sample (returned eligible and complete survey response)	1,257	1,537	2,784	1,427	1,319	1,832
Response rate[b] (percentage, unweighted)	68.9	70.8	69.9	54.4	53.9	54.3
Response rate[b] (percentage, weighted)	68.0	67.2	67.5	54.4	53.9	54.3
Number of practices						
Total number of study practices[c]	1,382	1,515	2,888	5,267	3,801	6,921
In sampling frame (percentage, of total practices)	1,247 (90.2%)	1,403 (92.6%)	2,641 (91.4%)	4,578 (86.9%)	3,349 (88.1%)	6,032 (87.2%)
In selected sample (percentage, of total practices)	1,245 (90.1%)	1,400 (92.4%)	2,636 (91.3%)	1,992 (37.8%)	1,694 (44.6%)	2,523 (36.5%)
With at least one eligible, completed survey in analysis sample (percentage, of practices in sample)	935 (75.1%)	1,101 (78.6%)	2,028 (76.9%)	1,128 (56.6%)	979 (57.8%)	1,430 (56.7%)

[a] The number of physicians in the sampling frame is the number of physicians in the CPC+ and comparison practices identified using the three data sources described in Table 3.C.2. Because we could not identify physicians in 9 percent of CPC+ and 13 percent of comparison practices, the number of physicians in the sampling frame is not the number of physicians in all CPC+ and comparison practices.

[b] The response rate is the number of eligible and complete survey responses, divided by the eligible sample. The eligible sample includes a proportion of the sample with unknown eligibility whom we estimate are eligible following the guidelines of the American Association for Public Opinion Research (AAPOR 2016).

[c] The number of study practices reflects the practices that the impact evaluation uses in its intent-to-treat analysis.

Weighting and nonresponse adjustment. We applied weights to survey responses from CPC+ and comparison physicians to reflect the sampling process, account for survey nonresponse, and ensure that the responding CPC+ and comparison physicians were comparable on various physician- and practice-level characteristics (using physician-level characteristics gathered in the physician survey). Before calculating weights for the CPC+ physicians, we used the CPC+ practitioner tracking data to determine the eligibility status for the CPC+ physicians whose initial status (using the criteria described above) was unknown. To do this, we checked to see if the physician was listed in the most recent extract of the practitioner tracking data. If they were listed, we considered them to be eligible, otherwise we considered them ineligible. Using this method, we were able to classify all but 2 percent of the CPC+ physicians in our sampling frame as eligible or ineligible. The remining 2 percent of CPC+ physicians were among a small portion of the CPC+ physicians whom we identified using the OneKey or SK&A databases but were not listed in the CPC+ practitioner tracking data. We did not make similar determinations for the comparison physicians whose eligibility was originally identified as unknown because the weights we constructed for comparison physicians were designed to ensure comparability between CPC+ and comparison physician respondents (described below) and not to ensure the responding physicians represented all physicians in comparison practices. This additional information had no impact on the set of respondents from CPC+ or comparison practices.

Calculating weights for CPC+ physicians. Reflecting the sampling process, we weighted the responses from CPC+ physicians by the inverse of their probability of selection. Therefore, physicians from larger practices received more weight than physicians from smaller practices, as we assumed their responses reflected the physicians at their practice who were not selected for the survey. To reduce the possibility of biased estimates from survey nonresponse, we applied two adjustments to these weights. First, we adjusted the weights for the probability of having a known eligibility status, which adjusts for the 2 percent of CPC+ physicians with unknown eligibility, and then we adjusted the weights to account for survey nonresponse among the eligible nonrespondents. For both adjustments, we used a combination of nonparametric tests and logistic regressions to estimate response propensities, and then used these estimated propensities to form cells for the weighting adjustments.

Calculating weights for comparison physicians. We constructed weights for the eligible responding comparison physicians so that they were similar to the responding CPC+ physicians, after weighting to adjust for nonresponse among the CPC+ physicians, on a range of key practice- and physician-level characteristics. To construct the weights, we needed only the comparison physicians who responded to the survey and were considered eligible; thus, we excluded all ineligible or nonresponding comparison physicians from this process. We did this by first assigning all responding comparison physicians a weight equal to 1, and then adjusting this weight using a two-step process:

1. First, as discussed above, we sampled comparison physicians such that they had similar practice-level characteristics as the sample of CPC+ physicians. As the first step in the weighting process, we assessed how similar comparison and CPC+ physician respondents were on key practice-level characteristics used in sampling as well as physician-level characteristics that were self-reported in the survey. CPC+ and comparison physician respondents were similar on each of the practice-level characteristics and most physician-level characteristics. For the two physician-level characteristics—gender and race/ethnicity—

where CPC+ and comparison physician respondents differed, we used a procedure called raking to iteratively adjust the base weights (i.e., 1) so the weighted totals of these two variables for the comparison physicians matched those of the CPC+ physicians.

2. Second, after adjusting the weights such that both the physician- and practice-level characteristics of the responding comparison physicians were similar to those of the responding CPC+ physicians, we post-stratified the comparison physician weights so that the sum of their weights equaled the sum of the CPC+ physician weights by Medicare SSP participation and prior primary care transformation experience. This adjustment ensured perfect balance on these two practice-level characteristics, which are important to the evaluation.

This two-step process resulted in weights for the responding comparison physicians that allowed our comparison physicians to resemble the physicians from CPC+ practices in terms of their practice-level and physician-level characteristics. Table 3.C.4 presents the weighted characteristics of the responding physicians from CPC+ and comparison practices, and shows that, after weighting, CPC+ and comparison physicians were similar on all key practice- and physician-level characteristics.

Question (item) nonresponse. Survey respondents were not required to answer each question in the survey. Across all questions in the survey, the rate of question nonresponse among survey respondents varied from 0 to 6 percent, with 99 percent of questions having less than 5 percent item nonresponse. Due to this low rate, we did not adjust responses for question nonresponse and instead calculated results only among question respondents, weighted by survey nonresponse weights described above.

Table 3.C.4. Characteristics of the responding physician and their practice[a]

	Track 1			Track 2		
	CPC+	Comparison	*p*-value[b]	CPC+	Comparison	*p*-value[b]
Physician characteristics (at time of survey response)[c]						
Male	54.6	55.0	0.99	57.8	57.3	0.97
Race/ethnicity			1.00			0.99
Hispanic/Latino	2.6	2.5		2.9	3.0	
Non-Hispanic White	74.5	74.6		77.5	77.4	
Non-Hispanic Black	2.4	2.4		2.6	2.7	
Other or multiple races (non-Hispanic)	17.1	17.0		14.3	14.1	
Current age			0.63			0.33
30–39	13.9	13.0		14.5	14.9	
40–49	26.2	23.7		28.6	24.2	
50–59	31.0	31.2		29.0	30.7	
60–69	21.9	24.9		22.5	24.1	
70 years or older	4.1	4.4		3.4	4.1	
Hours worked per week			0.45			0.36
Less than 40	38.9	36.6		37.8	35.5	
40 hours	21.9	21.5		19.1	21.4	
More than 40 hours	39.1	41.9		43.0	43.1	
Practice characteristics (before CPC+ began)						
Physicians' average practice size	6.9	6.5	0.37	7.8	8.7	0.17
Percentage of physicians in practices that are:[d]			0.46			0.87
Small (1–2 primary care practitioners)	20.6	20.1		12.8	12.1	
Medium (3–5 primary care practitioners)	32.8	35.7		33.5	34.4	
Large (6+ primary care practitioners)	46.6	44.1		53.7	53.5	
Meaningful EHR use[e]	8.8	6.8	0.12	3.8	3.8	0.99
Multispecialty practice[f]	19.1	17.5	0.52	21.8	22.5	0.75

Table 3.C.4. ***(continued)***

	Track 1			Track 2		
	CPC+	Comparison	*p*-value[b]	CPC+	Comparison	*p*-value[b]
Percentage owned by a health system or a hospital[g]	60.0	56.5	0.18	60.3	58.5	0.51
Participant in Medicare SSP ACO	51.0	51.0	1.00	43.3	43.3	1.00
Prior primary care transformation experience[h]	59.3	59.3	1.00	80.9	80.9	1.00
Modified U.S. census region[i]			0.43			0.12
Midwest	32.0	32.4		37.2	32.1	
Northeast	27.1	30.7		25.9	30.9	
South	19.2	17.0		16.8	18.0	
West	21.7	19.9		20.1	19.1	
Median household income of the county	$58,374	$58,697	0.68	$57,590	$57,903	0.66
Medicare Advantage penetration rate in the practice's county	31.7	32.3	0.44	34.3	33.9	0.57
Hospital beds in the county per 10,000 population	30.8	32.2	0.16	32.0	33.6	0.13
Percentage of county's population in poverty	13.8	13.8	0.93	14.2	14.2	0.44
Percentage of adults 25 or older in the county with 4-year college degree	32.4	32.1	0.67	32.3	32.4	0.89

[a] We adjusted all results for the probability of selection into the sample, comparison group matching, and survey nonresponse. (CPC+ results are weighted by their nonresponse-adjusted sample weights. Comparison results are weighted using the matching weights for respondents.)

[b] We used two-tailed t-tests or chi-square tests to statistically test differences between CPC+ and comparison physicians within each track. We performed t-tests for differences in median household income, Medicaid Advantage penetration rate, hospital beds in the county per 10,000 population, percentage of population in poverty in the county, and percentage of adults 25 or older in the county with a 4-year college degree. We performed chi-square tests for differences in gender, race/ethnicity, age, hours worked per week, practice size, meaningful EHR use, multispecialty practice, percentage owned by a health system or a hospital, participation in Medicare SSP ACO, prior primary care transformation experience, and modified U.S. census region.

[c] These characteristics were self-reported by physicians in the survey.

[d] We calculated the number of primary care practitioners (PCPs) at the practice site using a November 2016 pull of SK&A data and the National Plan & Provider Enumeration System (NPPES). We counted a provider as a PCP if they met criteria in either the SK&A data or the NPPES data; we did not require them to be considered a PCP in both data sources. Using the SK&A data, we defined PCPs as a physician (MD or DO), nurse practitioner (NP), or physician's assistant (PA) who bill under their own National Provider Identifier (NPI) and have a specialty of general practitioner, family practitioner, internist, internal medicine/pediatrics, or geriatrician. In NPPES, we defined PCPs as physicians, nurse practitioners, physician assistants, or clinical nurse specialists with 1 of 56 primary care taxonomy codes.

Table 3.C.4. ***(continued)***

[e] At least one practitioner at the practice attested to meaningful use under the CMS Medicare EHR Incentive Program, from 2011–2015 for 2017.

[f] The medical organization that employs physicians at the practice site is a multispecialty group that includes both specialists and primary care physicians.

[g] Practice ownership comes from the SK&A database, managed by IQVIA, a marketing organization that collects information directly from all health care practices in the United States. IQVIA updates this information on an ongoing basis; we pulled practice ownership information in November 2016.

[h] We considered a practice to be a Multi-Payer Advanced Primary Care Practice participant if it participated in any year from 2011 to 2014 for 2017 Starters, as determined by a file from CMS. A practice was considered to have medical home recognition if it at least one of its primary care providers was listed as having recognition at some point 2014–2017 from the National Community for Quality Assurance (NCQA), a state, the Accreditation Association for Ambulatory Health Care (AAAHC), The Joint Commission (TJC), or Utilization Review Accreditation Commission (URAC), as determined by the June 2016 (for 2017 Starters) NCQA PCMH file and data extracted from the websites of TJC, AAAHC, URAC, and state-specific sources from October 2016 to February 2017.

[i] For the 2017 Starters, we grouped CPC+ regions into four market areas using the four U.S. census regions as our starting point. We moved two CPC+ 2017 regions from their given census region to a neighboring census region. The Northern Kentucky–Ohio region spans two census regions; therefore, we moved CPC+ practices in Northern Kentucky to the Midwest region. Because of its geographic proximity to CPC+ regions in the South (Arkansas, Oklahoma, and Tennessee), we moved the Kansas City region from the Midwest region to the South. For face validity, we excluded several states from the external market areas from which we could draw comparison practices. We also assigned three external states to a geographic region different from their census region, to more closely mirror the CPC+ regions' market characteristics.

ACO = accountable care organization; EHR = electronic health record.; SSP = Medicare Shared Savings Program.

3.C.3. Survey content

The physician survey asks primary care physicians about their approaches to care delivery, job satisfaction and burnout, teamwork and staffing, compensation, use of health information technology, and data feedback. In addition, physicians in CPC+ practices were asked about their experience with CPC+. The survey administered to physicians in participating or recently withdrawn CPC+ practices (practices that withdrew from CPC+ on or after August 6, 2018) was divided into nine sections and contained 58 questions. The survey administered to physicians in comparison practices or in practices that withdrew from CPC+ more than one year before fielding did not contain the section about CPC+, leaving eight sections with 53 questions.[25] See Tables 3.C.5 and 3.C.6 for information on survey content.

Survey content came largely from the CPC Clinician survey, which included validated scales on relevant domains from questionnaires used in other initiatives, including:

- The Safety Net Medical Home Initiative Provider and Staff Experience Survey (care management scale; Lewis et al. 2012)
- The Veterans Administration PACT National Evaluation Personnel Survey (Helfrich et al. 2014)
- The Survey of Organizational Attributes of Primary Care (SOAPC) (Ohman-Strickland et al. 2007)
- A modified version of the AHRQ Minimizing Errors and Maximizing Outcomes (MEMO) survey (Linzer et al. 2005)
- The Federally Qualified Health Center Advanced Primary Practice Provider and Staff Survey developed by the RAND Corporation (Kahn et al. 2015)
- The National Ambulatory Medicare Care Physician Survey (NAMCS) (DesRoches and Rich, 2014)

Additional items were adapted from the Patient-Centered Medical Home Assessment Version 1.1, the 2016 CPC Practice Survey, and 2017 and 2018 CPC+ Practice Surveys. We conducted five rounds of cognitive interviews with 90 physicians to pretest the survey questions.

[25] We administered the CPC+ version of the survey to physicians in practices that withdrew from CPC+ within a year of fielding and the comparison survey to physicians in CPC+ practices that withdrew more than one year before fielding, because physicians whose practices withdrew earlier might not be able to reliably recall their experience with CPC+.

Table 3.C.5. Content of the PY 3 CPC+ Physician Survey

Survey question	Content	Number of questions	
		CPC+	Comparison
A	**Survey eligibility, job satisfaction and burnout** • Whether physician is an MD or DO in primary care • Whether physician provides primary care at the practice • Physician's level of satisfaction with their current job • Extent to which physician is experiencing burnout at work • Likelihood physician will leave their current practice within two years	5	5
B	**Approaches to providing primary care** • Services that are available to patients on site • Physician's likelihood of providing initial management for selected patient conditions, rather than referring the patients to a specialist • Proportion of physician's adult patients who are screened at least once a year with a formal screening tool for depression, anxiety, substance use, adult attention-deficit/hyperactivity disorder, and dementia (for patients 65+) • Physician's use of phone, video, e-visits, or home visits • Extent to which physician visits hospitalized patients • How often physician's patients see them when they come to the practice for acute care • Patient after-hours access to a coverage team or the practice, and availability of patient's electronic health record (EHR) • Practice staff follow-up with patients within a few days of an ED or hospital visit • How practices link patients to supportive community-based resources • Extent to which patients' advance care preferences are documented in the EHR • Extent to which physician sends and receives useful information about referred patients to/from specialists • Extent to which selected factors limit physician's ability to provide optimal care for patients	16	16
C	**Teamwork and staffing at your practice site** • Physician's ratings of different elements of teamwork at the practice • Extent to which medical assistants and nurses are paired with the physician • How often physician has huddles with care team • Whether the practice uses designated care managers to help with high-risk patients • The number of designated care managers who work on site, and whether the practice uses designated care managers who are always located off site • How often designated care managers engage in meetings, huddles, or conversations with the physician about their high-risk patients	8	8
D	**Care management at your practice site** • Use of a standard method, tool, or algorithm to characterize patient risk, and use of risk level to identify patients for care management • Extent to which care plans are developed for high-risk patients • Extent to which various elements are included in care plans for high-risk patients • Physician's use of care plans for high-risk patients	5	5
E	**Physician compensation** • Percentage of physician's compensation for clinical activities based on seven ways physicians can be paid	1	1

Table 3.C.5. ***(continued)***

Survey question	Content	Number of questions	
		CPC+	Comparison
F	**Health information technology (IT)** • Whether physician or someone from their team routinely use practice's EHR or other health IT to perform selected key activities • Extent to which the practice's EHR is a big help to the physician in providing quality care	2	2
G	**Data feedback you received** • Whether the physician reported receiving data feedback on quality of care, health care service utilization, and total cost of health care for their patients in the past 12 months • Whether physician made any changes to how they deliver care in response to data feedback received • Whether physician received data on what insurers paid individual specialists for their patient, and whether physician considers these cost data in deciding which specialists to refer a patient to	8	8
H	**Physician's impressions of CPC+ (CPC+ physicians only)** • Extent to which physician thinks CPC+ improved the quality of care they provide their patients • Extent to which physician thinks CPC+ reduced the overall costs of all health care their patients received • Adequacy of CPC+ payments from all payers • Likelihood of recommending that physician's practice participate in CPC+ again	4	0
I	**Physician's background characteristics** • Gender, age, ethnicity, race • Participation in practice leadership and, for CPC+ physicians, in CPC+ leadership • How long the physician has worked at the practice • Number of hours per week worked at practice • Number of patients seen at practice	9	8
	Total number of questions	**58**	**53**

Table 3.C.6. Questions in the PY 3 CPC+ Physician Survey

Question number	CPC+ question text	Source	Modified from original source	Domain
A. Job satisfaction				
A1	Are you a physician (MD or DO) who has a primary specialty of family medicine, general medicine, internal medicine, or geriatric medicine? [Y/N]	Mathematica	New	Physician characteristics
A2	Do you provide any primary care to patients at the practice site listed [on the cover of this questionnaire/at the top of this web page]? [Y/N]	CPC Clinician Survey PACT	Yes	Physician characteristics
A3	Please indicate how much you agree or disagree with the following statement: Overall, I am satisfied with my current job. [Strongly disagree, Disagree, Neither disagree nor agree, Agree, Strongly agree]	CPC Clinician Survey FQHC APCP MEMO	No	Physician satisfaction, burnout, and likelihood to leave the practice
A4	Using your own definition of "burnout," please indicate which statement best describes your situation at work. 1 I enjoy my work. I have no symptoms of burnout. 2 Occasionally I am under stress, and I don't always have as much energy as I once did, but I don't feel burned out. 3 I am definitely burning out and have one or more symptoms of burnout, such as physical and emotional exhaustion. 4 The symptoms of burnout that I'm experiencing won't go away. I think about frustrations at work a lot. 5 I feel completely burned out and often wonder if I can go on. I am at the point where I may need some changes or may need to seek some sort of help.	CPC Clinician Survey FQHC APCP MEMO Schmoldt	No	Physician satisfaction, burnout, and likelihood to leave the practice
A5	What is the likelihood that you will leave your current practice within two years? [Very likely, Somewhat likely, Not very likely, Not at all likely]	CPC Clinician Survey FQHC APCP MEMO	No	Physician satisfaction, burnout, and likelihood to leave the practice
B. Approaches to providing primary care				
B1	Are the following services available to your patients on-site, at your office? [Y/N] a. Counseling for behavioral or mental health problems b. Performing a skin biopsy c. Cervical cancer screening (e.g., Pap tests) d. Treatment of a minor laceration e. Aspiration of a swollen knee joint	CPC Clinician Survey NAMCS	Yes	Comprehensiveness and Coordination

Table 3.C.6. ***(continued)***

Question number	CPC+ question text	Source	Modified from original source	Domain
B2	For each of the problems below, if a patient sees you for this problem, how likely are you to provide initial management for the patient's condition yourself, rather than referring the patient to a specialist? [Very likely/Somewhat likely/Not very likely/Not at all likely] Initial management includes all of the following: 1) Conducting the needed history and physical examination for an initial assessment, 2) Ordering and interpreting any necessary diagnostic tests, and 3) Initiating treatment. a. New onset amenorrhea in a 44-year-old woman b. New symptoms of major depression (without suicidal thoughts) in a 66-year-old man c. New onset of knee pain that limits activity in a 66-year-old woman d. Type 2 diabetes not well controlled on oral medications in a 66-year-old woman e. New diagnosis of COPD in a 53-year-old man	CPC Clinician Survey NAMCS	Yes	Comprehensiveness and Coordination
B3	How many of your adult patients (age 18 and older) are screened at least once a year with a formal screening tool for each of these conditions? [None/Some/Many/Most or All] a. Depression (such as PHQ-2 or PHQ-9) b. Anxiety (such as GAD-7) c. Substance use (such as CAGE, AUDIT-C, or DAST) d. Adult attention-deficit/hyperactivity disorder (such as Adult ADHD self-report tool)	2018 CPC+ Practice Survey	Yes	Comprehensiveness and Coordination
B4	How many of your patients age 65 and older are screened for dementia at least once a year with a formal screening tool (such as Mini-Mental State Examination or Mini-Cog)? [None, Some, Many, Most or all]	2018 CPC+ Practice Survey	Yes	Comprehensiveness and Coordination
B5	For how many of your patients do you (or someone from your care team) offer scheduled phone, video, or e-visits? [None, Some, Many, Most or all]	2017 and 2018 CPC+ Practice Surveys 2016 CPC Practice Survey	Yes	Access and Continuity
B5a	How often do these scheduled phone, video, or e-visits replace what would have been face-to-face office visits for these patients? [Never or rarely, Sometimes, Frequently, Usually or always]	2017 and 2018 CPC+ Practice Surveys 2016 CPC Practice Survey	Yes	Access and Continuity
B6	For how many of your frail or homebound patients do you (or someone from your care team) offer home visits? [None, Some, Many, Most or all]	2017 and 2018 CPC+ Practice Surveys	Yes	Access and Continuity

Table 3.C.6. ***(continued)***

Question number	CPC+ question text	Source	Modified from original source	Domain
B7	How many of your hospitalized patients do you (or someone from your care team) visit in the hospital in a professional capacity? [None, Some, Many, Most or all]	CPC Clinician Survey 2018 CPC+ Practice Survey	Yes	Access and Continuity
B8	When your patients come to your practice for acute care, they see you … 1 Never or rarely 2 Sometimes 3 Frequently 4 Usually or always	2017 and 2018 CPC+ Practice Surveys	Yes	Access and Continuity
B9	Patient after-hours access (24 hours, 7 days a week) to a physician, PA/NP/CNS, or answering service … 1 ...is not available or is limited to an answering machine. 2 …is (1) always available, but (2) the practitioner on call does not regularly communicate problems and decisions back to you. 3 …is (1) always available, and (2) the practitioner on call regularly communicates problems and decisions back to you, but (3) does not have real-time access to the practice's electronic health record (EHR) system. 4 …is (1) always available, and (2) the practitioner on call regularly communicates problems and decisions back to you, and (3) does have real-time access to the practice's EHR system.	2017 and 2018 CPC+ Practice Surveys PCMH-A	Yes	Access and Continuity
B10	Follow-up by you or your practice with your patients who had emergency department (ED) or hospital visits … 1 …generally does not occur. 2 …occurs only if the ED or hospital alerts you or your practice. 3 …occurs because you or your practice makes proactive efforts to identify these patients. 4 …is done routinely because you or your practice has arrangements in place with the ED and hospital to track these patients and ensure that follow-up occurs within a few days.	2017 and 2018 CPC+ Practice Surveys PCMH-A	Yes	Care management
B11	Linking your patients to supportive community-based resources (e.g., transportation, caregiver support, housing) … 1 …is not done systematically by you or your practice. 2 …is limited to providing your patients a list of identified community resources. 3 …is accomplished by a designated staff person who is responsible for connecting your patients with community resources. 4 …is accomplished by a designated staff person who actively coordinates and follows up with the community service agencies and your patients.	2017 and 2018 CPC+ Practice Surveys PCMH-A	Yes	Comprehensiveness and Coordination

Table 3.C.6. ***(continued)***

Question number	CPC+ question text	Source	Modified from original source	Domain
B12	You (or someone from your care team) document advance care preferences (e.g., for end-of-life care and/or advance directives for when patients might become too sick to make their own decisions) in your electronic health record (EHR) for … 1 …none of your high-risk patients. 2 …some of your high-risk patients. 3 …many of your high-risk patients. 4 …most or all of your high-risk patients.	2018 CPC+ Practice Survey	Yes	Patient and caregiver engagement
B13	When you refer a patient to a specialist, how often do you send the specialist notification of the patient's history and reason for the consultation? [Always or most of the time, Sometimes, Seldom or never, Not applicable]	Mathematica	New	Comprehensiveness and Coordination
B14	How often do you receive useful information about your referred patients from specialists? [Always or most of the time, Sometimes, Seldom or never, Not applicable]	2017 and 2018 CPC+ Practice Surveys 2016 CPC Practice Survey	Yes	Comprehensiveness and Coordination
B15	How much does each of the following factors limit your ability to provide optimal care for your patients? [Does not limit/limits somewhat/limits a great deal] a. Lack of available behavioral health specialists for consultations and/or referrals b. Lack of available medical or surgical specialists for consultations and/or referrals c. Inadequate reimbursement from insurers for primary care services d. Inadequate time to spend with patients during visits	CPC Clinician Survey PACT	Yes	Barriers to providing optimal patient care
C. Teamwork and staffing at your practice site				
C1	How much do you agree or disagree with each of the following statements related to teamwork at your practice site? [Strongly disagree/Disagree/Neither disagree or agree/Agree/Strongly agree] a. The group of staff and providers I work with the most at this practice site work well together as a team b. We have a "we are in it together" attitude at my practice site c. My professional skills are used to the fullest at my practice site d. It is hard to get things to change at my practice site e. I can rely on other people at my practice site to do their jobs well f. We regularly take time to consider ways to improve how we do things at my practice site	CPC Clinician Survey PACT SOAPC	Yes	Teamwork
C2	At this practice site, how are medical assistants organized to work with you? 1 You are paired with the same medical assistant(s) most days 2 You are not paired with the same medical assistant(s) most days 3 You don't work with medical assistants	2017 CPC+ Practice Survey	Yes	Teamwork

Table 3.C.6. ***(continued)***

Question number	CPC+ question text	Source	Modified from original source	Domain
C3	At this practice site, how are nurses organized to work with you? 1 You are paired with the same nurse(s) most days 2 You are not paired with the same nurse(s) most days 3 You don't work with nurses	2017 CPC+ Practice Survey	Yes	Teamwork
C4	Care team huddles are brief meetings among physicians and staff such as nurses and medical assistants. They are typically held before morning or afternoon patient visits to discuss patient-specific issues and keep the core clinical team informed. How often do you have huddles with your care team? 1 Never 2 On some days 3 On most days 4 Every day	2017 and 2018 CPC+ Practice Surveys	Yes	Teamwork
C5	Does your practice use designated care managers, as defined above? [Y/N]	2017 and 2018 CPC+ Practice Surveys PCMH-A	Yes	Care management
C6	How many designated care managers work on-site, at the practice site listed [on the cover of this questionnaire/at the top of this web page]? Please include only staff who are located on-site at least once per week, regardless of who employs them. Please enter "0" if you do not have any designated care managers who work on- site. |__|__| Number of designated care managers who work on-site	2017 and 2018 CPC+ Practice Surveys 2016 CPC Practice Survey	Yes	Care management
C7	Does your practice use any designated care managers who are always located off-site? [Y/N]	2017 and 2018 CPC+ Practice Surveys	Yes	Care management
C8	On average, about how often do designated care managers engage in meetings, huddles, or conversations with you about your high-risk patients whom they manage? Please consider on-site and off-site designated care managers. 1 Daily 2 Weekly 3 Monthly 4 A few times per year 5 Less than once per year or never	2018 CPC+ Practice Survey	Yes	Care management
D. Care management at your practice site				
D1	Some practices or health systems categorize their entire patient population into groups (such as high, medium, or low risk) based on the patients' overall risk level for adverse and potentially preventable outcomes, such as ED visits or hospitalizations. Does your practice or health system categorize your patients into risk levels using a standard method, tool, or algorithm? [Y/N]	2017 and 2018 CPC+ Practice Surveys 2016 CPC Practice Survey	Yes	Care management

Table 3.C.6. ***(continued)***

Question number	CPC+ question text	Source	Modified from original source	Domain
D1a	Do you (or someone from your care team) use the overall risk level to identify patients for care management? [Y/N]	2017 and 2018 CPC+ Practice Surveys 2016 CPC Practice Survey	Yes	Care management
D2	A care plan is a structured, personalized plan of care developed with patient input and documented by you or someone from your care team. A care plan is more comprehensive than an after-visit summary, a hospital discharge plan, or a standard treatment/action plan for a single condition (such as diabetes or congestive heart failure). For about how many of your high-risk patients do you (or someone from your care team) develop a care plan, as defined above? 1 None 2 Some 3 Many 4 Most or all	2017 and 2018 CPC+ Practice Surveys PCMH-A	Yes	Care management
D2a	How often are the following elements included in the care plans developed for your high-risk patients? a. Patient diagnoses b. Treatment goals identified by the care team c. Health goals identified collaboratively with the patient d. Patient concerns or barriers to meeting health goals e. Patient self-management action steps f. Advance directives [Never or rarely/Sometimes/Frequently/Usually or always/Don't know]	2017 and 2018 CPC+ Practice Surveys PCMH-A	Yes	Care management Patient and caregiver engagement (f.)
D2b	How often are the care plans that are developed for your high-risk patients used in the following ways? a. Used by you personally in ongoing care b. Documented in your practice's electronic health record (EHR) or other health information technology (IT) c. Shared with your patients d. Revised or redeveloped after major events, such as hospital discharge, exacerbation of a condition, or change in patient preferences [Never or rarely/Sometimes/Frequently/Usually or always/Don't know]	2016 CPC Clinician Survey 2018 CPC+ Practice Surveys 2016 CPC Practice Survey	Yes	Care management

Table 3.C.6. ***(continued)***

Question number	CPC+ question text	Source	Modified from original source	Domain
E. Your compensation				
E1	What percentage of your total compensation for clinical activities is based on the following ways physicians can be paid? Please provide your best estimate. Enter "0" if a category does not apply. [The total percentage of your compensation should sum to 100%.] a. Guaranteed or "base" salary (not based on your productivity, the number of patients you manage, or clinical performance) b. Your own individual productivity (e.g., cash collection, billings, relative value units, visits) c. Number of patients you managed (regardless of amount or type of services provided) d. Performance on measures of the quality of care you provide to your patients (e.g., measures of adherence to guidelines, measures of control of chronic conditions) e. Performance on measures of your patients' satisfaction with the care you provide (e.g., results of patient satisfaction surveys) f. Your management of the health care services your patients use, as compared to other physicians (e.g., use of specialists) g. A share of your organization's profit or net revenue for the year h. Other payments (please describe)	2016 CPC Clinician Survey 2017 CPC+ Practice Survey NAMCS	Yes	Compensation for clinical activities
F. Health information technology (IT)				
F1	Did you or someone from your care team routinely use your practice's electronic health record (EHR) or other health IT to perform the following activities in the past six months? [YES: ROUTINELY USED FUNCTION IN EHR OR HEALTH IT /NO: FUNCTION NOT AVAILABLE IN EHR OR HEALTH IT, OR DID NOT ROUTINELY USE FUNCTION] a. Document patients' health-related social needs (e.g., for transportation, caregiver support, housing) b. Track referral and consultation communications with other providers c. Identify gaps in care (e.g., recommended screening tests) d. Identify and track patients with specific health conditions, risk states, or medications.	2016 CPC Clinician Survey	Yes	Comprehensiveness and Coordination (a. and b.) Planned care for chronic conditions and population health (c., d.) HIT
F2	Please indicate how much you agree or disagree with the following statement: This practice's EHR (or other health IT) is a big help to me in providing quality care to my patients. 1 Strongly disagree 2 Disagree 3 Neither disagree nor agree 4 Agree 5 Strongly agree	2016 CPC Clinician Survey SNMHI	Yes	HIT

Table 3.C.6. ***(continued)***

Question number	CPC+ question text	Source	Modified from original source	Domain
G. Data feedback you received				
G1	In the past 12 months, have you received data feedback on quality of care for your patients? Examples of data feedback on quality of care include percentage of your patients with diabetes with a recent eye exam, or percentage of adults age 50–75 who had appropriate screening for colorectal cancer. [Y/N/DK]	2016 CPC Clinician Survey FQHC APCP 2018 CPC+ Practice Survey	Yes	Physician Use of Data Feedback
G1a	In response to this data feedback on quality of care, did you make any changes to how you deliver care? 1 No, you made no changes to how you deliver care 2 Yes, you made minor changes to how you deliver care 3 Yes, you made major changes to how you deliver care	2016 CPC Clinician Survey FQHC APCP 2018 CPC+ Practice Survey	Yes	Physician Use of Data Feedback
G2	In the past 12 months, have you received data feedback on health care service utilization for your patients? [Y/N/DK] Examples of data feedback on health care service utilization include number of hospitalizations or ED visits.	2016 CPC Clinician Survey 2018 CPC+ Practice Survey	Yes	Physician Use of Data Feedback
G2a	In response to this data feedback on health care service utilization, did you make any changes to how you deliver care? 1 No, you made no changes to how you deliver care 2 Yes, you made minor changes to how you deliver care 3 Yes, you made major changes to how you deliver care	2016 CPC Clinician Survey 2018 CPC+ Practice Survey	Yes	Physician Use of Data Feedback
G3	In the past 12 months, have you received data feedback on the total cost of health care (reimbursement by insurers to all providers who provide care) for any of your patients? [Y/N/DK]	2016 CPC Clinician Survey 2018 CPC+ Practice Survey	Yes	Physician Use of Data Feedback
G3a	In response to this data feedback on the total cost of health care, did you make any changes to how you deliver care? 1 No, you made no changes to how you deliver care 2 Yes, you made minor changes to how you deliver care 3 Yes, you made major changes to how you deliver care	2016 CPC Clinician Survey 2018 CPC+ Practice Survey	Yes	Physician Use of Data Feedback

Table 3.C.6. ***(continued)***

Question number	CPC+ question text	Source	Modified from original source	Domain
G4	Some practices get data on their patients' costs (that is, reimbursement by insurers), presented separately for the individual specialists seen. For example, if the practice's patients have seen Dr. Smith and Dr. Jones for cardiology services, the data will present the costs for Dr. Smith and the costs for Dr. Jones. Do you receive any data on what insurers paid (reimbursed) for individual specialists for your practice's patients? Data can be presented as actual dollar costs or categories (low, medium, high cost). [Y/N]	2016 CPC Clinician Survey 2018 CPC+ Practice Survey	Yes	Physician Use of Data Feedback
G4a	When deciding which specialist to refer a patient to, how much do you consider these cost data? [A lot/Some/Not very much/Not at all]	2018 CPC+ Practice Survey	Yes	Physician Use of Data Feedback
H. Your impressions of CPC+[1]				
H1	Overall, how much has participating in CPC+ changed the quality of care that you currently provide to your patients? [recent TWD use: Overall, how much did participating in CPC+ change the quality of care that you provided to your patients?] [Improved a lot/Improved somewhat/Did not change/Worsened somewhat/Worsened a lot/Don't know]	2016 CPC Clinician Survey 2018 CPC+ Practice Surveys 2016 CPC Practice Survey	Yes	Experience with CPC+
H2	How much do you think participating in CPC+ reduced the overall costs of all the health care your patients received? [A lot/Some/Not very much/Not at all/Don't know]	Mathematica	New	Cost orientation Experience with CPC+
H3	Overall, considering the amount of work required by CPC+, how adequate or inadequate do you think the CPC+ payments from all payers combined are [recent TWD use: were]? [More than adequate/Adequate/Less than adequate/Don't know – not familiar with CPC+ payments from all payers or costs of doing CPC+ work]	2016 CPC Clinician Survey 2018 CPC+ Practice Surveys 2016 CPC Practice Survey	Yes	Experience with CPC+
H4	In answering this question, please consider: • Improvements made to your practice site's care delivery • CPC+ participation requirements (including care delivery, health IT, and reporting requirements) • CPC+ supports (payments, learning activities, data feedback, and health IT vendor support) Given your practice's overall experience participating in CPC+, how likely is it that you would recommend that your practice participate in CPC+ if your practice could do it all over again? [Very likely/Somewhat likely/Not very likely/Not at all likely/Don't know]	2016 CPC Clinician Survey 2018 CPC+ Practice Surveys 2016 CPC Practice Survey	Yes	Experience with CPC+

Table 3.C.6. ***(continued)***

Question number	CPC+ question text	Source	Modified from original source	Domain
I. Background characteristics				
I1	What is your gender? [Male/Female]	2016 CPC Clinician Survey PACT SNMHI	No	Physician characteristics
I2	What is your current age in years? 1 Less than 30 years 2 30–39 3 40–49 4 50–59 5 60–69 6 70 years or older	2016 CPC Clinician Survey PACT	Yes	Physician characteristics
I3	Are you of Hispanic or Latino origin? [Y/N]	2016 CPC Clinician Survey PACT SNMHI	No	Physician characteristics
I4	What is your race? [SELECT ALL THAT APPLY] 1 White/Caucasian 2 Black or African American 3 Asian 4 Native Hawaiian or other Pacific Islander 5 American Indian or Alaska Native 6 Other (specify)	2016 CPC Clinician Survey PACT SNMHI	No	Physician characteristics
I5	Are you a part of the leadership that makes decisions about how physicians and staff at this practice site deliver care? [Y/N]	Mathematica	New	Physician characteristics
I5a[a]	Are [recent TWD use: Were] you a lead or champion for the implementation of CPC+ at the practice site listed [on the cover of this questionnaire/at the top of this web page]? [Y/N]	Mathematica	New	Physician characteristics
I6	How long have you worked at the practice site listed [on the cover of this questionnaire/at the top of this web page]? 1 Less than 2 years 2 2 years up to 5 years 3 More than 5 years up to 10 years 4 More than 10 years	2016 CPC Clinician Survey PACT SNMHI	Yes	Physician characteristics

Table 3.C.6. ***(continued)***

Question number	CPC+ question text	Source	Modified from original source	Domain
I7	In a typical week, how many hours do you work at the practice site listed [on the cover of this questionnaire/at the top of this web page]? 1 Less than 20 hours 2 20–39 hours 3 40 hours 4 More than 40 hours	2016 CPC Clinician Survey SNMHI	Yes	Physician characteristics
I8	In a typical day, how many patients do you see at the practice site listed [on the cover of this questionnaire/at the top of this web page]? If you work part time, please adjust your estimate to represent a full day. |__|__| Number of patients seen in a typical day	Mathematica	New	Physician characteristics
I9	(hardcopy) What is your name? (web) Is your name correct as shown here? [Y/N]	2016 CPC Clinician Survey	No	Physician characteristics
I10	(hardcopy) What is your e-mail address? (web) Is your email address correct as shown here? [Y/N]	Mathematica	New	Physician characteristics
I11	Is your practice site name and address correct as listed [on the cover of this questionnaire/at the top of this web page]? [Y/N]	Mathematica	New	Physician characteristics
I11a	What is your correct practice site name and/or address?	Mathematica	New	Physician characteristics
I12	What is your phone number?	2016 CPC Clinician Survey	No	Physician characteristics
I13	[CPC+] If you have more information about your experience with CPC+ or this survey that you think may be of interest to this study, please feel free to add it below. [Comparison] If you have more information about this survey that you think may be of interest to this study, please feel free to add it below.	2016 CPC Clinician Survey	Yes	Physician characteristics

2016 CPC Clinician Survey—2016 Comprehensive Primary Care Practice Survey. Mathematica Policy Research. "Evaluation of the Comprehensive Primary Care Initiative 2016 Clinician Survey." Princeton, NJ: Mathematica Policy Research, administered starting June 2016.

PACT: 2013 Patient Aligned Care Team (PACT) Personnel Survey. Helfrich C.D., E.D. Dolan, J. Simonetti, R. Reid, S. Joos, B. Wakefield, G. Schectman, R. Stark, S. Fihn, H. Harvey, and K. Nelson. "Elements of Team-Based Care in a Patient-Centered Medical Home Are Associated with Lower Burnout Among VA Primary Care Employees." *Journal of General Internal Medicine*, vol. 29, suppl. 2, 2014, pp. 659–666. doi:10.1007/s11606-013-2702-z. Available at https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4070238/#MOESM1.

FQHC APCP: Federally Qualified Health Center Advanced Primary Care (FQHC APCP) Demonstration Clinician and Staff Experience Survey (Draft). Kahn, Katherine L., Justin W. Timbie, Mark W. Friedberg, Tara A. Lavelle, Peter Mendel, J. Scott Ashwood, Liisa Hiatt, Ian Brantley, Beverly A. Weidmer, Afshin Rastegar, Aaron Kofner, Rosalie Malsberger, Mallika Kommareddi, Denise D. Quigley, and Claude M. Setodji. "Evaluation of CMS FQHC APCP Demonstration: Second Annual Report." July 2015. RR-886/1-CMS. Prepared for the Centers for Medicare & Medicaid Services. Published by the RAND Corporation, Santa Monica, CA: RAND Corporation. Available at https://innovation.cms.gov/Files/reports/fqhc-scndevalrpt.pdf.

MEMO: Minimizing Error, Maximizing Outcome (MEMO) Survey. Linzer, Mark, Linda Baier Manwell, Marlon Mundt, Eric Williams, Ann Maguire, Julia McMurray, and Mary Beth Plane. "Organizational Climate, Stress, and Error in Primary Care: The MEMO Study." In *Advances in Patient Safety: From Research to Implementation (Volume 1: Research Findings)*, edited by K. Henriksen, J.B. Battles, E.S. Marks, and D.I. Lewin. Rockville, MD: Agency for Healthcare Research and Quality, February 2005, pp. 65–77.

Schmoldt: Single-item measure of burnout. Schmoldt R.A., D.K Freeborn, and H.D. Klevit. "Physician burnout: recommendations for HMO managers." *HMO Practice*, vol. 8, no. 2, 1994, pp. 58–63. PMid: 10135263. Available at https://pubmed.ncbi.nlm.nih.gov/10135263/.

Table 3.C.6. ***(continued)***

NAMCS: Physician Survey. DesRoches, C., and E. Rich. "Collecting Data on Physicians and Their Practices: Final Report to AHRQ." Washington, DC: Mathematica Policy Research, 2014.

2018 CPC+ Practice Survey—2018 Comprehensive Primary Care Plus Practice Survey. Mathematica Policy Research. "Evaluation of the Comprehensive Primary Care Plus (CPC+) Model 2018 Practice Survey – First Year Follow-up." Princeton, NJ: Mathematica Policy Research, administered starting May 2018.

2017 CPC+ Practice Survey—2017 Comprehensive Primary Care Plus Practice Survey. Mathematica Policy Research. "Evaluation of the Comprehensive Primary Care Plus (CPC+) Initiative 2017 Practice Survey." Princeton, NJ: Mathematica Policy Research, administered starting March 2017.

2016 CPC Practice Survey—2016 Comprehensive Primary Care Practice Survey. Mathematica Policy Research. "Evaluation of the Comprehensive Primary Care Initiative 2016 Practice Survey." Princeton, NJ: Mathematica Policy Research, administered starting April 2016.

PCMH-A–Safety Net Medical Home Initiative. "The Patient-Centered Medical Home Assessment Version 1.1." Seattle, WA: The MacColl Center for Health Care Innovation at Group Health Research Institute and Qualis Health, 2010.

SOAPC: Survey of Organizational Attributes for Primary Care (SOAPC). Ohman-Strickland, Pamela A., A. John Orzano, Paul A. Nutting, W. Perry Dickinson, Jill Scott-Cawiezell, Karissa Hahn, Michelle Gibel, and Benjamin F. Crabtree. "Measuring Organizational Attributes of Primary Care Practices: Development of a New Instrument." *Health Services Research*, vol. 42, no. 3, Part 1, June 2007, pp. 1257–1270.

SNMHI: Safety Net Medical Home Initiative (SNMHI) Staff Experience Survey. Sarah E. Lewis, Robert S. Nocon, Hui Tang,Seo Young Park, Anusha M. Vable, Lawrence P. Casalino, Elbert S. Huang, Michael T. Quinn, Deborah L. Burnet, William Thomas Summerfelt, Jonathan M. Birnberg, and Marshall H. Chin. "Patient-Centered Medical Home Characteristics and Staff Morale in Safety Net Clinics." *Archives of Internal Medicine*, vol. 172, no. 1, 2012, pp. 23–31. Available at https://pubmed.ncbi.nlm.nih.gov/22232143/

[1] This question was only included in surveys provided to the CPC+ and recent treatment withdrawn (TWD) physicians (i.e., physicians in practices that recently withdrew from CPC+).

Y/N = response options were yes and no; Y/N/DK = response options were yes, no, and don't know.

3.C.4. Analytic methods

Analytic comparisons. For each survey question, except on ratings of CPC+, we compared survey responses between physicians in CPC+ and those in comparison practices. We conducted the analysis separately by track. Because we could not collect data before CPC+ began, differences might reflect existing differences between CPC+ and comparison practices. Another consideration when interpreting the differences is that the CPC+ physicians may have a better understanding of the novel care delivery approaches the model promotes than comparison physicians.

Statistical estimation. For each survey question, we calculated the weighted mean survey response or the weighted distribution of response options by study group (CPC+ or comparison) and by track (Track 1 and Track 2). We weighted estimates using the weights that accounted for sampling design and nonresponse and ensured CPC+ and comparison respondents had similar practice-level and respondent-level characteristics. Given the similar characteristics of the CPC+ and comparison physicians after weighting adjustments, we did not regression-adjust survey responses. Furthermore, because most questions were answered by at least 95 percent of respondents, we did not adjust responses for question nonresponse; instead, we calculated results only among question respondents. We statistically tested differences between the responses from CPC+ and comparison physicians using two-tailed t-tests and chi-square tests. When responses to questions represented amounts, we used t-tests for mean differences between CPC+ and comparison physicians. When responses represented physicians distributed into multiple categories, we used chi-square tests to test whether distributions were independent of CPC+ or comparison status. To account for correlation in responses between physicians within practices, we used cluster-robust standard errors, clustering at the practice level.

Subgroups. For selected questions where subgroup analysis could be important from a clinical, implementation, or policy perspective, we also estimated the effects of CPC+ on key subgroups of physicians based on their practice's characteristics. We did not perform subgroup analysis for all questions, nor did we perform the same subgroup analyses across each question. We considered the following practice characteristics for subgroup analysis (see Table 3.C.4 for definitions of each characteristic):

- Whether the physician's practice was owned by a hospital or health system
- The size of the physician's practice site (measured by number of primary care practitioners: large [six or more practitioners], medium [three to five practitioners], or small [one or two practitioners])
- Whether the physician's practice was in a rural, suburban, or urban area
- Whether the physician's practice participated in prior practice transformation activities, defined as whether the practice was recognized as a medical home or participated in the Multi-Payer Advanced Primary Care Practice demonstration or CPC Classic
- Whether the physician's practice participated in a Medicare SSP accountable care organization at the start of CPC+ (January 1, 2017, for practices that started CPC+ in 2017)

Power. Using two-tailed tests at the 10 percent significance level, the analysis was designed to have 80 percent power to detect differences between CPC+ and comparison physician responses of 5 percentage points or larger, assuming a binary outcome with an overall mean of 70 percent.

Multiple comparisons and substantial importance. Because multiple comparisons can lead to false positives, we do not draw inferences about effects from tests of each hypothesis separately, but rather from the findings across the set of questions and composites, relying most heavily on the summary composites. Nevertheless, we must interpret results with caution due to the number of tests performed. We tested for 914 impacts. This means that, by chance alone, we would expect to find statistically significant differences in 91 tests using the 0.10 significance level. To reduce the risk of incorrectly concluding there were effects of CPC+, we considered responses between physicians in CPC+ and comparison practices to be statistically different and substantially important if the difference met two criteria: (1) the *p*-value was less than or equal to 0.10 and (2) the difference between the two groups was at least 10 percentage points.

Statistical software. We used SAS version 9.4 to clean and prepare the data for analysis and to construct the data tables. We performed the statistical tests using Stata version 16 and used Stata's survey commands to account for survey sampling design.

3.C.5. Data tables

This section presents three tables showing weighted data. Each table shows data for respondents in CPC+ and comparison practices separately, as follows:

- **Tables 3.C.7-3.C.12** presents CPC+ and comparison physicians' responses to questions about their approaches to care delivery, organized by the Comprehensive Primary Care Functions they align with, by track, and by selected practice characteristics for selected questions.
- **Table2 3.C.13-3.C.18** presents CPC+ and comparison physicians' responses to other questions including physicians' use of data feedback and health IT, perceived barriers to providing quality care, teamwork, job satisfaction, and burnout, by track, and by selected practice characteristics for selected questions.
- **Table 3.C.19** presents self-reported characteristics of the responding physicians in CPC+ and comparison practices, by track, and by selected practice characteristics for selected questions.

Table 3.C.7. CPC+ and comparison physician responses, by care delivery function, overall and by track

Question		Overall (Track 1 and 2)	Overall – Track 1				Overall – Track 2			
		CPC+ Physicians	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
Access and continuity										
B5	Portion of physician's patients offered a scheduled phone, video, or e-visit by physician or someone from care team.					0.001				0.000
	Most or all	6%	3%	3%	-1		8%	2%	6	
	Many	8%	6%	5%	1		9%	5%	4	
	Some	33%	28%	21%	7		37%	22%	15	
	None	53%	64%	71%	-7		46%	71%	-26	
	N	2,737	1,236	1,403			1,511	1,300		
B5a	Among patients offered a scheduled phone, video, or e-visit, how often these scheduled phone, video, or e-visits replace what would have been face-to-face office visits.					0.832				0.007
	Usually or always	3%	3%	3%	0		2%	3%	-1	
	Frequently	12%	10%	10%	0		13%	10%	3	
	Sometimes	53%	48%	44%	4		56%	48%	9	
	Never or rarely	32%	38%	42%	-4		29%	40%	-11	
	N	1,188	434	396			759	360		
B6	Portion of physician's frail or homebound patients offered home visits by physician or someone from care team.					0.096				0.014
	Most or all	5%	4%	4%	0		6%	3%	3	
	Many	7%	5%	5%	0		8%	6%	2	
	Some	32%	28%	33%	-5		34%	35%	0	
	None	57%	63%	57%	6		52%	56%	-4	
	N	2,741	1,236	1,398			1,515	1,292		
B7	Portion of physician's hospitalized patients visited in the hospital in a professional capacity by physician or someone from care team.					0.802				0.864
	Most or all	17%	17%	18%	-1		16%	17%	0	
	Many	6%	6%	5%	0		6%	6%	0	
	Some	16%	15%	16%	-1		18%	16%	2	
	None	62%	63%	61%	2		60%	62%	-1	
	N	2,746	1,237	1,400			1,519	1,296		
B8	When the physician's patients come to their practice for acute care, they see the physician…					0.104				0.078
	Usually or always.	46%	48%	45%	4		45%	39%	6	
	Frequently.	36%	35%	35%	1		36%	37%	-1	
	Sometimes.	17%	15%	20%	-4		18%	22%	-4	
	Never or rarely.	1%	1%	1%	0		1%	1%	0	
	N	2,628	1,173	1,362			1,464	1,248		

Table 3.C.7. ***(continued)***

Question		Overall (Track 1 and 2)	Overall – Track 1				Overall – Track 2			
		CPC+ Physicians	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
B9	Patient after-hours access (24 hours, 7 days a week) to a physician, PA/NP/CNS, or answering service…					0.000				0.000
	is (1) always available, and (2) the practitioner on call regularly communicates problems and decisions back to the physician, and (3) does have real-time access to the practice's EHR system.	89%	88%	77%	10		90%	80%	10	
	is (1) always available, and (2) the practitioner on call regularly communicates problems and decisions back to the physician, but (3) does not have real-time access to the practice's electronic health record (EHR) system.	7%	7%	12%	-5		6%	10%	-3	
	is (1) always available, but (2) the practitioner on call does not regularly communicate problems and decisions back to the physician.	3%	4%	8%	-4		3%	8%	-5	
	is not available or is limited to an answering machine.	1%	1%	3%	-2		0%	2%	-2	
	N	2,735	1,231	1,397			1,514	1,286		
Care management										
B10	Follow-up by physician or physician's practice with their patients who had emergency department (ED) or hospital visits…					0.000				0.000
	is done routinely because physician or their practice has arrangements in place with the ED and hospital to track these patients and ensure that follow-up occurs within a few days.	77%	78%	59%	19		77%	63%	14	
	occurs because physician or their practice makes proactive efforts to identify these patients.	20%	19%	25%	-6		20%	23%	-3	
	occurs only if the ED or hospital alerts physician or their practice.	3%	3%	15%	-12		3%	14%	-11	
	generally does not occur.	0%	0%	1%	-1		0%	0%	0	
	N	2,758	1,245	1,412			1,523	1,304		
C5[a]	Percentage of physicians whose practices use designated care managers.					0.000				0.000
	%	93%	91%	62%	29		94%	69%	25	
	N	2,739	1,230	1,398			1,519	1,294		
C6[a]	Among physicians whose practices use designated care managers, number of care managers who work on-site at the practice site at least once per week, regardless of who employs them.					0.000				0.000
	0	12%	16%	29%	-13		9%	24%	-16	
	1	51%	53%	47%	6		49%	47%	3	
	2	22%	19%	14%	4		24%	17%	7	
	3	9%	7%	6%	1		11%	8%	3	
	4	4%	3%	2%	1		4%	2%	2	
	5+	3%	2%	2%	0		3%	3%	1	
	N	2,495	1,086	887			1,419	886		

Table 3.C.7. ***(continued)***

Question		Overall (Track 1 and 2)	Overall – Track 1				Overall – Track 2			
		CPC+ Physicians	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
C7[a]	Among physicians whose practices use designated care managers, percentage of physicians whose practice uses care managers who are always located off site.					0.000				0.000
	%	32%	34%	46%	-12		30%	43%	-13	
	N	2,481	1,079	882			1,412	880		
C8[a]	Among physicians whose practices use designated care managers, how often designated care managers (on-site or off-site) engage in meetings, huddles, or conversations with the physician about high-risk patients whom they manage.					0.000				0.000
	Daily	28%	26%	15%	11		30%	17%	13	
	Weekly	43%	41%	33%	8		43%	32%	11	
	Monthly	15%	14%	19%	-5		16%	20%	-4	
	A few times per year	10%	12%	21%	-10		8%	21%	-12	
	Less than once per year or never	4%	7%	12%	-5		2%	10%	-7	
	N	2,481	1,081	880			1,410	876		
D1	Percentage of physicians whose practice or health system categorizes physician's patients into risk levels using a standard method, tool, or algorithm.					0.000				0.000
	%	80%	77%	34%	43		83%	37%	46	
	N	2,728	1,228	1,393			1,510	1,285		
D1a	Among those whose practice categorizes their patients into risk levels using a standard method, tool, or algorithm, percentage of physicians (or care teams) who use the overall risk level to identify patients for care management.					0.000				0.000
	%	0.93	92%	84%	8		94%	86%	8	
	N	2,138	921	468			1,227	457		
D2[b]	Portion of physician's high-risk patients for whom the physician (or someone from their care team) develops a care plan (a structured, personalized plan of care).					0.000				0.000
	Most or all	23%	16%	10%	6		29%	11%	18	
	Many	28%	30%	19%	11		26%	20%	7	
	Some	33%	34%	36%	-2		32%	37%	-5	
	None	16%	20%	35%	-15		13%	33%	-20	
	N	2,741	1,233	1,387			1,518	1,288		
D2a.a[b]	Among physicians who have care plans for their high-risk patients, how often **patient diagnoses** are included in the care plans.					0.094				0.171
	Usually or always	88%	88%	85%	3		88%	85%	3	
	Frequently	7%	8%	8%	0		6%	8%	-1	
	Sometimes	2%	2%	3%	-1		2%	3%	0	
	Never or rarely	0%	0%	1%	0		0%	1%	0	
	Don't know	3%	3%	4%	-1		3%	4%	-1	
	N	2,295	995	917			1,309	863		

Table 3.C.7. ***(continued)***

Question		Overall (Track 1 and 2)	Overall – Track 1				Overall – Track 2			
		CPC+ Physicians	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
D2a.b[b]	Among physicians who have care plans for their high-risk patients, how often **treatment goals identified by the care team** are included in the care plans.					0.007				0.009
	Usually or always	70%	68%	64%	4		71%	64%	7	
	Frequently	19%	22%	21%	1		18%	21%	-3	
	Sometimes	5%	5%	10%	-5		6%	9%	-3	
	Never or rarely	1%	1%	1%	0		1%	1%	0	
	Don't know	4%	4%	5%	0		5%	5%	-1	
	N	2,293	995	917			1,307	862		
D2a.c[b,c]	Among physicians who have care plans for their high-risk patients, how often **health goals identified collaboratively with the patient** are included in the care plans.					0.292				0.109
	Usually or always	54%	51%	50%	0		56%	50%	6	
	Frequently	27%	30%	27%	3		25%	26%	-1	
	Sometimes	12%	11%	14%	-3		12%	14%	-2	
	Never or rarely	1%	1%	2%	0		2%	2%	-1	
	Don't know	6%	7%	7%	0		6%	7%	-1	
	N	2,307	1,003	924			1,313	868		
D2a.d[b,c]	Among physicians who have care plans for their high-risk patients, how often **patient concerns or barriers to meeting health goals** are included in the care plans.					0.081				0.000
	Usually or always	53%	51%	44%	6		55%	43%	12	
	Frequently	27%	28%	29%	-1		26%	30%	-4	
	Sometimes	12%	14%	17%	-3		11%	16%	-5	
	Never or rarely	2%	2%	3%	-1		2%	4%	-2	
	Don't know	6%	6%	6%	-1		6%	7%	-1	
	N	2,306	1,000	924			1,315	868		
D2a.e[b,c]	Among physicians who have care plans for their high-risk patients, how often **patient self-management action steps** are included in the care plans.					0.328				0.007
	Usually or always	51%	47%	47%	0		53%	47%	7	
	Frequently	28%	32%	29%	3		26%	28%	-3	
	Sometimes	12%	14%	16%	-2		11%	16%	-5	
	Never or rarely	2%	1%	2%	-1		2%	3%	-1	
	Don't know	7%	6%	6%	0		8%	6%	2	
	N	2,308	1,002	924			1,315	868		
D2b.a[b]	Among physicians who have care plans for their high-risk patients, how often care plans **are used by the physician for ongoing care.**					0.502				0.916
	Usually or always	29%	30%	30%	-1		28%	29%	-1	
	Frequently	32%	32%	31%	2		31%	31%	0	
	Sometimes	29%	27%	30%	-3		30%	30%	0	
	Never or rarely	11%	11%	9%	2		11%	10%	1	
	N	2,291	992	909			1,308	852		

Table 3.C.7. ***(continued)***

Question		Overall (Track 1 and 2)	Overall – Track 1				Overall – Track 2			
		CPC+ Physicians	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
D2b.b[b]	Among physicians who have care plans for their high-risk patients, how often care plans are **documented in the practice's electronic health record** (EHR) or other health information technology (IT).					0.133				0.008
	Usually or always	64%	62%	57%	5		66%	58%	8	
	Frequently	19%	20%	22%	-2		18%	21%	-3	
	Sometimes	12%	12%	15%	-3		11%	14%	-3	
	Never or rarely	2%	3%	3%	-1		1%	3%	-1	
	Don't know	4%	4%	4%	0		3%	5%	-1	
	N	2,303	1,000	919			1,312	865		
D2b.c[b]	Among physicians who have care plans for their high-risk patients, how often care plans are **shared with patients.**					0.665				0.372
	Usually or always	42%	43%	41%	1		41%	43%	-2	
	Frequently	24%	25%	29%	-3		24%	27%	-4	
	Sometimes	17%	17%	17%	0		18%	16%	1	
	Never or rarely	3%	3%	3%	0		3%	4%	-1	
	Don't know	14%	11%	10%	2		15%	9%	6	
	N	2,302	1,002	921			1,309	866		
D2b.d[b]	Among physicians who have care plans for their high-risk patients, how often care plans are **revised or redeveloped after major events** such as hospital discharge, exacerbation of a condition, or a change in patient preferences.					0.807				0.049
	Usually or always	46%	42%	42%	0		49%	43%	6	
	Frequently	28%	32%	32%	0		25%	30%	-5	
	Sometimes	15%	15%	16%	-1		15%	16%	0	
	Never or rarely	2%	3%	2%	1		2%	2%	0	
	Don't know	9%	9%	9%	0		9%	9%	0	
	N	2,303	1,001	922			1,311	867		
Comprehensiveness and coordination										
B1a:B1e	Percentage of physicians who report that the following services are available to their patients on-site, at their office.									
	Counseling for behavioral or mental health problems	65%	56%	44%	12	0.000	72%	47%	25	0.000
	Performing a skin biopsy	76%	75%	72%	3	0.242	77%	76%	1	0.758
	Cervical cancer screening (e.g., Pap tests)	91%	88%	90%	-2	0.068	93%	94%	-1	0.406
	Treatment of a minor laceration	86%	85%	84%	1	0.795	86%	86%	0	0.947
	Aspiration of a swollen knee joint	76%	75%	71%	4	0.088	77%	75%	2	0.292
	N	2,779	1,253	1,422			1,536	1,316		

Table 3.C.7. ***(continued)***

Question		Overall (Track 1 and 2)	Overall – Track 1				Overall – Track 2			
		CPC+ Physicians	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
B2.a	How likely physician would provide initial management for a 44-year-old female patient with new onset amenorrhea, rather than referring the patient to a specialist.					0.976				0.410
	Very likely	70%	67%	68%	-1		72%	70%	2	
	Somewhat likely	18%	19%	18%	0		18%	18%	0	
	Not very likely	8%	9%	9%	0		6%	8%	-2	
	Not at all likely	4%	4%	4%	0		5%	4%	0	
	N	2,772	1,249	1,419			1,533	1,312		
B2.b	How likely physician would provide initial management for new symptoms of major depression (without suicidal thoughts) in a 66-year-old-man, rather than referring the patient to a specialist.					0.612				0.434
	Very likely	95%	94%	93%	1		95%	94%	1	
	Somewhat likely	4%	5%	5%	0		4%	4%	-1	
	Not very likely	1%	1%	1%	0		0%	1%	0	
	Not at all likely	0%	0%	1%	0		0%	0%	0	
	N	2,771	1,250	1,418			1,531	1,311		
B2.c	How likely physician would provide initial management for new onset knee pain that limits activity in a 66-year-old woman, rather than referring the patient to a specialist.					0.903				0.232
	Very likely	94%	93%	92%	1		94%	92%	2	
	Somewhat likely	5%	5%	6%	-1		5%	6%	-2	
	Not very likely	1%	1%	1%	0		1%	1%	0	
	Not at all likely	0%	0%	0%	0		0%	0%	0	
	N	2,774	1,250	1,419			1,534	1,312		
B2.d	How likely physician would provide initial management for Type 2 diabetes not well controlled on oral medications in a 66-year-old woman, rather than referring the patient to a specialist.					0.295				0.019
	Very likely	95%	93%	92%	1		96%	93%	3	
	Somewhat likely	4%	4%	6%	-1		3%	5%	-2	
	Not very likely	1%	2%	2%	0		1%	1%	-1	
	Not at all likely	0%	0%	0%	0		0%	0%	0	
	N	2,773	1,250	1,421			1,533	1,314		
B2.e	How likely physician would provide initial management for a new diagnosis of COPD in a 53-year-old man, rather than referring the patient to a specialist.					0.161				0.037
	Very likely	92%	92%	90%	2		93%	91%	2	
	Somewhat likely	7%	7%	8%	-1		6%	7%	-1	
	Not very likely	1%	1%	2%	-1		0%	2%	-1	
	Not at all likely	0%	0%	0%	0		0%	0%	0	
	N	2,773	1,251	1,419			1,532	1,314		

Table 3.C.7. ***(continued)***

Question		Overall (Track 1 and 2)	Overall – Track 1				Overall – Track 2			
		CPC+ Physicians	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
B3.a	Portion of physician's adult patients (age 18 and older) screened at least once a year with a formal screening tool for depression (such as PHQ-2 or PHQ-9).					0.000				0.001
	Most or all	77%	79%	67%	12		76%	72%	4	
	Many	16%	15%	18%	-4		16%	15%	1	
	Some	5%	4%	11%	-7		6%	11%	-5	
	None	2%	2%	4%	-2		2%	3%	-1	
	N	2,769	1,249	1,418			1,530	1,312		
B3.b	Portion of physician's adult patients (age 18 and older) screened at least once a year with a formal screening tool for anxiety (such as GAD-7).					0.678				0.010
	Most or all	29%	25%	24%	1		32%	26%	5	
	Many	22%	22%	21%	1		21%	21%	1	
	Some	34%	33%	36%	-3		35%	37%	-2	
	None	16%	20%	19%	1		12%	16%	-4	
	N	2,766	1,249	1,414			1,527	1,309		
B3.c	Portion of physician's adult patients (age 18 and older) screened at least once a year with a formal screening tool for substance use (such as CAGE, AUDIT-C, or DAST).					0.469				0.485
	Most or all	26%	24%	23%	1		27%	24%	2	
	Many	17%	18%	20%	-2		17%	19%	-2	
	Some	40%	40%	41%	0		41%	40%	0	
	None	17%	18%	16%	2		15%	17%	-1	
	N	2,768	1,247	1,413			1,531	1,308		
B3.d	Portion of physician's adult patients (age 18 and older) screened at least once a year with a formal screening tool for adult attention-deficit/hyperactivity disorder (such as Adult ADHD self-report tool).					0.597				0.293
	Most or all	5%	4%	4%	-1		6%	4%	2	
	Many	9%	9%	9%	0		8%	9%	0	
	Some	48%	47%	49%	-2		49%	49%	0	
	None	38%	40%	37%	3		37%	38%	-2	
	N	2,770	1,248	1,417			1,532	1,311		
B4	Portion of physician's patients age 65 and older screened for dementia at least once a year with a formal screening tool (such as Mini-Mental State Examination or Mini-Cog).					0.053				0.000
	Most or all	37%	36%	31%	5		38%	33%	6	
	Many	28%	26%	25%	1		29%	24%	5	
	Some	31%	33%	39%	-5		30%	38%	-8	
	None	4%	5%	6%	-1		3%	5%	-3	
	N	2,751	1,240	1,410			1,521	1,298		

Table 3.C.7. ***(continued)***

Question		Overall (Track 1 and 2)	Overall – Track 1				Overall – Track 2			
		CPC+ Physicians	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
B11	Linking physician's patients to supportive community-based resources (e.g., transportation, caregiver support, housing)…					0.000				0.000
	is accomplished by a designated staff person who actively coordinates and follows up with the community service agencies and their patients.	42%	39%	22%	17		44%	23%	21	
	is accomplished by a designated staff person who is responsible for connecting their patients with community resources.	37%	35%	33%	2		39%	36%	3	
	is limited to providing their patients a list of identified community resources.	16%	20%	31%	-11		14%	29%	-15	
	is not done systematically by the physician or their practice.	5%	7%	14%	-7		3%	13%	-10	
	N	2,759	1,241	1,412			1,528	1,307		
B13	When physician refers a patient to a specialist, how often physician sends the specialist notification of the patient's history and reason for the consultation.					0.075				0.299
	Always or most of the time	79%	80%	76%	4		78%	77%	0	
	Sometimes	17%	16%	18%	-2		17%	16%	1	
	Seldom or never	4%	4%	6%	-2		4%	5%	-1	
	Not applicable	1%	1%	1%	-1		1%	1%	-1	
	N	2,734	1,234	1,397			1,510	1,287		
B14	How often physician receives useful information about their referred patients from specialists.					0.609				0.023
	Always or most of the time	65%	66%	64%	2		65%	67%	-1	
	Sometimes	33%	33%	35%	-2		34%	31%	3	
	Seldom or never	1%	2%	2%	0		1%	2%	-1	
	Not applicable	0%	0%	0%	0		0%	0%	0	
	N	2,750	1,244	1,402			1,516	1,296		
F1.a, F1.b[c]	In the past six months, percentage of physicians (or someone from the care team) that routinely use practice's electronic health record (EHR) or other health IT to:									
	Document patients' health-related social needs (e.g., for transportation, caregiver support, housing)	62%	56%	45%	11	0.000	66%	47%	19	0.000
	Track referral and consultation communications with other providers	88%	86%	80%	6	0.000	89%	82%	7	0.000
	N	2,755	1,244	1,411			1,521	1,304		

Table 3.C.7. ***(continued)***

Question		Overall (Track 1 and 2)	Overall – Track 1				Overall – Track 2			
		CPC+ Physicians	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
Patient and caregiver engagement										
B12	Physician or someone from physician's care team documents advance care preferences (e.g., for end-of-life care and/or advance directives for when patients might become too sick to make their own decisions) in physician's electronic health record (EHR) for…					0.635				0.211
	most or all of physician's high-risk patients.	38%	36%	36%	0		40%	37%	2	
	many of physician's high-risk patients.	40%	39%	41%	-1		41%	42%	-1	
	some of physician's high-risk patients.	21%	23%	21%	2		19%	20%	-1	
	none of physician's high-risk patients.	1%	1%	2%	0		0%	1%	-1	
	N	2,757	1,246	1,412			1,521	1,306		
D2a.f[c]	Among physicians who develop care plans for high-risk patients, how often **advance directives** are included in the care plans.					0.012				0.112
	Usually or always	36%	36%	41%	-5		36%	42%	-6	
	Frequently	29%	27%	29%	-2		30%	29%	1	
	Sometimes	20%	21%	19%	2		20%	19%	2	
	Never or rarely	5%	6%	3%	3		5%	3%	1	
	Don't know	9%	10%	8%	2		9%	7%	1	
	N	2,305	1,001	922			1,313	865		
Planned care for chronic conditions and population health										
F1.c, F1.d[c]	In the past six months, percentage of physicians (or someone from the care team) that routinely use practice's electronic health record (EHR) or other health IT to:									
	Identify gaps in care (e.g., recommended screening tests)	97%	96%	89%	7	0.000	97%	92%	5	0.000
	Identify and track patients with specific health conditions, risk states, or medications.	88%	84%	76%	8	0.000	91%	79%	12	0.000
	N	2,755	1,244	1,411			1,521	1,304		

Source: CPC+ Physician Survey administered to physicians at the 2017 Starter CPC+ and Comparison practices August through December 2019.

[a] Designated care managers' primary role is to help high-risk patients (patients at highest risk for adverse and potentially preventable outcomes). Care managers provide ongoing support and education on chronic care management, and help coordinate care from other providers between and during visits. A designated care manager, which some practices call a care coordinator or patient navigator, can work on-site or off-site, and works to support the primary care provided by the physician.

[b] A care plan is a structured, personalized plan of care developed with patient input and documented by you or someone from your care team. A care plan is more comprehensive than an after-visit summary, a hospital discharge plan, or a standard treatment/action plan for a single condition (such as diabetes or congestive heart failure).

[c] Cross-listed in other domains. See complete domain mapping for more information.

p.p. = percentage points; PA = physician assistant; NP = nurse practitioner; CNS = certified nurse specialist; COPD = chronic obstructive pulmonary disease; EHR = electronic health record; HIT = health information technology.

Table 3.C.8. CPC+ and comparison physician responses, by care delivery function, by practice ownership status[26]

Question		Track 1 – Health or hospital system owned				Track 1 – Independent				Track 2 – Health or hospital system owned				Track 2 – Independent			
		CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
Access and continuity																	
B7	Portion of physician's hospitalized patients visited in the hospital in a professional capacity by physician or someone from care team.				0.772				0.301				0.614				0.761
	Most or all	14%	13%	1		21%	24%	-3		15%	13%	2		19%	22%	-3	
	Many	6%	5%	1		5%	6%	-1		5%	4%	0		8%	7%	0	
	Some	16%	16%	-1		13%	15%	-2		19%	17%	2		15%	15%	0	
	None	64%	66%	-2		61%	55%	6		62%	66%	-4		58%	55%	3	
	N	625	797			612	603			824	756			695	540		
B8	When the physician's patients come to their practice for acute care, they see the physician…				0.200				0.207				0.244				0.059
	Usually or always.	41%	37%	4		59%	54%	5		42%	36%	6		48%	43%	6	
	Frequently.	39%	38%	1		30%	30%	0		35%	37%	-1		38%	39%	-1	
	Sometimes.	19%	24%	-4		10%	15%	-5		21%	25%	-5		13%	18%	-4	
	Never or rarely.	1%	1%	-1		1%	1%	0		2%	2%	0		0%	1%	-1	
	N	599	779			574	583			801	730			663	518		
Care management																	
B10	Follow-up by physician or physician's practice with their patients who had emergency department (ED) or hospital visits…				0.000				0.000				0.000				0.000
	is done routinely because physician or their practice has arrangements in place with the ED and hospital to track these patients and ensure that follow-up occurs within a few days.	79%	63%	16		76%	54%	22		78%	66%	12		76%	59%	17	
	occurs because physician or their practice makes proactive efforts to identify these patients.	18%	22%	-4		20%	28%	-8		19%	20%	-1		22%	28%	-6	
	occurs only if the ED or hospital alerts physician or their practice.	3%	14%	-11		4%	17%	-13		3%	14%	-11		2%	13%	-11	
	generally does not occur.	0%	1%	-1		0%	1%	-1		0%	0%	0		0%	1%	-1	
	N	630	806			615	606			825	762			698	542		

[26] Practice ownership comes from the SK&A database, managed by IQVIA, a marketing organization that collects information directly from all health care practices in the United States. IQVIA updates this information on an ongoing basis; we obtained practice ownership information in November 2016.

Table 3.C.8. ***(continued)***

Question		Track 1 – Health or hospital system owned				Track 1 – Independent				Track 2 – Health or hospital system owned				Track 2 – Independent			
		CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
C5[a]	Percentage of physicians whose practices use designated care managers.				0.000				0.000				0.000				0.000
	%	94%	70%	24		86%	53%	33		94%	73%	21		94%	64%	30	
	N	625	799			605	599			825	756			694	538		
C7[a]	Among physicians whose practices use designated care managers, percentage of physicians whose practice uses care managers who are always located off site.				0.041				0.000				0.000				0.000
	%	36%	43%	-7		32%	51%	-19		28%	39%	-11		33%	48%	-15	
	N	578	558			501	324			769	548			643	332		
D1	Percentage of physicians whose practice or health system categorizes physician's patients into risk levels using a standard method, tool, or algorithm.				0.000				0.000				0.000				0.000
	%	77%	39%	38		78%	28%	50		80%	41%	39		87%	32%	55	
	N	624	792			604	601			818	749			692	536		
Comprehensiveness and coordination																	
B1a:B1e	Percentage of physicians who report that the following services are available to their patients on-site, at their office.																
	Counseling for behavioral or mental health problems	59%	47%	12	0.001	52%	40%	12	0.001	73%	49%	24	0.000	71%	44%	27	0.000
	Performing a skin biopsy	75%	73%	2	0.410	74%	71%	3	0.426	77%	75%	2	0.385	76%	78%	-2	0.513
	Cervical cancer screening (e.g., Pap tests)	89%	92%	-3	0.142	85%	88%	-3	0.192	94%	95%	-1	0.246	92%	92%	0	0.954
	Treatment of a minor laceration	84%	83%	1	0.825	87%	86%	1	0.811	84%	85%	-1	0.435	90%	87%	3	0.246
	Aspiration of a swollen knee joint	74%	73%	1	0.710	76%	69%	7	0.021	77%	75%	2	0.289	76%	75%	1	0.723
	N	634	810			619	612			831	766			705	550		
B2.a	How likely physician would provide initial management for a 44-year-old female patient with new onset amenorrhea, rather than referring the patient to a specialist.				0.680				0.516				0.584				0.686
	Very likely	67%	68%	-1		68%	68%	0		71%	69%	1		74%	71%	3	
	Somewhat likely	21%	18%	3		16%	19%	-3		18%	18%	1		16%	18%	-1	
	Not very likely	8%	9%	-1		11%	10%	2		6%	8%	-2		7%	8%	-2	
	Not at all likely	4%	4%	0		5%	4%	1		5%	5%	0		4%	4%	0	
	N	633	809			616	610			830	764			703	548		

Table 3.C.8. ***(continued)***

Question		Track 1 – Health or hospital system owned				Track 1 – Independent				Track 2 – Health or hospital system owned				Track 2 – Independent			
		CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
B2.b	How likely physician would provide initial management for new symptoms of major depression (without suicidal thoughts) in a 66-year-old-man, rather than referring the patient to a specialist.				0.235				0.878				0.887				0.321
	Very likely	96%	94%	1		91%	92%	-1		96%	95%	0		95%	93%	2	
	Somewhat likely	3%	4%	-1		7%	6%	1		3%	4%	0		4%	5%	-1	
	Not very likely	1%	1%	0		1%	1%	0		1%	1%	0		0%	1%	-1	
	Not at all likely	0%	0%	0		1%	1%	0		0%	0%	0		1%	1%	0	
	N	633	807			617	611			829	761			702	550		
B2.c	How likely physician would provide initial management for new onset knee pain that limits activity in a 66-year-old woman, rather than referring the patient to a specialist.				0.539				0.755				0.881				0.024
	Very likely	94%	93%	1		92%	92%	0		93%	93%	1		96%	92%	4	
	Somewhat likely	5%	7%	-2		6%	5%	1		5%	6%	-1		4%	7%	-3	
	Not very likely	1%	1%	0		2%	2%	-1		1%	1%	0		0%	1%	-1	
	Not at all likely	0%	0%	0		0%	0%	0		0%	0%	0		0%	0%	0	
	N	633	807			617	612			830	762			704	550		
B2.d	How likely physician would provide initial management for Type 2 diabetes not well controlled on oral medications in a 66-year-old woman, rather than referring the patient to a specialist.				0.105				0.468				0.105				0.007
	Very likely	93%	93%	1		93%	91%	2		96%	94%	2		97%	92%	4	
	Somewhat likely	4%	5%	-1		6%	7%	-1		3%	5%	-2		2%	5%	-3	
	Not very likely	3%	1%	1		1%	2%	-1		1%	1%	0		0%	2%	-2	
	Not at all likely	0%	1%	-1		0%	0%	0		0%	1%	-1		0%	0%	0	
	N	632	809			618	612			830	764			703	550		
B2.e	How likely physician would provide initial management for a new diagnosis of COPD in a 53-year-old man, rather than referring the patient to a specialist.				0.719				0.012				0.093				0.410
	Very likely	91%	90%	1		93%	90%	3		93%	90%	2		93%	91%	2	
	Somewhat likely	8%	8%	0		6%	8%	-2		6%	7%	-1		6%	7%	-1	
	Not very likely	1%	2%	-1		0%	2%	-2		0%	2%	-1		1%	2%	-1	
	Not at all likely	0%	0%	0		0%	0%	0		0%	0%	0		0%	0%	0	
	N	633	809			618	610			829	764			703	550		

Table 3.C.8. ***(continued)***

Question		Track 1 – Health or hospital system owned				Track 1 – Independent				Track 2 – Health or hospital system owned				Track 2 – Independent			
		CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
B11	Linking physician's patients to supportive community-based resources (e.g., transportation, caregiver support, housing)…				0.000				0.000				0.000				0.000
	is accomplished by a designated staff person who actively coordinates and follows up with the community service agencies and their patients.	41%	24%	17		37%	20%	17		45%	24%	21		43%	21%	22	
	is accomplished by a designated staff person who is responsible for connecting their patients with community resources.	34%	37%	-2		35%	28%	7		38%	40%	-2		41%	30%	11	
	is limited to providing their patients a list of identified community resources.	17%	26%	-9		23%	37%	-14		15%	25%	-10		13%	34%	-21	
	is not done systematically by the physician or their practice.	8%	14%	-6		6%	15%	-9		3%	12%	-9		3%	15%	-11	
	N	627	805			614	607			829	760			699	547		
B13	When physician refers a patient to a specialist, how often physician sends the specialist notification of the patient's history and reason for the consultation.				0.247				0.209				0.407				0.601
	Always or most of the time	78%	74%	4		83%	78%	5		75%	75%	0		82%	81%	2	
	Sometimes	17%	18%	-2		15%	17%	-2		19%	17%	2		15%	14%	0	
	Seldom or never	4%	6%	-2		3%	4%	-2		5%	6%	-1		3%	4%	-1	
	Not applicable	1%	2%	-1		0%	1%	-1		1%	2%	-1		0%	1%	0	
	N	625	795			609	602			822	749			688	538		
B14	How often physician receives useful information about their referred patients from specialists.				0.857				0.140				0.338				0.042
	Always or most of the time	67%	68%	-1		64%	58%	5		69%	70%	-1		60%	62%	-2	
	Sometimes	31%	30%	0		35%	40%	-5		30%	28%	2		39%	36%	4	
	Seldom or never	2%	1%	0		1%	2%	-1		1%	1%	-1		1%	2%	-2	
	Not applicable	0%	0%	0		0%	0%	0		0%	0%	0		0%	0%	0	
	N	632	801			612	601			820	755			696	541		
F1.a, F1.b[b]	In the past six months, percentage of physicians (or someone from the care team) that routinely use practice's electronic health record (EHR) or other health IT to:																
	Document patients' health-related social needs (e.g., for transportation, caregiver support, housing)	59%	49%	10	0.001	52%	39%	13	0.000	65%	50%	15	0.000	68%	43%	25	0.000
	Track referral and consultation communications with other providers	85%	82%	3	0.233	87%	77%	10	0.000	87%	82%	5	0.021	91%	81%	10	0.000
	N	628	804			616	607			823	760			698	544		

Table 3.C.8. ***(continued)***

Source: CPC+ Physician Survey administered to physicians at the 2017 Starter CPC+ and Comparison practices August through December 2019.

[a] Designated care managers' primary role is to help high-risk patients (patients at highest risk for adverse and potentially preventable outcomes). Care managers provide ongoing support and education on chronic care management, and help coordinate care from other providers between and during visits. A designated care manager, which some practices call a care coordinator or patient navigator, can work on-site or off-site, and works to support the primary care provided by the physician.

[b] Cross-listed in other domains. See complete domain mapping for more information.

p.p. = percentage points; COPD = chronic obstructive pulmonary disease; EHR = electronic health record; HIT = health information technology.

Table 3.C.9. CPC+ and comparison physician responses, by care delivery function, by practice size[27]

Question		Track 1 – Small (1-2 PCPs)				Track 1 – Medium (3-5 PCPs)				Track 1 – Large (6+ PCPs)				Track 2 – Small (1-2 PCPs)				Track 2 – Medium (3-5 PCPs)				Track 2 – Large (6+ PCPs)			
		CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
Access and continuity																									
B7	Portion of physician's hospitalized patients visited in the hospital in a professional capacity by physician or someone from care team.				0.904				0.148				0.694				0.221				0.428				0.795
	Most or all	20%	22%	-2		13%	16%	-4		18%	17%	1		13%	18%	-5		13%	15%	-2		19%	17%	2	
	Many	4%	5%	-1		4%	6%	-2		7%	5%	2		11%	6%	4		6%	5%	1		5%	6%	-1	
	Some	15%	14%	1		11%	13%	-3		17%	19%	-2		18%	14%	4		18%	14%	4		18%	18%	0	
	None	61%	59%	2		72%	65%	8		58%	59%	-2		58%	62%	-3		64%	66%	-2		58%	58%	0	
	N	402	278			472	498			363	624			324	173			654	454			541	669		
B8	When the physician's patients come to their practice for acute care, they see the physician…				0.438				0.214				0.499				0.062				0.253				0.150
	Usually or always.	77%	72%	5		51%	46%	5		34%	31%	3		73%	71%	2		50%	44%	6		35%	28%	7	
	Frequently.	17%	18%	-1		36%	36%	0		43%	41%	2		22%	17%	5		35%	38%	-3		41%	41%	-1	
	Sometimes.	6%	9%	-3		13%	18%	-6		22%	26%	-5		5%	8%	-3		15%	18%	-2		23%	29%	-6	
	Never or rarely.	0%	1%	-1		0%	0%	0		1%	2%	0		0%	4%	-4		0%	0%	0		2%	2%	0	
	N	380	272			445	492			348	598			307	167			632	439			525	642		

[27] We calculated the number of primary care practitioners (PCPs) at the practice site using a November 2016 pull of SK&A data and the National Plan & Provider Enumeration System (NPPES). We counted a provider as a primary care practitioner if they met criteria in either the SK&A data or the NPPES data; we did not require them to be considered a primary care practitioner in both data sources. Using the SK&A data, we defined PCPs as a physician (MD or DO), nurse practitioner (NP), or physician's assistant (PA) who bill under their own National Provider Identifier (NPI) and have a specialty of general practitioner, family practitioner, internist, internal medicine/pediatrics, or geriatrician. In NPPES, we defined PCPs as physicians, NPs, PAs, or clinical nurse specialists with 1 of 56 primary care taxonomy codes.

Table 3.C.9. ***(continued)***

Question		Track 1 – Small (1-2 PCPs)				Track 1 – Medium (3-5 PCPs)				Track 1 – Large (6+ PCPs)				Track 2 – Small (1-2 PCPs)				Track 2 – Medium (3-5 PCPs)				Track 2 – Large (6+ PCPs)			
		CPC+	Comparison	Difference (p.p.)	p-value	CPC+	Comparison	Difference (p.p.)	p-value	CPC+	Comparison	Difference (p.p.)	p-value	CPC+	Comparison	Difference (p.p.)	p-value	CPC+	Comparison	Difference (p.p.)	p-value	CPC+	Comparison	Difference (p.p.)	p-value
Care management																									
C5[a]	Percentage of physicians whose practices use designated care managers.				0.000				0.000				0.000				0.000				0.000				0.000
	%	83%	45%	38		92%	59%	33		94%	73%	21		90%	53%	37		95%	65%	30		95%	76%	19	
	N	396	280			468	495			366	623			320	175			656	452			543	667		
B1a:B1e	Percentage of physicians who report that the following services are available to their patients on-site, at their office.																								
	Counseling for behavioral or mental health problems	45%	38%	7	0.090	54%	38%	16	0.000	63%	52%	11	0.007	67%	36%	31	0.000	64%	39%	25	0.000	79%	54%	25	0.000
	Performing a skin biopsy	58%	59%	-1	0.816	75%	72%	3	0.380	82%	78%	4	0.300	65%	65%	0	0.870	76%	74%	2	0.550	80%	80%	0	0.976
	Cervical cancer screening (e.g., Pap tests)	67%	78%	-11	0.005	89%	92%	-3	0.155	96%	94%	2	0.349	80%	87%	-7	0.053	93%	94%	-1	0.532	96%	95%	1	0.597
	Treatment of a minor laceration	79%	77%	2	0.575	87%	86%	1	0.924	87%	86%	1	0.989	85%	80%	5	0.231	86%	85%	1	0.699	86%	88%	-2	0.450
	Aspiration of a swollen knee joint	61%	58%	3	0.380	70%	72%	-2	0.481	84%	77%	7	0.014	64%	61%	3	0.493	72%	73%	-1	0.887	82%	79%	3	0.226
	N	407	286			478	505			368	631			327	177			662	460			547	679		
B2.a	How likely physician would provide initial management for a 44-year-old female patient with new onset amenorrhea, rather than referring the patient to a specialist.				0.258				0.558				0.851				0.093				0.779				0.786
	Very likely	58%	66%	-7		70%	68%	2		69%	69%	0		68%	70%	-2		71%	68%	3		73%	71%	2	
	Somewhat likely	22%	17%	5		16%	19%	-3		20%	19%	1		19%	17%	2		19%	20%	-1		16%	16%	0	
	Not very likely	12%	12%	0		9%	10%	0		8%	8%	0		6%	10%	-5		7%	8%	-1		6%	8%	-2	
	Not at all likely	8%	6%	2		5%	4%	1		3%	4%	-1		8%	3%	4		4%	4%	-1		4%	5%	0	
	N	406	286			476	503			367	630			326	177			661	458			546	677		
B2.b	How likely physician would provide initial management for new symptoms of major depression (without suicidal thoughts) in a 66-year-old-man, rather than referring the patient to a specialist.				0.280				0.995				0.865				0.815				0.559				0.048
	Very likely	91%	91%	0		94%	94%	0		95%	94%	1		90%	92%	-2		95%	95%	0		97%	94%	2	
	Somewhat likely	7%	7%	0		5%	5%	0		4%	4%	0		8%	6%	1		4%	4%	0		3%	4%	-2	
	Not very likely	2%	1%	1		1%	1%	0		1%	1%	0		1%	1%	0		1%	1%	0		0%	1%	-1	
	Not at all likely	0%	1%	-1		0%	0%	0		0%	1%	0		1%	0%	1		0%	0%	0		1%	0%	0	
	N	406	285			477	503			367	630			326	177			659	458			546	676		

Table 3.C.9. ***(continued)***

Question		Track 1 – Small (1-2 PCPs)				Track 1 – Medium (3-5 PCPs)				Track 1 – Large (6+ PCPs)				Track 2 – Small (1-2 PCPs)				Track 2 – Medium (3-5 PCPs)				Track 2 – Large (6+ PCPs)			
		CPC+	Comparison	Difference (p.p.)	p-value	CPC+	Comparison	Difference (p.p.)	p-value	CPC+	Comparison	Difference (p.p.)	p-value	CPC+	Comparison	Difference (p.p.)	p-value	CPC+	Comparison	Difference (p.p.)	p-value	CPC+	Comparison	Difference (p.p.)	p-value
B2.c	How likely physician would provide initial management for new onset knee pain that limits activity in a 66-year-old woman, rather than referring the patient to a specialist.				0.758				0.123				0.604				0.202				0.309				0.203
	Very likely	92%	90%	1		94%	93%	1		93%	93%	1		93%	90%	3		94%	94%	0		95%	92%	3	
	Somewhat likely	5%	7%	-2		6%	5%	1		5%	6%	-1		6%	9%	-4		6%	5%	1		4%	7%	-3	
	Not very likely	2%	2%	0		0%	2%	-2		1%	0%	1		0%	1%	0		0%	1%	-1		1%	1%	0	
	Not at all likely	0%	0%	0		0%	0%	0		0%	0%	0		1%	0%	1		0%	0%	0		0%	0%	0	
	N	406	285			477	503			367	631			326	176			661	458			547	678		
B2.d	How likely physician would provide initial management for Type 2 diabetes not well controlled on oral medications in a 66-year-old woman, rather than referring the patient to a specialist.				0.919				0.293				0.498				0.413				0.349				0.063
	Very likely	93%	92%	1		95%	93%	2		92%	91%	1		96%	94%	1		97%	95%	2		96%	92%	4	
	Somewhat likely	5%	6%	0		3%	5%	-2		5%	6%	-1		3%	5%	-2		3%	4%	-1		3%	6%	-3	
	Not very likely	2%	2%	-1		2%	1%	0		3%	2%	1		1%	1%	1		0%	1%	0		1%	2%	-1	
	Not at all likely	0%	0%	0		0%	0%	0		0%	1%	-1		0%	0%	0		0%	0%	0		0%	0%	0	
	N	405	286			477	504			368	631			326	177			661	459			546	678		
B2.e	How likely physician would provide initial management for a new diagnosis of COPD in a 53-year-old man, rather than referring the patient to a specialist.				0.386				0.024				0.247				0.225				0.096				0.291
	Very likely	90%	86%	4		90%	92%	-2		94%	89%	4		92%	90%	2		93%	92%	1		93%	90%	3	
	Somewhat likely	9%	12%	-3		10%	6%	4		5%	8%	-4		7%	9%	-2		7%	6%	1		6%	8%	-2	
	Not very likely	1%	2%	-1		0%	2%	-2		1%	2%	-1		0%	1%	-1		0%	2%	-2		1%	2%	-1	
	Not at all likely	0%	0%	0		0%	0%	0		0%	0%	0		1%	0%	1		0%	0%	0		0%	0%	0	
	N	406	285			477	504			368	630			325	177			661	459			546	678		

Source: CPC+ Physician Survey administered to physicians at the 2017 Starter CPC+ and Comparison practices August through December 2019.

[a] Designated care managers' primary role is to help high-risk patients (patients at highest risk for adverse and potentially preventable outcomes). Care managers provide ongoing support and education on chronic care management, and help coordinate care from other providers between and during visits. A designated care manager, which some practices call a care coordinator or patient navigator, can work on-site or off-site, and works to support the primary care provided by the physician.

p.p. = percentage points; COPD = chronic obstructive pulmonary disease.

Table 3.C.10. CPC+ and comparison physician responses, by care delivery function, by practice's geographic location (2017 starters)[28]

		Track 1 – Rural				Track 1 – Suburban				Track 1 – Urban				Track 2 – Rural				Track 2 – Suburban				Track 2 – Urban			
Question		CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
Access and continuity																									
B7	Portion of physician's hospitalized patients visited in the hospital in a professional capacity by physician or someone from care team.				0.004				0.330				0.675				0.606				0.179				0.509
	Most or all	9%	28%	-19		16%	13%	3		18%	18%	0		19%	26%	-7		23%	15%	9		15%	16%	-1	
	Many	4%	13%	-10		3%	5%	-1		6%	4%	2		9%	12%	-4		2%	5%	-3		6%	5%	1	
	Some	21%	17%	4		11%	18%	-7		15%	15%	-1		19%	14%	5		15%	21%	-6		18%	15%	3	
	None	66%	41%	25		69%	65%	5		62%	62%	-1		53%	47%	6		60%	59%	0		61%	63%	-2	
	N	118	105			191	197			928	1,098			115	85			187	192			1,217	1,019		
B8	When the physician's patients come to their practice for acute care, they see the physician…				0.829				0.111				0.114				0.301				0.180				0.179
	Usually or always.	48%	46%	2		52%	39%	13		48%	46%	2		46%	42%	4		41%	32%	9		45%	40%	5	
	Frequently.	37%	34%	3		28%	40%	-13		36%	34%	3		39%	33%	7		43%	46%	-3		35%	36%	-1	
	Sometimes.	14%	17%	-3		19%	20%	-1		15%	20%	-5		15%	21%	-6		16%	20%	-4		18%	23%	-4	
	Never or rarely.	2%	3%	-2		1%	0%	0		1%	1%	0		0%	4%	-4		0%	2%	-2		1%	1%	0	
	N	114	102			181	190			878	1,070			113	85			181	183			1,170	980		

[28] Geographic location is derived from the 2015-2016 Department of Health and Human Services' Area Health Resource File (AHRF). The variable used reflects 2013 data. The AHRF provides a 9-point rural-urban continuum code (RUCC) from the USDA Economic Research Service. From these codes, we defined urban as a county in a metro area of more than 250,000 people (RUCC=1 or 2), suburban as a county in a metro area of less than 250,000 people or that has an urban population of 20,000 or more and is adjacent to a metro area (RUCC=3 or 4), or rural if it does not meet the urban or suburban classifications (RUCC=5-9).

Table 3.C.10. ***(continued)***

Question		Track 1 – Rural				Track 1 – Suburban				Track 1 – Urban				Track 2 – Rural				Track 2 – Suburban				Track 2 – Urban			
		CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
Comprehensiveness and coordination																									
B1a:B1e	Percentage of physicians who report that the following services are available to their patients on-site, at their office.																								
	Counseling for behavioral or mental health problems	61%	44%	17	0.035	51%	42%	9	0.167	57%	44%	13	0.000	78%	46%	32	0.000	75%	54%	21	0.000	72%	46%	26	0.000
	Performing a skin biopsy	96%	90%	6	0.063	92%	84%	8	0.023	70%	68%	2	0.582	92%	89%	3	0.462	94%	89%	5	0.130	73%	73%	0	0.772
	Cervical cancer screening (e.g., Pap tests)	96%	95%	1	0.598	96%	96%	0	0.964	85%	89%	-4	0.055	93%	99%	-6	0.054	98%	98%	0	0.996	92%	93%	-1	0.743
	Treatment of a minor laceration	96%	97%	-1	0.899	93%	90%	3	0.379	82%	82%	0	0.906	98%	92%	6	0.086	95%	95%	0	0.966	84%	84%	0	0.993
	Aspiration of a swollen knee joint	91%	83%	8	0.080	79%	81%	-2	0.791	72%	68%	4	0.108	88%	83%	5	0.404	84%	82%	2	0.608	75%	73%	2	0.299
	N	119	106			193	198			941	1,118			118	86			188	192			1,230	1,038		
B2.a	How likely physician would provide initial management for a 44-year-old female patient with new onset amenorrhea, rather than referring the patient to a specialist.				0.353				0.074				0.472				0.081				0.033				0.532
	Very likely	76%	65%	10		73%	68%	5		66%	68%	-3		84%	70%	14		75%	73%	2		70%	69%	1	
	Somewhat likely	15%	21%	-6		19%	18%	1		19%	18%	1		12%	18%	-6		22%	17%	5		17%	18%	0	
	Not very likely	8%	9%	-1		7%	9%	-2		10%	9%	0		3%	6%	-3		2%	6%	-4		7%	9%	-2	
	Not at all likely	2%	5%	-3		0%	5%	-4		5%	4%	1		2%	6%	-4		1%	4%	-3		5%	4%	1	
	N	119	106			193	198			937	1,115			118	86			188	192			1,227	1,034		

Table 3.C.10. ***(continued)***

Question		Track 1 – Rural				Track 1 – Suburban				Track 1 – Urban				Track 2 – Rural				Track 2 – Suburban				Track 2 – Urban			
		CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
B2.b	How likely physician would provide initial management for new symptoms of major depression (without suicidal thoughts) in a 66-year-old-man, rather than referring the patient to a specialist.				0.055				0.057				0.406				0.326				0.012				0.543
	Very likely	98%	92%	6		96%	93%	2		93%	93%	0		98%	96%	2		99%	95%	3		95%	94%	1	
	Somewhat likely	2%	7%	-5		3%	6%	-4		6%	5%	1		2%	4%	-2		1%	5%	-4		4%	4%	0	
	Not very likely	0%	0%	0		2%	0%	2		1%	1%	-1		0%	0%	0		0%	0%	0		1%	1%	-1	
	Not at all likely	0%	1%	-1		0%	0%	0		0%	1%	0		0%	0%	0		0%	0%	0		0%	0%	0	
	N	119	106			193	197			938	1,115			118	86			187	191			1,226	1,034		
B2.c	How likely physician would provide initial management for new onset knee pain that limits activity in a 66-year-old woman, rather than referring the patient to a specialist.				0.167				0.190				0.994				0.320				0.150				0.564
	Very likely	97%	91%	6		96%	92%	4		92%	93%	0		97%	95%	3		96%	91%	5		94%	92%	1	
	Somewhat likely	3%	8%	-5		3%	7%	-3		6%	6%	0		3%	5%	-3		3%	8%	-4		5%	6%	-1	
	Not very likely	0%	1%	-1		1%	2%	-1		1%	1%	0		0%	0%	0		1%	2%	-1		0%	1%	0	
	Not at all likely	0%	0%	0		0%	0%	0		0%	0%	0		0%	0%	0		0%	0%	0		0%	0%	0	
	N	119	106			193	198			938	1,115			118	86			188	192			1,228	1,034		

Table 3.C.10. ***(continued)***

Question		Track 1 – Rural				Track 1 – Suburban				Track 1 – Urban				Track 2 – Rural				Track 2 – Suburban				Track 2 – Urban			
		CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
B2.d	How likely physician would provide initial management for Type 2 diabetes not well controlled on oral medications in a 66-year-old woman, rather than referring the patient to a specialist.				0.305				0.108				0.393				0.158				0.042				0.095
	Very likely	94%	95%	-1		97%	91%	6		93%	92%	1		98%	94%	5		97%	92%	5		96%	93%	3	
	Somewhat likely	2%	5%	-3		3%	6%	-3		5%	6%	-1		2%	6%	-5		2%	6%	-4		3%	5%	-2	
	Not very likely	4%	0%	4		1%	3%	-3		2%	2%	0		0%	0%	0		1%	2%	-1		1%	1%	-1	
	Not at all likely	0%	0%	0		0%	0%	0		0%	1%	0		0%	0%	0		0%	0%	0		0%	1%	0	
	N	119	106			193	198			938	1,117			118	86			188	192			1,227	1,036		
B2.e	How likely physician would provide initial management for a new diagnosis of COPD in a 53-year-old man, rather than referring the patient to a specialist.				0.696				0.321				0.238				0.142				0.128				0.066
	Very likely	93%	95%	-2		95%	92%	4		91%	89%	2		100%	96%	4		96%	91%	5		92%	90%	2	
	Somewhat likely	6%	5%	1		4%	6%	-2		8%	9%	-1		0%	4%	-4		3%	7%	-4		7%	7%	0	
	Not very likely	0%	0%	0		0%	2%	-1		1%	2%	-1		0%	0%	0		0%	1%	-1		1%	2%	-2	
	Not at all likely	0%	0%	0		0%	0%	0		0%	0%	0		0%	0%	0		0%	0%	0		0%	0%	0	
	N	119	105			193	198			939	1,116			118	86			188	192			1,226	1,036		

Source: CPC+ Physician Survey administered to physicians at the 2017 Starter CPC+ and Comparison practices August through December 2019.

p.p. = percentage points; COPD = chronic obstructive pulmonary disease.

Table 3.C.11. CPC+ and comparison physician responses, by care delivery function, by practice's prior primary care transformation experience[29]

Question		Track 1 – Prior primary care practice transformation experience				Track 1 – No previous experience				Track 2 – Prior primary care practice transformation experience				Track 2 – No previous experience			
		CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
Comprehensiveness and coordination																	
B1a:B1e	Percentage of physicians who report that the following services are available to their patients on-site, at their office.																
	Counseling for behavioral or mental health problems	59%	50%	9	0.005	51%	36%	15	0.000	74%	49%	25	0.000	65%	38%	27	0.000
	Performing a skin biopsy	78%	77%	1	0.820	71%	65%	6	0.112	78%	77%	1	0.706	72%	73%	-1	0.936
	Cervical cancer screening (e.g., Pap tests)	91%	94%	-3	0.027	83%	84%	-1	0.676	94%	95%	-1	0.849	87%	91%	-4	0.174
	Treatment of a minor laceration	85%	87%	-2	0.435	85%	81%	4	0.121	86%	86%	0	0.963	86%	87%	-1	0.756
	Aspiration of a swollen knee joint	78%	76%	2	0.373	70%	65%	5	0.107	78%	75%	3	0.291	73%	73%	0	0.832
	N	633	891			620	531			1174	985			362	331		
B2.a	How likely physician would provide initial management for a 44-year-old female patient with new onset amenorrhea, rather than referring the patient to a specialist.				0.837				0.803				0.470				0.587
	Very likely	70%	72%	-2		64%	63%	1		73%	70%	3		68%	70%	-1	
	Somewhat likely	18%	16%	2		19%	21%	-2		17%	17%	0		19%	18%	1	
	Not very likely	8%	8%	0		11%	12%	-1		6%	8%	-2		6%	8%	-2	
	Not at all likely	4%	4%	0		5%	4%	1		4%	4%	0		6%	4%	2	
	N	632	887			617	532			1171	981			362	331		

[29] We considered a practice to be a Multi-Payer Advanced Primary Care Practice participant if it participated in any year, 2011–2014 for 2017 Starters, as determined by a file from CMS. A practice was considered to have medical home recognition if it at least one of its primary care providers was listed as having recognition at some point 2014–2017 from the National Community for Quality Assurance (NCQA), a state, the Accreditation Association for Ambulatory Health Care (AAAHC), The Joint Commission (TJC), or Utilization Review Accreditation Commission (URAC), as determined by the June 2016 (for 2017 Starters) NCQA PCMH file and data extracted from the websites of TJC, AAAHC, URAC, and state-specific sources from October 2016 to February 2017.

Table 3.C.11. ***(continued)***

Question		Track 1 – Prior primary care practice transformation experience				Track 1 – No previous experience				Track 2 – Prior primary care practice transformation experience				Track 2 – No previous experience			
		CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
B2.b	How likely physician would provide initial management for new symptoms of major depression (without suicidal thoughts) in a 66-year-old-man, rather than referring the patient to a specialist.				0.604				0.343				0.156				0.421
	Very likely	95%	94%	1		92%	92%	1		96%	95%	1		92%	93%	0	
	Somewhat likely	4%	4%	0		6%	6%	-1		3%	4%	-1		7%	6%	1	
	Not very likely	1%	1%	-1		1%	0%	1		0%	1%	0		1%	1%	0	
	Not at all likely	0%	0%	0		0%	1%	-1		0%	0%	0		0%	1%	-1	
	N	632	887			618	531			1,169	981			362	330		
B2.c	How likely physician would provide initial management for new onset knee pain that limits activity in a 66-year-old woman, rather than referring the patient to a specialist.				0.877				0.694				0.325				0.826
	Very likely	93%	93%	1		93%	92%	1		94%	92%	2		94%	92%	2	
	Somewhat likely	5%	6%	-1		6%	6%	0		5%	6%	-2		5%	7%	-1	
	Not very likely	1%	1%	0		1%	2%	-1		0%	1%	0		1%	1%	-1	
	Not at all likely	0%	0%	0		0%	0%	0		0%	0%	0		0%	0%	0	
	N	632	887			618	532			1,172	981			362	331		
B2.d	How likely physician would provide initial management for Type 2 diabetes not well controlled on oral medications in a 66-year-old woman, rather than referring the patient to a specialist.				0.246				0.159				0.084				0.145
	Very likely	93%	93%	0		93%	90%	3		96%	93%	3		96%	93%	4	
	Somewhat likely	4%	5%	-1		5%	7%	-1		3%	5%	-2		3%	5%	-2	
	Not very likely	3%	1%	1		1%	2%	-1		1%	1%	-1		1%	2%	-1	
	Not at all likely	0%	0%	0		0%	0%	0		0%	0%	0		0%	1%	-1	
	N	631	889			619	532			1,171	983			362	331		

Table 3.C.11. ***(continued)***

Question		Track 1 – Prior primary care practice transformation experience				Track 1 – No previous experience				Track 2 – Prior primary care practice transformation experience				Track 2 – No previous experience			
		CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
B2.e	How likely physician would provide initial management for a new diagnosis of COPD in a 53-year-old man, rather than referring the patient to a specialist.				0.596				0.063				0.053				0.668
	Very likely	92%	90%	2		91%	89%	2		93%	91%	3		92%	91%	1	
	Somewhat likely	7%	8%	-1		8%	9%	-1		6%	7%	-1		7%	7%	0	
	Not very likely	1%	2%	-1		0%	2%	-1		0%	2%	-2		1%	2%	-1	
	Not at all likely	0%	0%	0		0%	0%	0		0%	0%	0		0%	0%	0	
	N	632	888			619	531			1,171	983			361	331		

Source: CPC+ Physician Survey administered to physicians at the 2017 Starter CPC+ and Comparison practices August through December 2019.

p.p. = percentage points; COPD = chronic obstructive pulmonary disease.

Table 3.C.12. CPC+ and comparison physician responses, by care delivery function, by practices' Medicare SSP Status (2017 starters)[30]

Question		Track 1 – Medicare SSP ACO Participant				Track 1 – Not a Medicare SSP ACO Participant				Track 2 – Medicare SSP ACO Participant				Track 2 – Not a Medicare SSP ACO Participant			
		CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
Access and continuity																	
B7	Portion of physician's hospitalized patients visited in the hospital in a professional capacity by physician or someone from care team.				0.977				0.629				0.494				0.989
	Most or all	18%	17%	0		16%	18%	-2		17%	17%	0		16%	16%	0	
	Many	6%	5%	1		5%	5%	0		6%	6%	0		6%	5%	0	
	Some	16%	16%	0		13%	15%	-3		20%	15%	4		16%	16%	-1	
	None	60%	61%	-1		66%	61%	5		57%	61%	-4		63%	62%	1	
	N	634	781			603	619			583	620			936	676		
B8	When the physician's patients come to their practice for acute care, they see the physician…				0.285				0.460				0.410				0.015
	Usually or always.	50%	46%	4		47%	43%	4		43%	41%	2		46%	37%	9	
	Frequently.	34%	33%	1		37%	36%	1		37%	34%	3		36%	40%	-4	
	Sometimes.	15%	19%	-5		16%	20%	-4		18%	23%	-5		18%	21%	-4	
	Never or rarely.	1%	1%	0		1%	1%	0		2%	2%	1		0%	1%	-1	
	N	608	759			565	603			565	591			899	657		

[30] Whether the physician's practice participated in a Medicare SSP accountable care organization at the start of CPC+ (January 1, 2017).

Table 3.C.12. ***(continued)***

Question		Track 1 – Medicare SSP ACO Participant				Track 1 – Not a Medicare SSP ACO Participant				Track 2 – Medicare SSP ACO Participant				Track 2 – Not a Medicare SSP ACO Participant			
		CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
Care management																	
B10	Follow-up by physician or physician's practice with their patients who had emergency department (ED) or hospital visits…				0.000				0.000				0.000				0.000
	is done routinely because physician or their practice has arrangements in place with the ED and hospital to track these patients and ensure that follow-up occurs within a few days.	78%	62%	16		78%	56%	21		78%	68%	9		77%	59%	18	
	occurs because physician or their practice makes proactive efforts to identify these patients.	19%	24%	-4		18%	26%	-8		19%	21%	-2		21%	24%	-3	
	occurs only if the ED or hospital alerts physician or their practice.	3%	13%	-11		4%	17%	-13		3%	10%	-7		2%	16%	-14	
	generally does not occur.	0%	1%	-1		0%	1%	0		0%	0%	0		0%	1%	0	
	N	638	786			607	626			585	621			938	683		
C5[a]	Percentage of physicians whose practices use designated care managers.				0.000				0.000				0.000				0.000
	%	91%	67%	24		91%	57%	34		94%	75%	19		94%	65%	29	
	N	627	780			603	618			585	618			934	676		
C7[a]	Among physicians whose practices use designated care managers, percentage of physicians whose practice uses care managers who are always located off site.				0.000				0.179				0.000				0.001
	%	36%	52%	-16		33%	39%	-6		33%	48%	-15		27%	38%	-11	
	N	552	533			527	349			549	454			863	426		
D1	Percentage of physicians whose practice or health system categorizes physician's patients into risk levels using a standard method, tool, or algorithm.				0.000				0.000				0.000				0.000
	%	75%	37%	38		80%	31%	49		84%	42%	42		82%	34%	48	
	N	631	775			597	618			581	614			929	671		

Table 3.C.12. ***(continued)***

Question		Track 1 – Medicare SSP ACO Participant				Track 1 – Not a Medicare SSP ACO Participant				Track 2 – Medicare SSP ACO Participant				Track 2 – Not a Medicare SSP ACO Participant			
		CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
Comprehensiveness and coordination																	
B1a:B1e	Percentage of physicians who report that the following services are available to their patients on-site, at their office.																
	Counseling for behavioral or mental health problems	53%	41%	12	0.000	60%	47%	13	0.001	73%	45%	28	0.000	72%	49%	23	0.000
	Performing a skin biopsy	70%	67%	3	0.365	79%	77%	2	0.456	74%	74%	1	0.872	79%	78%	1	0.783
	Cervical cancer screening (e.g., Pap tests)	83%	88%	-4	0.057	92%	93%	-1	0.592	92%	92%	0	0.809	94%	95%	-1	0.326
	Treatment of a minor laceration	84%	81%	3	0.282	86%	88%	-2	0.491	83%	85%	-2	0.428	89%	87%	1	0.429
	Aspiration of a swollen knee joint	71%	70%	2	0.587	78%	73%	5	0.060	75%	72%	3	0.413	78%	76%	2	0.501
	N	641	794			612	628			589	628			947	688		
B2.a	How likely physician would provide initial management for a 44-year-old female patient with new onset amenorrhea, rather than referring the patient to a specialist.				0.734				0.681				0.779				0.286
	Very likely	65%	66%	-1		70%	70%	0		69%	67%	3		74%	73%	1	
	Somewhat likely	18%	19%	-1		19%	17%	2		18%	20%	-2		17%	16%	2	
	Not very likely	11%	10%	2		7%	9%	-2		8%	9%	-1		5%	8%	-3	
	Not at all likely	5%	5%	0		3%	3%	0		5%	5%	0		4%	4%	0	
	N	639	790			610	629			588	624			945	688		
B2.b	How likely physician would provide initial management for new symptoms of major depression (without suicidal thoughts) in a 66-year-old-man, rather than referring the patient to a specialist.				0.718				0.799				0.569				0.457
	Very likely	94%	93%	0		94%	93%	1		95%	93%	1		96%	95%	1	
	Somewhat likely	5%	5%	0		5%	5%	0		5%	5%	0		3%	4%	-1	
	Not very likely	1%	1%	0		1%	1%	0		1%	1%	-1		0%	1%	0	
	Not at all likely	0%	0%	0		0%	1%	0		0%	0%	0		1%	0%	0	
	N	640	790			610	628			587	625			944	686		

Table 3.C.12. ***(continued)***

Question		Track 1 – Medicare SSP ACO Participant				Track 1 – Not a Medicare SSP ACO Participant				Track 2 – Medicare SSP ACO Participant				Track 2 – Not a Medicare SSP ACO Participant			
		CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
B2.c	How likely physician would provide initial management for new onset knee pain that limits activity in a 66-year-old woman, rather than referring the patient to a specialist.				0.825				0.365				0.167				0.604
	Very likely	91%	92%	-1		96%	93%	2		94%	90%	4		95%	94%	1	
	Somewhat likely	7%	7%	1		3%	5%	-2		5%	8%	-3		5%	5%	0	
	Not very likely	1%	1%	0		1%	1%	0		1%	1%	0		0%	1%	0	
	Not at all likely	0%	0%	0		0%	0%	0		0%	0%	0		0%	0%	0	
	N	641	792			609	627			589	626			945	686		
B2.d	How likely physician would provide initial management for Type 2 diabetes not well controlled on oral medications in a 66-year-old woman, rather than referring the patient to a specialist.				0.021				0.265				0.234				0.064
	Very likely	95%	91%	4		91%	93%	-2		95%	91%	4		97%	95%	3	
	Somewhat likely	4%	6%	-3		5%	5%	0		4%	7%	-3		2%	4%	-2	
	Not very likely	1%	2%	-1		3%	2%	2		1%	2%	-1		1%	1%	0	
	Not at all likely	0%	0%	0		0%	0%	0		0%	1%	0		0%	0%	0	
	N	640	792			610	629			589	626			944	688		
B2.e	How likely physician would provide initial management for a new diagnosis of COPD in a 53-year-old man, rather than referring the patient to a specialist.				0.085				0.164				0.346				0.060
	Very likely	90%	90%	0		94%	90%	4		91%	89%	1		95%	92%	3	
	Somewhat likely	9%	8%	1		5%	8%	-3		8%	8%	0		5%	6%	-2	
	Not very likely	1%	2%	-1		1%	2%	-1		1%	2%	-2		0%	2%	-1	
	Not at all likely	1%	0%	0		0%	0%	0		0%	0%	0		0%	0%	0	
	N	641	791			610	628			589	626			943	688		

Table 3.C.12. ***(continued)***

Question		Track 1 – Medicare SSP ACO Participant				Track 1 – Not a Medicare SSP ACO Participant				Track 2 – Medicare SSP ACO Participant				Track 2 – Not a Medicare SSP ACO Participant			
		CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
B11	Linking physician's patients to supportive community-based resources (e.g., transportation, caregiver support, housing)…				0.000				0.000				0.000				0.000
	is accomplished by a designated staff person who actively coordinates and follows up with the community service agencies and their patients.	44%	24%	19		34%	20%	14		43%	24%	19		44%	22%	23	
	is accomplished by a designated staff person who is responsible for connecting their patients with community resources.	34%	32%	2		35%	34%	1		38%	37%	1		40%	35%	5	
	is limited to providing their patients a list of identified community resources.	17%	29%	-12		23%	33%	-11		16%	26%	-10		12%	31%	-18	
	is not done systematically by the physician or their practice.	5%	15%	-9		9%	14%	-5		2%	13%	-11		3%	13%	-9	
	N	636	787			605	625			585	623			943	684		
B13	When physician refers a patient to a specialist, how often physician sends the specialist notification of the patient's history and reason for the consultation.				0.970				0.002				0.485				0.008
	Always or most of the time	74%	74%	0		86%	77%	9		71%	75%	-3		83%	79%	3	
	Sometimes	21%	21%	1		10%	15%	-5		21%	20%	1		14%	13%	1	
	Seldom or never	5%	5%	0		3%	6%	-4		6%	5%	2		2%	6%	-4	
	Not applicable	0%	1%	-1		1%	2%	-1		1%	1%	1		1%	2%	-1	
	N	632	780			602	617			579	614			931	673		
B14	How often physician receives useful information about their referred patients from specialists.				0.955				0.409				0.383				0.011
	Always or most of the time	64%	63%	0		68%	64%	4		66%	64%	2		64%	69%	-4	
	Sometimes	35%	35%	0		30%	34%	-4		32%	34%	-2		35%	29%	6	
	Seldom or never	2%	2%	0		2%	2%	0		1%	2%	-1		1%	2%	-1	
	Not applicable	0%	0%	0		0%	0%	0		0%	0%	0		0%	0%	0	
	N	638	781			606	621			579	616			937	680		

Table 3.C.12. ***(continued)***

Question		Track 1 – Medicare SSP ACO Participant				Track 1 – Not a Medicare SSP ACO Participant				Track 2 – Medicare SSP ACO Participant				Track 2 – Not a Medicare SSP ACO Participant			
		CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
F1.a[b]	In the past six months, percentage of physicians (or someone from the care team) that routinely use practice's electronic health record (EHR) or other health IT to:																
	Document patients' health-related social needs (e.g., for transportation, caregiver support, housing)	57%	46%	11	0.001	56%	43%	13	0.000	69%	49%	20	0.000	64%	46%	18	0.000
	N	635	786			609	625			583	621			938	683		

Source: CPC+ Physician Survey administered to physicians at the 2017 Starter CPC+ and Comparison practices August through December 2019.

[a] Designated care managers' primary role is to help high-risk patients (patients at highest risk for adverse and potentially preventable outcomes). Care managers provide ongoing support and education on chronic care management, and help coordinate care from other providers between and during visits. A designated care manager, which some practices call a care coordinator or patient navigator, can work on-site or off-site, and works to support the primary care provided by the physician.

[b] Cross-listed in other domains. See complete domain mapping for more information.

p.p. = percentage points; COPD = chronic obstructive pulmonary disease; EHR = electronic health record; HIT = health information technology.

Table 3.C.13. CPC+ and comparison physician responses to other questions, overall and by track

Question		Overall (Track 1 and 2)	Overall – Track 1				Overall – Track 2			
		CPC+ Physicians	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
Physician use of data feedback										
G1	Physician received data feedback on quality of care for their patients in the past 12 months.					0.000				0.000
	Yes	95%	94%	87%	7		96%	88%	8	
	No	3%	3%	8%	-5		3%	7%	-4	
	Don't know	2%	3%	5%	-2		2%	5%	-3	
	N	2,726	1,233	1,387			1,503	1,282		
G1a	Among physicians that received data feedback on quality of care for their patients in the past 12 months, the extent to which physician made changes to how their deliver care in response to this feedback.					0.046				0.000
	Yes, physician made major changes to how they deliver care	15%	15%	14%	0		15%	13%	1	
	Yes, physician made minor changes to how they deliver care	73%	71%	67%	4		74%	68%	6	
	No, physician made no changes to how they deliver care	12%	14%	18%	-4		11%	18%	-7	
	N	2,484	1,105	1,157			1,388	1,081		
G2	Physician received data feedback on health care service utilization for their patients in the past 12 months.					0.000				0.000
	Yes	72%	69%	53%	16		75%	53%	22	
	No	21%	23%	38%	-15		19%	38%	-19	
	Don't know	7%	8%	9%	-1		6%	10%	-4	
	N	2,735	1,233	1,394			1,512	1,288		
G2a	Among physicians that received data feedback on health care service utilization for their patients in the past 12 months, the extent to which physician made changes to how their deliver care in response to this feedback.					0.010				0.012
	Yes, physician made major changes to how they deliver care	11%	11%	10%	1		12%	9%	2	
	Yes, physician made minor changes to how they deliver care	63%	64%	57%	7		62%	58%	5	
	No, physician made no changes to how they deliver care	26%	25%	33%	-8		26%	33%	-7	
	N	1,998	888	726			1,119	655		
G3[a]	Physician received data feedback on total cost of health care (reimbursed by insurers to all providers who provide care) for their patients in the past 12 months.					0.000				0.000
	Yes	35%	36%	24%	12		35%	24%	10	
	No	50%	48%	64%	-16		51%	63%	-12	
	Don't know	15%	16%	12%	3		14%	13%	2	
	N	2,732	1,233	1,396			1,509	1,291		
G3a[a]	Among physicians that received data feedback on the total cost of care for their patients in the past 12 months, the extent to which physician made changes to how their deliver care in response to this feedback.					0.307				0.046
	Yes, physician made major changes to how they deliver care	8%	10%	10%	-1		7%	12%	-5	
	Yes, physician made minor changes to how they deliver care	59%	59%	53%	6		60%	53%	7	
	No, physician made no changes to how they deliver care	33%	32%	37%	-6		34%	36%	-2	
	N	1,052	491	335			564	308		

Table 3.C.13. ***(continued)***

Question		Overall (Track 1 and 2)	Overall – Track 1				Overall – Track 2			
		CPC+ Physicians	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
G4	Percentage of physicians who receive data on what insurers paid (reimbursed) for individual specialists for physician's practice's patients.					0.000				0.000
	%	16%	18%	8%	10		14%	8%	6	
	N	2,712	1,229	1,390			1,493	1,282		
G4a	Among physicians who receive data on what insurers paid (reimbursed) for individual specialists for physician's practice's patients, extent to which the physician considers these cost data when deciding to which specialist to refer a patient.					0.067				0.002
	A lot	13%	15%	23%	-8		12%	31%	-19	
	Some	60%	60%	44%	17		60%	44%	16	
	Not very much	20%	19%	25%	-6		22%	17%	5	
	Not at all	6%	6%	8%	-2		7%	8%	-1	
	N	495	255	100			241	91		
Teamwork										
C1a	Extent to which physician agrees or disagrees that: "The group of staff and providers I work with the most at this practice site work well together as a team."					0.324				0.025
	Strongly disagree	1%	1%	1%	0		1%	0%	0	
	Disagree	2%	2%	1%	0		2%	1%	1	
	Neither disagree nor agree	4%	4%	6%	-2		3%	5%	-2	
	Agree	36%	37%	38%	-2		35%	39%	-3	
	Strongly agree	58%	57%	54%	3		59%	54%	5	
	N	2,762	1,246	1,417			1,526	1,309		
C1b	Extent to which physician agrees or disagrees that: "We have a "we are in it together" attitude at my practice site."					0.453				0.008
	Strongly disagree	1%	1%	1%	0		1%	1%	1	
	Disagree	3%	4%	4%	0		3%	4%	-1	
	Neither disagree nor agree	9%	10%	10%	-1		9%	11%	-2	
	Agree	37%	37%	40%	-3		36%	41%	-4	
	Strongly agree	49%	48%	45%	4		50%	44%	6	
	N	2,761	1,246	1,414			1,525	1,307		
C1c	Extent to which physician agrees or disagrees that: "My professional skills are used to the fullest at my practice site."					0.527				0.061
	Strongly disagree	2%	1%	2%	-1		2%	2%	0	
	Disagree	7%	8%	8%	0		7%	9%	-2	
	Neither disagree nor agree	10%	11%	11%	0		9%	12%	-3	
	Agree	39%	38%	40%	-2		40%	38%	2	
	Strongly agree	42%	42%	39%	3		43%	39%	4	
	N	2,757	1,244	1,412			1,523	1,302		

Table 3.C.13. ***(continued)***

Question		Overall (Track 1 and 2)	Overall – Track 1				Overall – Track 2			
		CPC+ Physicians	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
C1d	Extent to which physician agrees or disagrees that: "It is hard to get things to change at my practice site."					0.033				0.010
	Strongly disagree	10%	10%	10%	0		11%	9%	2	
	Disagree	38%	38%	32%	5		38%	34%	4	
	Neither disagree nor agree	24%	24%	25%	-1		24%	24%	0	
	Agree	20%	22%	23%	-1		18%	24%	-6	
	Strongly agree	8%	7%	10%	-3		9%	9%	0	
	N	2,757	1,241	1,412			1,526	1,306		
C1e	Extent to which physician agrees or disagrees that: "I can rely on other people at my practice site to do their jobs well."					0.086				0.052
	Strongly disagree	1%	1%	0%	0		1%	0%	0	
	Disagree	4%	4%	4%	-1		3%	4%	-1	
	Neither disagree nor agree	9%	8%	11%	-2		9%	10%	-1	
	Agree	49%	50%	52%	-2		48%	53%	-5	
	Strongly agree	38%	37%	33%	4		38%	32%	6	
	N	2,761	1,247	1,415			1,524	1,308		
C1f	Extent to which physician agrees or disagrees that: "We regularly take time to consider ways to improve how we do things at my practice site."					0.000				0.000
	Strongly disagree	2%	2%	2%	0		2%	2%	0	
	Disagree	5%	6%	9%	-3		5%	9%	-4	
	Neither disagree nor agree	11%	12%	16%	-4		11%	15%	-4	
	Agree	47%	44%	45%	-2		48%	45%	3	
	Strongly agree	35%	36%	28%	8		35%	29%	6	
	N	2,762	1,246	1,416			1,526	1,309		
C2	How medical assistants are organized to work with physician at the practice site.					0.774				0.000
	Physician is paired with the same medical assistant(s) most days	81%	78%	76%	1		84%	76%	8	
	Physician is not paired with the same medical assistant(s) most days	13%	14%	15%	-1		11%	15%	-4	
	Physician does not work with medical assistants	6%	8%	8%	0		5%	9%	-4	
	N	2,735	1,237	1,395			1,508	1,289		
C3	How nurses are organized to work with physician at the practice site.					0.179				0.000
	Physician is paired with the same nurse(s) most days	48%	47%	52%	-4		48%	56%	-8	
	Physician is not paired with the same nurse(s) most days	15%	15%	15%	0		14%	16%	-2	
	Physician does not work with nurses	38%	38%	33%	4		38%	27%	10	
	N	2,741	1,237	1,401			1,514	1,298		
C4	How often physician has huddles with their care team.					0.004				0.000
	Every day	23%	20%	18%	2		25%	20%	6	
	On most days	23%	23%	19%	5		22%	22%	0	
	On some days	36%	36%	36%	0		36%	32%	4	
	Never	18%	21%	27%	-7		17%	26%	-9	
	N	2,745	1,239	1,401			1,516	1,297		

Table 3.C.13. ***(continued)***

Question		Overall (Track 1 and 2)	Overall – Track 1				Overall – Track 2			
		CPC+ Physicians	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
Health information technology										
F2	Extent to which physician agrees that the practice's EHR (or other health IT) is a big help to them in providing quality care to their patients.					0.163				0.006
	Strongly agree	22%	21%	19%	2		23%	21%	3	
	Agree	39%	38%	39%	0		39%	39%	0	
	Neither disagree nor agree	20%	19%	19%	0		20%	18%	3	
	Disagree	11%	12%	11%	2		10%	11%	-1	
	Strongly disagree	8%	9%	12%	-3		8%	12%	-4	
	N	2,732	1,233	1,403			1,509	1,295		
Physician satisfaction, burnout, and likelihood to leave the practice										
A3	Extent to which physician agrees with the statement: "Overall, I am satisfied with my current job".					0.067				0.804
	Strongly agree	25%	28%	23%	5		23%	23%	0	
	Agree	52%	50%	53%	-3		54%	54%	0	
	Neither disagree nor agree	9%	9%	9%	0		9%	9%	0	
	Disagree	9%	9%	11%	-2		9%	11%	-1	
	Strongly disagree	5%	4%	5%	-1		5%	4%	1	
	N	2,764	1,246	1,412			1,528	1,311		
A4	Using physician's own definition of "burnout," statement which best describes physician's situation at work.					0.612				0.312
	I enjoy my work. I have no symptoms of burnout.	12%	12%	13%	-1		11%	13%	-1	
	Occasionally I am under stress, and I don't always have as much energy as I once did, but I don't feel burned out.	52%	50%	48%	2		52%	48%	5	
	I am definitely burning out and have one or more symptoms of burnout, such as physical and emotional exhaustion.	27%	27%	29%	-1		26%	29%	-3	
	The symptoms of burnout that I'm experiencing won't go away. I think about frustrations at work a lot.	8%	8%	7%	1		7%	8%	0	
	I feel completely burned out and often wonder if I can go on. I am at the point where I may need some changes or may need to seek some sort of help.	2%	2%	3%	-1		3%	2%	0	
	N	2,762	1,244	1,416			1,528	1,309		
A5	Likelihood physician will leave current practice within two years.					0.881				0.264
	Not at all likely	38%	35%	34%	1		40%	36%	4	
	Not very likely	35%	37%	37%	-1		33%	37%	-3	
	Somewhat likely	16%	16%	17%	-1		16%	16%	0	
	Very likely	11%	12%	12%	0		11%	12%	-1	
	N	2,751	1,239	1,407			1,522	1,303		

Table 3.C.13. ***(continued)***

Question		Overall (Track 1 and 2)	Overall – Track 1				Overall – Track 2			
		CPC+ Physicians	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
Experience with CPC+[b]										
H1	Overall, extent to which participating in CPC+ changed the quality of care that the physician currently provides to patients.					n.a.				n.a.
	Improved a lot	19%	16%	n.a.	n.a.		21%	n.a.	n.a.	
	Improved somewhat	55%	53%	n.a.	n.a.		56%	n.a.	n.a.	
	Did not change	19%	22%	n.a.	n.a.		16%	n.a.	n.a.	
	Worsened somewhat	2%	2%	n.a.	n.a.		3%	n.a.	n.a.	
	Worsened a lot	0%	0%	n.a.	n.a.		0%	n.a.	n.a.	
	Don't know	5%	6%	n.a.	n.a.		4%	n.a.	n.a.	
	N	2,682	1,211				1,481			
H2[a]	Extent to which physician thinks that participating in CPC+ reduced the overall costs of all the health care their patients received.					n.a.				n.a.
	A lot	7%	4%	n.a.	n.a.		9%	n.a.	n.a.	
	Some	38%	38%	n.a.	n.a.		38%	n.a.	n.a.	
	Not very much	26%	26%	n.a.	n.a.		26%	n.a.	n.a.	
	Not at all	11%	12%	n.a.	n.a.		10%	n.a.	n.a.	
	Don't know	18%	19%	n.a.	n.a.		17%	n.a.	n.a.	
	N	2,677	1,209				1,478			
H3	Overall, considering the amount of work required by CPC+, adequacy of the CPC+ payments from all payers combined.					n.a.				n.a.
	More than adequate	1%	1%	n.a.	n.a.		1%	n.a.	n.a.	
	Adequate	23%	23%	n.a.	n.a.		23%	n.a.	n.a.	
	Less than adequate	41%	41%	n.a.	n.a.		40%	n.a.	n.a.	
	Don't know - not familiar with CPC+ payments from all payers or costs of doing CPC+ work	35%	34%	n.a.	n.a.		35%	n.a.	n.a.	
	N	2,670	1,212	n.a.			1,468			
H4	Given practice's overall experience participating in CPC+, likelihood physician would recommend that their practice participate in CPC+ if their practice could do it all over again.					n.a.				n.a.
	Very likely	32%	29%	n.a.	n.a.		34%	n.a.	n.a.	
	Somewhat likely	38%	39%	n.a.	n.a.		38%	n.a.	n.a.	
	Not very likely	10%	11%	n.a.	n.a.		9%	n.a.	n.a.	
	Not at all likely	6%	6%	n.a.	n.a.		6%	n.a.	n.a.	
	Don't know	13%	15%	n.a.	n.a.		13%	n.a.	n.a.	
	N	2,690	1,211				1,489			
Barriers to providing optimal patient care										
B15a	Extent to which lack of available behavioral health specialists for consultations and/or referrals limits physician's ability to provide optimal care for their patients.					0.000				0.000
	Does not limit	15%	13%	8%	5		16%	9%	7	
	Limits somewhat	47%	45%	41%	4		49%	42%	7	
	Limits a great deal	38%	42%	51%	-9		35%	48%	-14	
	N	2,759	1,247	1,415			1,522	1,309		

Table 3.C.13. ***(continued)***

Question		Overall (Track 1 and 2)	Overall – Track 1				Overall – Track 2			
		CPC+ Physicians	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
B15b	Extent to which lack of available medical or surgical specialists for consultations and/or referrals limits physician's ability to provide optimal care for their patients.					0.000				0.007
	Does not limit	66%	65%	59%	6		66%	59%	6	
	Limits somewhat	32%	33%	36%	-3		31%	36%	-5	
	Limits a great deal	3%	2%	5%	-3		4%	5%	-1	
	N	2,758	1,246	1,417			1,522	1,309		
B15c[a]	Extent to which inadequate reimbursement from insurers for primary care services limits physician's ability to provide optimal care for their patients.					0.024				0.028
	Does not limit	41%	40%	38%	2		41%	38%	3	
	Limits somewhat	42%	43%	40%	3		41%	40%	1	
	Limits a great deal	18%	17%	22%	-5		18%	22%	-5	
	N	2,757	1,245	1,419			1,522	1,311		
B15d[a]	Extent to which inadequate time to spend with patients during visits limits physician's ability to provide optimal care for their patients.					0.040				0.000
	Does not limit	22%	24%	23%	0		21%	21%	0	
	Limits somewhat	53%	51%	46%	5		54%	47%	7	
	Limits a great deal	25%	25%	30%	-5		25%	32%	-7	
	N	2,762	1,247	1,415			1,525	1,307		

Source: CPC+ Physician Survey administered to physicians at the 2017 Starter CPC+ and Comparison practices August through December 2019.

[a] Cross-listed in other domains. See complete domain mapping for more information.

[b] These questions were also asked to physicians whose practices withdrew from CPC+. For these physicians, the questions were asked in the past tense, to reflect their experiences participating in CPC+ in the past.

p.p. = percentage points; n.a. = not applicable because that group of physicians were not asked that question; EHR = electronic health record; HIT = health information technology.

Table 3.C.14. CPC+ and comparison physician responses to other questions, by practice ownership status[31]

Question		Track 1 – Health or hospital system owned				Track 1 – Independent				Track 2 – Health or hospital system owned				Track 2 – Independent			
		CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
Physician use of data feedback																	
G1	Physician received data feedback on quality of care for their patients in the past 12 months.				0.000				0.001				0.000				0.000
	Yes	95%	87%	8		93%	86%	6		96%	88%	8		95%	88%	7	
	No	3%	8%	-5		4%	9%	-5		3%	7%	-4		2%	7%	-5	
	Don't know	2%	5%	-3		3%	5%	-1		1%	5%	-4		2%	5%	-2	
	N	622	788			611	599			810	746			693	536		
G1a	Among physicians that received data feedback on quality of care for their patients in the past 12 months, the extent to which physician made changes to how their deliver care in response to this feedback.				0.021				0.350				0.001				0.062
	Yes, physician made major changes to how they deliver care	13%	14%	-2		18%	15%	3		14%	12%	3		15%	16%	0	
	Yes, physician made minor changes to how they deliver care	73%	65%	8		69%	71%	-1		74%	68%	6		75%	69%	6	
	No, physician made no changes to how they deliver care	15%	21%	-6		13%	15%	-2		12%	21%	-8		10%	15%	-5	
	N	554	659			551	498			740	628			648	453		
G2	Physician received data feedback on health care service utilization for their patients in the past 12 months.				0.000				0.000				0.000				0.000
	Yes	64%	47%	17		77%	61%	16		70%	46%	23		82%	61%	21	
	No	28%	43%	-16		16%	32%	-15		22%	42%	-20		14%	31%	-18	
	Don't know	9%	10%	-1		6%	7%	-1		8%	11%	-4		4%	8%	-4	
	N	625	794			608	600			820	748			692	540		

[31] Practice ownership comes from the SK&A database, managed by IQVIA, a marketing organization that collects information directly from all health care practices in the United States. IQVIA updates this information on an ongoing basis; we obtained practice ownership information in November 2016.

Table 3.C.14. ***(continued)***

Question		Track 1 – Health or hospital system owned				Track 1 – Independent				Track 2 – Health or hospital system owned				Track 2 – Independent			
		CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
G2a	Among physicians that received data feedback on health care service utilization for their patients in the past 12 months, the extent to which physician made changes to how their deliver care in response to this feedback.				0.027				0.136				0.033				0.170
	Yes, physician made major changes to how they deliver care	8%	8%	0		14%	11%	3		9%	7%	2		15%	12%	3	
	Yes, physician made minor changes to how they deliver care	63%	54%	10		64%	60%	4		60%	54%	7		65%	62%	3	
	No, physician made no changes to how they deliver care	28%	38%	-10		22%	28%	-7		30%	39%	-9		21%	26%	-6	
	N	407	365			481	361			563	339			556	316		
G3[a]	Physician received data feedback on total cost of health care (reimbursed by insurers to all providers who provide care) for their patients in the past 12 months.				0.000				0.000				0.000				0.000
	Yes	27%	18%	10		50%	32%	18		25%	17%	8		49%	35%	14	
	No	56%	69%	-13		35%	56%	-21		60%	70%	-10		37%	53%	-16	
	Don't know	16%	13%	3		15%	12%	3		15%	13%	1		14%	12%	2	
	N	624	796			609	600			815	753			694	538		
G3a[a]	Among physicians that received data feedback on the total cost of care for their patients in the past 12 months, the extent to which physician made changes to how their deliver care in response to this feedback.				0.341				0.164				0.508				0.083
	Yes, physician made major changes to how they deliver care	4%	8%	-4		14%	12%	2		5%	8%	-3		8%	14%	-6	
	Yes, physician made minor changes to how they deliver care	54%	49%	5		62%	55%	8		53%	48%	5		65%	56%	9	
	No, physician made no changes to how they deliver care	41%	43%	-1		24%	33%	-10		42%	44%	-2		27%	30%	-3	
	N	183	140			308	195			219	128			345	180		

Table 3.C.14. ***(continued)***

Question		Track 1 – Health or hospital system owned				Track 1 – Independent				Track 2 – Health or hospital system owned				Track 2 – Independent			
		CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
G4	Percentage of physicians who receive data on what insurers paid (reimbursed) for individual specialists for physician's practice's patients.				0.000				0.000				0.034				0.000
	%	12%	4%	8		27%	12%	15		6%	3%	3		26%	14%	12	
	N	618	794			611	596			811	750			682	532		
G4a	Among physicians who receive data on what insurers paid (reimbursed) for individual specialists for physician's practice's patients, extent to which the physician considers these cost data when deciding to which specialist to refer a patient.				0.073				0.593				0.167				0.007
	A lot	12%	24%	-11		17%	23%	-6		9%	25%	-15		13%	33%	-21	
	Some	65%	34%	31		58%	48%	10		49%	38%	12		64%	47%	17	
	Not very much	18%	31%	-13		20%	23%	-3		29%	15%	14		19%	17%	2	
	Not at all	6%	12%	-6		6%	7%	-1		12%	23%	-11		5%	3%	2	
	N	72	28			183	72			53	23			188	68		
Teamwork																	
C1a	Extent to which physician agrees or disagrees that: "The group of staff and providers I work with the most at this practice site work well together as a team."				0.580				0.018				0.110				0.177
	Strongly disagree	1%	1%	1		0%	1%	-1		1%	0%	0		1%	0%	0	
	Disagree	2%	2%	0		2%	1%	1		3%	2%	1		1%	1%	0	
	Neither disagree nor agree	5%	6%	-1		3%	5%	-2		4%	7%	-2		1%	4%	-2	
	Agree	38%	41%	-2		34%	35%	-1		37%	41%	-4		33%	36%	-3	
	Strongly agree	54%	51%	3		62%	57%	4		55%	50%	5		64%	59%	5	
	N	632	808			614	609			830	763			696	546		
C1b	Extent to which physician agrees or disagrees that: "We have a "we are in it together" attitude at my practice site."				0.317				0.586				0.062				0.029
	Strongly disagree	2%	1%	1		0%	1%	-1		2%	1%	1		1%	1%	0	
	Disagree	5%	5%	0		3%	3%	0		4%	5%	-1		2%	4%	-2	
	Neither disagree nor agree	10%	11%	-1		9%	9%	0		12%	12%	0		5%	9%	-4	
	Agree	38%	42%	-4		35%	38%	-3		36%	42%	-6		36%	38%	-2	
	Strongly agree	45%	41%	4		53%	49%	4		47%	41%	6		56%	48%	7	
	N	631	806			615	608			828	762			697	545		

Table 3.C.14. ***(continued)***

Question		Track 1 – Health or hospital system owned				Track 1 – Independent				Track 2 – Health or hospital system owned				Track 2 – Independent			
		CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
C1c	Extent to which physician agrees or disagrees that: "My professional skills are used to the fullest at my practice site."				0.780				0.432				0.243				0.112
	Strongly disagree	1%	2%	-1		1%	1%	-1		2%	2%	0		1%	2%	-1	
	Disagree	9%	9%	0		5%	6%	-1		9%	11%	-3		5%	7%	-1	
	Neither disagree nor agree	12%	13%	-1		10%	8%	1		10%	13%	-3		6%	10%	-3	
	Agree	41%	41%	0		34%	39%	-5		43%	39%	4		34%	37%	-3	
	Strongly agree	36%	35%	2		51%	45%	5		36%	34%	1		53%	45%	8	
	N	632	806			612	606			828	760			695	542		
C1d	Extent to which physician agrees or disagrees that: "It is hard to get things to change at my practice site."				0.042				0.567				0.046				0.069
	Strongly disagree	6%	6%	0		16%	16%	0		7%	5%	2		16%	13%	2	
	Disagree	34%	28%	7		42%	38%	4		34%	30%	4		45%	39%	6	
	Neither disagree nor agree	25%	25%	0		21%	23%	-2		25%	25%	0		22%	23%	-1	
	Agree	26%	28%	-2		16%	17%	-1		22%	29%	-7		14%	18%	-4	
	Strongly agree	8%	13%	-5		4%	6%	-2		12%	11%	1		4%	7%	-3	
	N	629	805			612	607			829	762			697	544		
C1e	Extent to which physician agrees or disagrees that: "I can rely on other people at my practice site to do their jobs well."				0.230				0.042				0.059				0.199
	Strongly disagree	1%	0%	1		0%	0%	0		1%	0%	1		0%	0%	0	
	Disagree	4%	6%	-2		3%	2%	1		5%	5%	-1		2%	2%	-1	
	Neither disagree nor agree	10%	11%	-1		5%	10%	-5		11%	11%	1		6%	9%	-3	
	Agree	51%	54%	-2		48%	49%	-1		49%	56%	-7		48%	49%	-1	
	Strongly agree	33%	29%	4		44%	38%	5		34%	28%	6		44%	39%	5	
	N	632	807			615	608			828	763			696	545		
C1f	Extent to which physician agrees or disagrees that: "We regularly take time to consider ways to improve how we do things at my practice site."				0.006				0.000				0.002				0.002
	Strongly disagree	3%	1%	2		1%	2%	-1		2%	2%	0		1%	2%	-1	
	Disagree	6%	11%	-5		7%	7%	-1		5%	10%	-5		4%	7%	-3	
	Neither disagree nor agree	14%	16%	-2		9%	15%	-7		12%	17%	-5		9%	13%	-4	
	Agree	45%	45%	0		42%	46%	-4		51%	45%	6		44%	46%	-2	
	Strongly agree	32%	27%	5		42%	29%	12		29%	26%	3		42%	32%	10	
	N	632	808			614	608			829	764			697	545		

Table 3.C.14. ***(continued)***

Question		Track 1 – Health or hospital system owned				Track 1 – Independent				Track 2 – Health or hospital system owned				Track 2 – Independent			
		CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
A3	Extent to which physician agrees with the statement: "Overall, I am satisfied with my current job".				0.481				0.081				0.382				0.901
	Strongly agree	24%	20%	4		33%	26%	7		20%	20%	0		28%	26%	1	
	Agree	53%	54%	-1		46%	51%	-5		56%	57%	-1		50%	49%	1	
	Neither disagree nor agree	10%	10%	-1		9%	7%	1		10%	9%	0		8%	8%	0	
	Disagree	9%	11%	-2		9%	11%	-2		9%	11%	-2		9%	10%	-1	
	Strongly disagree	4%	4%	0		4%	5%	-1		5%	3%	2		5%	6%	-1	
	N	630	806			616	606			828	763			700	548		
A4	Using physician's own definition of "burnout," statement which best describes physician's situation at work.				0.434				0.517				0.657				0.225
	I enjoy my work. I have no symptoms of burnout.	10%	12%	-3		16%	14%	3		11%	12%	-1		12%	14%	-3	
	Occasionally I am under stress, and I don't always have as much energy as I once did, but I don't feel burned out.	52%	47%	4		48%	49%	-2		51%	48%	3		55%	48%	7	
	I am definitely burning out and have one or more symptoms of burnout, such as physical and emotional exhaustion.	28%	30%	-2		26%	27%	-1		27%	31%	-3		25%	27%	-2	
	The symptoms of burnout that I'm experiencing won't go away. I think about frustrations at work a lot.	9%	8%	1		8%	7%	1		8%	8%	0		6%	8%	-2	
	I feel completely burned out and often wonder if I can go on. I am at the point where I may need some changes or may need to seek some sort of help.	2%	2%	0		2%	3%	-1		3%	2%	1		2%	3%	-1	
	N	628	808			616	608			828	763			700	546		
A5	Likelihood physician will leave current practice within two years.				0.989				0.267				0.265				0.174
	Not at all likely	29%	30%	-1		45%	40%	5		34%	31%	3		47%	42%	6	
	Not very likely	41%	40%	1		30%	33%	-3		36%	41%	-5		30%	31%	-1	
	Somewhat likely	18%	18%	0		12%	15%	-3		17%	17%	0		13%	14%	-1	
	Very likely	12%	12%	0		12%	12%	0		13%	11%	2		9%	13%	-4	
	N	626	802			613	605			823	759			699	544		

Table 3.C.14. ***(continued)***

Question		Track 1 – Health or hospital system owned				Track 1 – Independent				Track 2 – Health or hospital system owned				Track 2 – Independent			
		CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
Experience with CPC+[b]																	
H1	Overall, extent to which participating in CPC+ changed the quality of care that the physician currently provides to patients.				n.a.				n.a.				n.a.				n.a.
	Improved a lot	17%	n.a.	n.a.		16%	n.a.	n.a.		19%	n.a.	n.a.		23%	n.a.	n.a.	
	Improved somewhat	52%	n.a.	n.a.		55%	n.a.	n.a.		55%	n.a.	n.a.		57%	n.a.	n.a.	
	Did not change	21%	n.a.	n.a.		24%	n.a.	n.a.		16%	n.a.	n.a.		15%	n.a.	n.a.	
	Worsened somewhat	2%	n.a.	n.a.		1%	n.a.	n.a.		3%	n.a.	n.a.		2%	n.a.	n.a.	
	Worsened a lot	0%	n.a.	n.a.		1%	n.a.	n.a.		1%	n.a.	n.a.		0%	n.a.	n.a.	
	Don't know	7%	n.a.	n.a.		3%	n.a.	n.a.		5%	n.a.	n.a.		2%	n.a.	n.a.	
	N	616				595				809				672			
H2[a]	Extent to which physician thinks that participating in CPC+ reduced the overall costs of all the health care their patients received.				n.a.				n.a.				n.a.				n.a.
	A lot	3%	n.a.	n.a.		6%	n.a.	n.a.		8%	n.a.	n.a.		10%	n.a.	n.a.	
	Some	37%	n.a.	n.a.		40%	n.a.	n.a.		34%	n.a.	n.a.		44%	n.a.	n.a.	
	Not very much	27%	n.a.	n.a.		26%	n.a.	n.a.		28%	n.a.	n.a.		22%	n.a.	n.a.	
	Not at all	11%	n.a.	n.a.		15%	n.a.	n.a.		11%	n.a.	n.a.		9%	n.a.	n.a.	
	Don't know	22%	n.a.	n.a.		14%	n.a.	n.a.		19%	n.a.	n.a.		14%	n.a.	n.a.	
	N	618				591				808				670			
H3	Overall, considering the amount of work required by CPC+, adequacy of the CPC+ payments from all payers combined.				n.a.				n.a.				n.a.				n.a.
	More than adequate	1%	n.a.	n.a.		2%	n.a.	n.a.		0%	n.a.	n.a.		3%	n.a.	n.a.	
	Adequate	21%	n.a.	n.a.		27%	n.a.	n.a.		21%	n.a.	n.a.		27%	n.a.	n.a.	
	Less than adequate	34%	n.a.	n.a.		52%	n.a.	n.a.		32%	n.a.	n.a.		52%	n.a.	n.a.	
	Don't know - not familiar with CPC+ payments from all payers or costs of doing CPC+ work	44%	n.a.	n.a.		20%	n.a.	n.a.		46%	n.a.	n.a.		18%	n.a.	n.a.	
	N	618				594				797				671			

Table 3.C.14. ***(continued)***

Question		Track 1 – Health or hospital system owned				Track 1 – Independent				Track 2 – Health or hospital system owned				Track 2 – Independent			
		CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
H4	Given practice's overall experience participating in CPC+, likelihood physician would recommend that their practice participate in CPC+ if their practice could do it all over again.				n.a.				n.a.				n.a.				n.a.
	Very likely	27%	n.a.	n.a.		32%	n.a.	n.a.		31%	n.a.	n.a.		40%	n.a.	n.a.	
	Somewhat likely	38%	n.a.	n.a.		40%	n.a.	n.a.		37%	n.a.	n.a.		38%	n.a.	n.a.	
	Not very likely	12%	n.a.	n.a.		10%	n.a.	n.a.		10%	n.a.	n.a.		9%	n.a.	n.a.	
	Not at all likely	5%	n.a.	n.a.		7%	n.a.	n.a.		7%	n.a.	n.a.		4%	n.a.	n.a.	
	Don't know	17%	n.a.	n.a.		11%	n.a.	n.a.		15%	n.a.	n.a.		9%	n.a.	n.a.	
	N	620				591				810				679			
Barriers to providing optimal patient care																	
B15a	Extent to which lack of available behavioral health specialists for consultations and/or referrals limits physician's ability to provide optimal care for their patients.				0.000				0.172				0.000				0.019
	Does not limit	13%	7%	6		12%	9%	4		18%	8%	10		14%	11%	2	
	Limits somewhat	46%	39%	7		44%	44%	0		47%	41%	6		52%	44%	7	
	Limits a great deal	41%	53%	-13		44%	48%	-4		35%	52%	-17		35%	44%	-9	
	N	632	805			615	610			827	762			695	547		
B15b	Extent to which lack of available medical or surgical specialists for consultations and/or referrals limits physician's ability to provide optimal care for their patients.				0.000				0.155				0.014				0.313
	Does not limit	64%	56%	8		68%	63%	5		64%	56%	8		68%	63%	5	
	Limits somewhat	34%	38%	-4		30%	33%	-3		32%	38%	-6		28%	33%	-4	
	Limits a great deal	2%	6%	-4		3%	4%	-2		3%	5%	-2		4%	4%	-1	
	N	631	807			615	610			826	762			696	547		
B15c[a]	Extent to which inadequate reimbursement from insurers for primary care services limits physician's ability to provide optimal care for their patients.				0.408				0.063				0.108				0.308
	Does not limit	44%	43%	0		34%	31%	2		44%	41%	4		36%	34%	2	
	Limits somewhat	42%	40%	2		45%	40%	4		41%	40%	1		42%	40%	2	
	Limits a great deal	14%	17%	-3		22%	28%	-7		15%	19%	-4		23%	27%	-4	
	N	631	809			614	610			827	764			695	547		

Table 3.C.14. ***(continued)***

Question		Track 1 – Health or hospital system owned				Track 1 – Independent				Track 2 – Health or hospital system owned				Track 2 – Independent			
		CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
B15d[a]	Extent to which inadequate time to spend with patients during visits limits physician's ability to provide optimal care for their patients.				0.034				0.532				0.028				0.002
	Does not limit	21%	21%	0		28%	26%	2		20%	17%	3		22%	26%	-3	
	Limits somewhat	52%	45%	7		49%	48%	1		53%	48%	5		56%	45%	11	
	Limits a great deal	27%	34%	-7		23%	26%	-3		27%	34%	-7		21%	29%	-8	
	N	632	806			615	609			828	762			697	545		

Source: CPC+ Physician Survey administered to physicians at the 2017 Starter CPC+ and Comparison practices August through December 2019.

[a] Cross-listed in other domains. See complete domain mapping for more information.

[b] These questions were also asked to physicians whose practices withdrew from CPC+. For these physicians, the questions were asked in the past tense, to reflect their experiences participating in CPC+ in the past.

p.p. = percentage points; n.a. = not applicable because that group of physicians were not asked that question.

Table 3.C.15. CPC+ and comparison physician responses to other questions, by practice size[32]

Question		Track 1 – Small (1-2 PCPs)				Track 1 – Medium (3-5 PCPs)				Track 1 – Large (6+ PCPs)				Track 2 – Small (1-2 PCPs)				Track 2 – Medium (3-5 PCPs)				Track 2 – Large (6+ PCPs)			
		CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
Teamwork																									
C1a	Extent to which physician agrees or disagrees that: "The group of staff and providers I work with the most at this practice site work well together as a team."				0.531				0.404				0.401				0.126				0.124				0.190
	Strongly disagree	2%	2%	0		1%	0%	1		0%	1%	-1		1%	1%	0		1%	0%	1		1%	1%	0	
	Disagree	0%	0%	0		3%	2%	1		2%	2%	0		3%	0%	3		1%	2%	0		2%	2%	1	
	Neither disagree nor agree	3%	4%	-1		4%	5%	-1		4%	6%	-2		3%	6%	-3		3%	5%	-2		3%	5%	-2	
	Agree	30%	35%	-5		37%	40%	-2		39%	39%	0		31%	33%	-2		39%	39%	0		34%	40%	-5	
	Strongly agree	65%	58%	7		54%	53%	1		55%	52%	2		62%	60%	2		56%	54%	3		59%	53%	7	
	N	402	285			476	501			368	631			323	177			658	456			545	676		
C1b	Extent to which physician agrees or disagrees that: "We have a "we are in it together" attitude at my practice site."				0.699				0.038				0.790				0.892				0.200				0.054
	Strongly disagree	1%	2%	-1		2%	0%	2		0%	0%	0		1%	1%	0		1%	0%	1		2%	1%	1	
	Disagree	2%	2%	0		5%	5%	1		4%	5%	-1		3%	3%	0		3%	4%	-1		3%	4%	-2	
	Neither disagree nor agree	6%	8%	-2		10%	11%	-1		12%	11%	1		5%	8%	-2		10%	11%	-1		10%	11%	-2	
	Agree	33%	33%	0		36%	41%	-6		39%	43%	-3		35%	35%	1		39%	42%	-3		35%	41%	-6	
	Strongly agree	58%	55%	2		47%	42%	4		45%	41%	4		55%	54%	1		47%	42%	5		51%	43%	8	
	N	403	284			476	501			367	629			323	176			658	456			544	675		

[32] We calculated the number of primary care practitioners (PCPs) at the practice site using a November 2016 pull of SK&A data and the National Plan & Provider Enumeration System (NPPES). We counted a provider as a primary care practitioner if they met criteria in either the SK&A data or the NPPES data; we did not require them to be considered a primary care practitioner in both data sources. Using the SK&A data, we defined PCPs as a physician (MD or DO), nurse practitioner (NP), or physician's assistant (PA) who bill under their own National Provider Identifier (NPI) and have a specialty of general practitioner, family practitioner, internist, internal medicine/pediatrics, or geriatrician. In NPPES, we defined PCPs as physicians, NPs, PAs, or clinical nurse specialists with 1 of 56 primary care taxonomy codes.

Table 3.C.15. ***(continued)***

Question		Track 1 – Small (1-2 PCPs)				Track 1 – Medium (3-5 PCPs)				Track 1 – Large (6+ PCPs)				Track 2 – Small (1-2 PCPs)				Track 2 – Medium (3-5 PCPs)				Track 2 – Large (6+ PCPs)			
		CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
C1c	Extent to which physician agrees or disagrees that: "My professional skills are used to the fullest at my practice site."				0.282				0.111				0.466				0.306				0.116				0.346
	Strongly disagree	1%	2%	-1		2%	1%	0		1%	2%	-1		3%	2%	1		2%	1%	1		2%	3%	-1	
	Disagree	6%	9%	-3		9%	7%	2		8%	9%	-1		6%	9%	-3		7%	7%	0		8%	11%	-3	
	Neither disagree nor agree	8%	6%	3		8%	12%	-4		14%	12%	3		3%	8%	-4		8%	13%	-5		11%	12%	-1	
	Agree	37%	38%	-1		37%	40%	-3		40%	41%	-2		37%	37%	0		42%	38%	4		39%	38%	1	
	Strongly agree	48%	46%	3		45%	40%	5		37%	36%	1		51%	44%	6		42%	41%	1		41%	36%	5	
	N	402	282			475	501			367	629			323	175			658	455			542	672		
C1d	Extent to which physician agrees or disagrees that: "It is hard to get things to change at my practice site."				0.018				0.481				0.142				0.736				0.121				0.104
	Strongly disagree	18%	18%	-1		8%	9%	0		7%	7%	0		15%	17%	-2		11%	9%	2		10%	7%	3	
	Disagree	37%	29%	8		36%	33%	3		39%	33%	6		39%	34%	5		38%	33%	5		38%	34%	4	
	Neither disagree nor agree	22%	26%	-4		27%	25%	2		22%	24%	-1		23%	21%	2		24%	25%	0		24%	24%	-1	
	Agree	19%	16%	3		20%	26%	-5		25%	25%	1		17%	19%	-2		19%	25%	-7		19%	25%	-6	
	Strongly agree	4%	10%	-6		9%	8%	1		6%	11%	-5		7%	9%	-2		8%	8%	0		10%	10%	0	
	N	400	284			475	499			366	629			324	176			657	454			545	676		
C1e	Extent to which physician agrees or disagrees that: "I can rely on other people at my practice site to do their jobs well."				0.187				0.047				0.263				0.422				0.854				0.038
	Strongly disagree	1%	2%	0		1%	0%	1		0%	0%	0		2%	1%	1		1%	0%	0		0%	0%	0	
	Disagree	2%	4%	-2		5%	4%	2		3%	5%	-2		3%	4%	-1		3%	3%	0		4%	5%	-1	
	Neither disagree nor agree	7%	11%	-4		8%	12%	-4		9%	9%	0		6%	11%	-5		12%	11%	1		9%	9%	-1	
	Agree	46%	41%	5		51%	53%	-2		51%	56%	-4		44%	40%	4		50%	52%	-2		48%	56%	-8	
	Strongly agree	43%	42%	1		35%	32%	3		36%	30%	7		45%	44%	1		35%	34%	1		39%	29%	10	
	N	403	284			476	500			368	631			323	176			656	455			545	677		
C1f	Extent to which physician agrees or disagrees that: "We regularly take time to consider ways to improve how we do things at my practice site."				0.001				0.007				0.150				0.002				0.041				0.017
	Strongly disagree	2%	2%	0		3%	2%	1		2%	2%	0		4%	2%	2		1%	2%	-1		2%	2%	-1	
	Disagree	6%	7%	-1		5%	11%	-6		7%	9%	-2		4%	8%	-3		6%	9%	-3		4%	8%	-4	
	Neither disagree nor agree	9%	16%	-7		13%	17%	-4		12%	14%	-2		10%	19%	-9		11%	15%	-4		11%	14%	-3	
	Agree	43%	51%	-8		48%	42%	6		41%	46%	-5		43%	46%	-4		49%	44%	5		50%	46%	3	
	Strongly agree	40%	25%	15		30%	28%	2		38%	29%	9		40%	25%	15		34%	30%	3		34%	29%	5	
	N	402	284			476	501			368	631			323	176			658	456			545	677		

Table 3.C.15. ***(continued)***

Question		Track 1 – Small (1-2 PCPs)				Track 1 – Medium (3-5 PCPs)				Track 1 – Large (6+ PCPs)				Track 2 – Small (1-2 PCPs)				Track 2 – Medium (3-5 PCPs)				Track 2 – Large (6+ PCPs)			
		CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
Physician satisfaction, burnout, and likelihood to leave the practice																									
A3	Extent to which physician agrees with the statement: "Overall, I am satisfied with my current job".				0.003				0.697				0.602				0.399				0.553				0.297
	Strongly agree	32%	19%	12		25%	22%	4		27%	25%	3		22%	25%	-3		24%	22%	2		23%	23%	0	
	Agree	46%	48%	-2		53%	56%	-3		50%	52%	-2		55%	46%	10		54%	58%	-4		53%	53%	0	
	Neither disagree nor agree	9%	12%	-3		8%	8%	1		10%	8%	2		9%	11%	-2		9%	8%	1		9%	9%	0	
	Disagree	9%	12%	-3		9%	11%	-1		8%	11%	-3		8%	11%	-3		10%	9%	1		9%	12%	-3	
	Strongly disagree	4%	8%	-4		4%	4%	0		4%	4%	1		6%	8%	-2		3%	4%	-1		6%	3%	3	
	N	406	280			477	502			363	630			325	175			659	458			544	678		
A4	Using physician's own definition of "burnout," statement which best describes physician's situation at work.				0.089				0.760				0.516				0.982				0.808				0.069
	I enjoy my work. I have no symptoms of burnout.	15%	14%	1		14%	12%	2		10%	13%	-3		16%	14%	2		11%	12%	-1		11%	13%	-2	
	Occasionally I am under stress, and I don't always have as much energy as I once did, but I don't feel burned out.	55%	47%	8		49%	51%	-2		49%	47%	2		52%	52%	0		49%	50%	-2		55%	45%	10	
	I am definitely burning out and have one or more symptoms of burnout, such as physical and emotional exhaustion.	21%	30%	-8		29%	28%	2		28%	29%	-1		25%	26%	-1		30%	29%	0		25%	30%	-5	
	The symptoms of burnout that I'm experiencing won't go away. I think about frustrations at work a lot.	7%	6%	1		5%	7%	-1		11%	9%	3		4%	5%	-1		9%	7%	2		7%	9%	-2	
	I feel completely burned out and often wonder if I can go on. I am at the point where I may need some changes or may need to seek some sort of help.	1%	3%	-2		2%	2%	0		2%	3%	-1		4%	3%	1		2%	2%	1		3%	3%	0	
	N	403	285			475	502			366	629			327	176			656	456			545	677		

Table 3.C.15. ***(continued)***

Question		Track 1 – Small (1-2 PCPs)				Track 1 – Medium (3-5 PCPs)				Track 1 – Large (6+ PCPs)				Track 2 – Small (1-2 PCPs)				Track 2 – Medium (3-5 PCPs)				Track 2 – Large (6+ PCPs)			
		CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
A5	Likelihood physician will leave current practice within two years.				0.909				0.280				0.983				0.237				0.615				0.373
	Not at all likely	40%	37%	3		37%	34%	4		32%	34%	-1		41%	35%	6		36%	35%	1		42%	36%	5	
	Not very likely	31%	33%	-2		37%	39%	-1		39%	38%	0		32%	32%	0		37%	40%	-3		32%	36%	-4	
	Somewhat likely	18%	18%	0		13%	17%	-4		16%	16%	1		19%	19%	-1		16%	16%	0		15%	15%	0	
	Very likely	11%	12%	-1		12%	10%	2		13%	13%	0		8%	14%	-6		11%	9%	2		12%	13%	-1	
	N	405	281			471	500			363	626			325	171			653	457			544	675		
Experience with CPC+[a]																									
H1	Overall, extent to which participating in CPC+ changed the quality of care that the physician currently provides to patients.				n.a.				n.a.				n.a.				n.a.				n.a.				n.a.
	Improved a lot	18%	n.a.	n.a.		15%	n.a.	n.a.		16%	n.a.	n.a.		23%	n.a.	n.a.		21%	n.a.	n.a.		20%	n.a.	n.a.	
	Improved somewhat	53%	n.a.	n.a.		55%	n.a.	n.a.		53%	n.a.	n.a.		51%	n.a.	n.a.		54%	n.a.	n.a.		59%	n.a.	n.a.	
	Did not change	19%	n.a.	n.a.		20%	n.a.	n.a.		26%	n.a.	n.a.		17%	n.a.	n.a.		17%	n.a.	n.a.		15%	n.a.	n.a.	
	Worsened somewhat	3%	n.a.	n.a.		3%	n.a.	n.a.		1%	n.a.	n.a.		4%	n.a.	n.a.		4%	n.a.	n.a.		2%	n.a.	n.a.	
	Worsened a lot	0%	n.a.	n.a.		1%	n.a.	n.a.		0%	n.a.	n.a.		1%	n.a.	n.a.		1%	n.a.	n.a.		0%	n.a.	n.a.	
	Don't know	7%	n.a.	n.a.		7%	n.a.	n.a.		5%	n.a.	n.a.		4%	n.a.	n.a.		3%	n.a.	n.a.		4%	n.a.	n.a.	
	N	380				471				360				317				646				518			
H2[b]	Extent to which physician thinks that participating in CPC+ reduced the overall costs of all the health care their patients received.				n.a.				n.a.				n.a.				n.a.				n.a.				n.a.
	A lot	7%	n.a.	n.a.		4%	n.a.	n.a.		4%	n.a.	n.a.		9%	n.a.	n.a.		8%	n.a.	n.a.		9%	n.a.	n.a.	
	Some	35%	n.a.	n.a.		37%	n.a.	n.a.		41%	n.a.	n.a.		36%	n.a.	n.a.		38%	n.a.	n.a.		39%	n.a.	n.a.	
	Not very much	28%	n.a.	n.a.		26%	n.a.	n.a.		26%	n.a.	n.a.		29%	n.a.	n.a.		25%	n.a.	n.a.		25%	n.a.	n.a.	
	Not at all	15%	n.a.	n.a.		12%	n.a.	n.a.		11%	n.a.	n.a.		13%	n.a.	n.a.		12%	n.a.	n.a.		9%	n.a.	n.a.	
	Don't know	15%	n.a.	n.a.		21%	n.a.	n.a.		19%	n.a.	n.a.		13%	n.a.	n.a.		18%	n.a.	n.a.		18%	n.a.	n.a.	
	N	379				469				361				314				644				520			
H3	Overall, considering the amount of work required by CPC+, adequacy of the CPC+ payments from all payers combined.				n.a.				n.a.				n.a.				n.a.				n.a.				n.a.
	More than adequate	1%	n.a.	n.a.		1%	n.a.	n.a.		1%	n.a.	n.a.		0%	n.a.	n.a.		2%	n.a.	n.a.		1%	n.a.	n.a.	
	Adequate	23%	n.a.	n.a.		21%	n.a.	n.a.		24%	n.a.	n.a.		28%	n.a.	n.a.		20%	n.a.	n.a.		24%	n.a.	n.a.	
	Less than adequate	47%	n.a.	n.a.		40%	n.a.	n.a.		40%	n.a.	n.a.		46%	n.a.	n.a.		43%	n.a.	n.a.		37%	n.a.	n.a.	
	Don't know - not familiar with CPC+ payments from all payers or costs of doing CPC+ work	28%	n.a.	n.a.		37%	n.a.	n.a.		35%	n.a.	n.a.		26%	n.a.	n.a.		34%	n.a.	n.a.		38%	n.a.	n.a.	
	N	380				473				359				310				643				515			

Table 3.C.15. ***(continued)***

Question		Track 1 – Small (1-2 PCPs)				Track 1 – Medium (3-5 PCPs)				Track 1 – Large (6+ PCPs)				Track 2 – Small (1-2 PCPs)				Track 2 – Medium (3-5 PCPs)				Track 2 – Large (6+ PCPs)			
		CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
H4	Given practice's overall experience participating in CPC+, likelihood physician would recommend that their practice participate in CPC+ if their practice could do it all over again.				n.a.				n.a.				n.a.				n.a.				n.a.				n.a.
	Very likely	27%	n.a.	n.a.		28%	n.a.	n.a.		31%	n.a.	n.a.		32%	n.a.	n.a.		31%	n.a.	n.a.		37%	n.a.	n.a.	
	Somewhat likely	35%	n.a.	n.a.		40%	n.a.	n.a.		40%	n.a.	n.a.		38%	n.a.	n.a.		39%	n.a.	n.a.		37%	n.a.	n.a.	
	Not very likely	15%	n.a.	n.a.		13%	n.a.	n.a.		8%	n.a.	n.a.		13%	n.a.	n.a.		11%	n.a.	n.a.		7%	n.a.	n.a.	
	Not at all likely	10%	n.a.	n.a.		5%	n.a.	n.a.		5%	n.a.	n.a.		7%	n.a.	n.a.		8%	n.a.	n.a.		4%	n.a.	n.a.	
	Don't know	12%	n.a.	n.a.		14%	n.a.	n.a.		16%	n.a.	n.a.		10%	n.a.	n.a.		10%	n.a.	n.a.		15%	n.a.	n.a.	
	N	381				470				360				317				650				522			
Barriers to providing optimal patient care																									
B15a	Extent to which lack of available behavioral health specialists for consultations and/or referrals limits physician's ability to provide optimal care for their patients.				0.237				0.014				0.008				0.157				0.000				0.000
	Does not limit	13%	9%	4		13%	8%	5		13%	8%	5		13%	10%	4		14%	8%	6		19%	10%	8	
	Limits somewhat	45%	46%	-1		43%	40%	3		47%	40%	7		53%	47%	5		48%	41%	7		48%	42%	7	
	Limits a great deal	42%	45%	-3		43%	52%	-9		41%	52%	-11		34%	43%	-9		38%	51%	-14		33%	48%	-15	
	N	404	284			475	501			368	630			324	177			654	455			544	677		
B15b	Extent to which lack of available medical or surgical specialists for consultations and/or referrals limits physician's ability to provide optimal care for their patients.				0.262				0.104				0.001				0.233				0.108				0.019
	Does not limit	66%	61%	5		61%	60%	2		68%	58%	10		60%	60%	0		64%	59%	5		68%	59%	9	
	Limits somewhat	31%	33%	-3		36%	35%	1		31%	37%	-6		36%	33%	3		33%	36%	-2		28%	37%	-9	
	Limits a great deal	4%	6%	-2		2%	5%	-3		1%	5%	-4		3%	7%	-3		3%	6%	-3		4%	4%	0	
	N	403	285			475	501			368	631			324	177			655	455			543	677		
B15c[b]	Extent to which inadequate reimbursement from insurers for primary care services limits physician's ability to provide optimal care for their patients.				0.227				0.366				0.162				0.285				0.082				0.367
	Does not limit	41%	37%	4		42%	39%	3		38%	38%	0		42%	37%	5		44%	40%	4		39%	36%	3	
	Limits somewhat	40%	38%	2		42%	41%	1		46%	40%	5		41%	40%	1		42%	40%	2		41%	40%	1	
	Limits a great deal	19%	25%	-6		16%	20%	-4		17%	22%	-5		17%	23%	-6		15%	20%	-5		20%	24%	-4	
	N	403	285			474	503			368	631			322	177			657	457			543	677		

Table 3.C.15. ***(continued)***

Question		Track 1 – Small (1-2 PCPs)				Track 1 – Medium (3-5 PCPs)				Track 1 – Large (6+ PCPs)				Track 2 – Small (1-2 PCPs)				Track 2 – Medium (3-5 PCPs)				Track 2 – Large (6+ PCPs)			
		CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
B15d[b]	Extent to which inadequate time to spend with patients during visits limits physician's ability to provide optimal care for their patients.				0.893				0.051				0.087				0.101				0.063				0.006
	Does not limit	34%	32%	2		26%	21%	5		18%	21%	-3		28%	28%	0		25%	20%	5		17%	20%	-3	
	Limits somewhat	41%	42%	-1		50%	48%	3		55%	47%	8		54%	45%	8		51%	49%	1		57%	46%	11	
	Limits a great deal	24%	25%	-1		24%	31%	-7		27%	32%	-5		19%	27%	-8		24%	31%	-6		26%	34%	-8	
	N	403	284			476	503			368	628			324	177			657	457			544	673		

Source: CPC+ Physician Survey administered to physicians at the 2017 Starter CPC+ and Comparison practices August through December 2019.

[a] These questions were also asked to physicians whose practices withdrew from CPC+. For these physicians, the questions were asked in the past tense, to reflect their experiences participating in CPC+ in the past.

[b] Cross-listed in other domains. See complete domain mapping for more information.

p.p. = percentage points; n.a. = not applicable because that group of physicians were not asked that question.

Table 3.C.16. CPC+ and comparison physician responses to other questions, by practice's geographic location[33]

Question		Track 1 – Rural				Track 1 – Suburban				Track 1 – Urban				Track 2 – Rural				Track 2 – Suburban				Track 2 – Urban			
		CPC+	Comparison	Difference (p.p.)	p-value	CPC+	Comparison	Difference (p.p.)	p-value	CPC+	Comparison	Difference (p.p.)	p-value	CPC+	Comparison	Difference (p.p.)	p-value	CPC+	Comparison	Difference (p.p.)	p-value	CPC+	Comparison	Difference (p.p.)	p-value
Physician satisfaction, burnout, and likelihood to leave the practice																									
A3	Extent to which physician agrees with the statement: "Overall, I am satisfied with my current job".				0.562				0.564				0.115				0.901				0.215				0.827
	Strongly agree	25%	21%	4		25%	19%	6		28%	23%	5		26%	22%	3		29%	19%	10		22%	24%	-1	
	Agree	51%	54%	-4		49%	54%	-5		50%	52%	-2		53%	51%	1		47%	54%	-6		55%	54%	1	
	Neither disagree nor agree	11%	13%	-2		10%	7%	3		9%	9%	0		8%	10%	-2		11%	9%	3		9%	9%	0	
	Disagree	12%	7%	5		11%	14%	-3		8%	11%	-3		6%	10%	-4		10%	15%	-5		9%	10%	0	
	Strongly disagree	2%	5%	-3		5%	6%	0		4%	4%	0		7%	6%	1		3%	4%	-1		5%	4%	1	
	N	118	105			190	198			938	1,109			118	86			185	192			1,225	1,033		

[33] Geographic location is derived from the 2015-2016 Department of Health and Human Services' Area Health Resource File (AHRF). The variable used reflects 2013 data. The AHRF provides a 9-point rural-urban continuum code (RUCC) from the USDA Economic Research Service. From these codes, we defined urban as a county in a metro area of more than 250,000 people (RUCC=1 or 2), suburban as a county in a metro area of less than 250,000 people or that has an urban population of 20,000 or more and is adjacent to a metro area (RUCC=3 or 4), or rural if it does not meet the urban or suburban classifications (RUCC=5-9).

Table 3.C.16. ***(continued)***

Question		Track 1 – Rural				Track 1 – Suburban				Track 1 – Urban				Track 2 – Rural				Track 2 – Suburban				Track 2 – Urban			
		CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
A4	Using physician's own definition of "burnout," statement which best describes physician's situation at work.				0.071				0.422				0.732				0.530				0.478				0.284
	I enjoy my work. I have no symptoms of burnout.	7%	7%	-1		11%	16%	-5		13%	13%	0		16%	7%	8		11%	13%	-2		11%	13%	-2	
	Occasionally I am under stress, and I don't always have as much energy as I once did, but I don't feel burned out.	44%	62%	-18		50%	43%	7		51%	48%	3		51%	54%	-3		54%	48%	6		52%	47%	5	
	I am definitely burning out and have one or more symptoms of burnout, such as physical and emotional exhaustion.	33%	21%	12		26%	30%	-4		27%	29%	-2		24%	28%	-4		24%	27%	-3		27%	30%	-3	
	The symptoms of burnout that I'm experiencing won't go away. I think about frustrations at work a lot.	15%	6%	9		11%	8%	3		7%	7%	0		8%	8%	0		7%	11%	-4		7%	7%	0	
	I feel completely burned out and often wonder if I can go on. I am at the point where I may need some changes or may need to seek some sort of help.	2%	3%	-2		2%	2%	-1		2%	3%	-1		2%	3%	-1		5%	2%	3		2%	3%	0	
	N	119	104			193	196			932	1,116			117	84			186	191			1,225	1,034		

Table 3.C.16. ***(continued)***

Question		Track 1 – Rural				Track 1 – Suburban				Track 1 – Urban				Track 2 – Rural				Track 2 – Suburban				Track 2 – Urban			
		CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
A5	Likelihood physician will leave current practice within two years.				0.199				0.787				0.957				0.146				0.568				0.155
	Not at all likely	32%	35%	-3		37%	33%	4		36%	34%	1		49%	35%	14		40%	40%	1		39%	35%	4	
	Not very likely	34%	34%	0		32%	33%	0		38%	38%	-1		33%	31%	2		34%	31%	3		33%	38%	-5	
	Somewhat likely	12%	19%	-7		20%	20%	0		15%	16%	-1		13%	21%	-8		11%	17%	-6		17%	15%	2	
	Very likely	22%	11%	11		11%	14%	-3		11%	11%	0		5%	13%	-8		14%	12%	2		11%	11%	0	
	N	119	105			192	195			928	1,107			116	85			183	189			1,223	1,029		
Experience with CPC+[a]																									
H1	Overall, extent to which participating in CPC+ changed the quality of care that the physician currently provides to patients.				n.a.				n.a.				n.a.				n.a.				n.a.				n.a.
	Improved a lot	14%	n.a.	n.a.		13%	n.a.	n.a.		17%	n.a.	n.a.		27%	n.a.	n.a.		15%	n.a.	n.a.		21%	n.a.	n.a.	
	Improved somewhat	58%	n.a.	n.a.		55%	n.a.	n.a.		53%	n.a.	n.a.		53%	n.a.	n.a.		55%	n.a.	n.a.		56%	n.a.	n.a.	
	Did not change	24%	n.a.	n.a.		25%	n.a.	n.a.		22%	n.a.	n.a.		15%	n.a.	n.a.		17%	n.a.	n.a.		16%	n.a.	n.a.	
	Worsened somewhat	3%	n.a.	n.a.		2%	n.a.	n.a.		2%	n.a.	n.a.		2%	n.a.	n.a.		5%	n.a.	n.a.		3%	n.a.	n.a.	
	Worsened a lot	0%	n.a.	n.a.		1%	n.a.	n.a.		0%	n.a.	n.a.		1%	n.a.	n.a.		0%	n.a.	n.a.		0%	n.a.	n.a.	
	Don't know	2%	n.a.	n.a.		4%	n.a.	n.a.		6%	n.a.	n.a.		2%	n.a.	n.a.		8%	n.a.	n.a.		3%	n.a.	n.a.	
	N	118				187				906				114				183				1,184			
H2[b]	Extent to which physician thinks that participating in CPC+ reduced the overall costs of all the health care their patients received.				n.a.				n.a.				n.a.				n.a.				n.a.				n.a.
	A lot	3%	n.a.	n.a.		5%	n.a.	n.a.		5%	n.a.	n.a.		6%	n.a.	n.a.		7%	n.a.	n.a.		9%	n.a.	n.a.	
	Some	26%	n.a.	n.a.		42%	n.a.	n.a.		39%	n.a.	n.a.		37%	n.a.	n.a.		32%	n.a.	n.a.		39%	n.a.	n.a.	
	Not very much	29%	n.a.	n.a.		29%	n.a.	n.a.		25%	n.a.	n.a.		24%	n.a.	n.a.		20%	n.a.	n.a.		26%	n.a.	n.a.	
	Not at all	20%	n.a.	n.a.		12%	n.a.	n.a.		12%	n.a.	n.a.		18%	n.a.	n.a.		18%	n.a.	n.a.		9%	n.a.	n.a.	
	Don't know	22%	n.a.	n.a.		13%	n.a.	n.a.		20%	n.a.	n.a.		16%	n.a.	n.a.		23%	n.a.	n.a.		16%	n.a.	n.a.	
	N	117				186				906				113				181				1,184			

Table 3.C.16. ***(continued)***

Question		Track 1 – Rural				Track 1 – Suburban				Track 1 – Urban				Track 2 – Rural				Track 2 – Suburban				Track 2 – Urban			
		CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
H3	Overall, considering the amount of work required by CPC+, adequacy of the CPC+ payments from all payers combined.				n.a.				n.a.				n.a.				n.a.				n.a.				n.a.
	More than adequate	3%	n.a.	n.a.		2%	n.a.	n.a.		1%	n.a.	n.a.		5%	n.a.	n.a.		3%	n.a.	n.a.		1%	n.a.	n.a.	
	Adequate	15%	n.a.	n.a.		19%	n.a.	n.a.		25%	n.a.	n.a.		27%	n.a.	n.a.		22%	n.a.	n.a.		23%	n.a.	n.a.	
	Less than adequate	44%	n.a.	n.a.		46%	n.a.	n.a.		40%	n.a.	n.a.		46%	n.a.	n.a.		40%	n.a.	n.a.		40%	n.a.	n.a.	
	Don't know - not familiar with CPC+ payments from all payers or costs of doing CPC+ work	38%	n.a.	n.a.		32%	n.a.	n.a.		34%	n.a.	n.a.		21%	n.a.	n.a.		35%	n.a.	n.a.		36%	n.a.	n.a.	
	N	118				186				908				111				179				1,178			
H4	Given practice's overall experience participating in CPC+, likelihood physician would recommend that their practice participate in CPC+ if their practice could do it all over again.				n.a.				n.a.				n.a.				n.a.				n.a.				n.a.
	Very likely	25%	n.a.	n.a.		29%	n.a.	n.a.		30%	n.a.	n.a.		35%	n.a.	n.a.		29%	n.a.	n.a.		35%	n.a.	n.a.	
	Somewhat likely	36%	n.a.	n.a.		37%	n.a.	n.a.		39%	n.a.	n.a.		39%	n.a.	n.a.		41%	n.a.	n.a.		37%	n.a.	n.a.	
	Not very likely	13%	n.a.	n.a.		17%	n.a.	n.a.		10%	n.a.	n.a.		12%	n.a.	n.a.		11%	n.a.	n.a.		9%	n.a.	n.a.	
	Not at all likely	11%	n.a.	n.a.		7%	n.a.	n.a.		5%	n.a.	n.a.		12%	n.a.	n.a.		5%	n.a.	n.a.		6%	n.a.	n.a.	
	Don't know	16%	n.a.	n.a.		10%	n.a.	n.a.		15%	n.a.	n.a.		3%	n.a.	n.a.		15%	n.a.	n.a.		13%	n.a.	n.a.	
	N	118				185				908				114				180				1,195			

Table 3.C.16. ***(continued)***

Question		Track 1 – Rural				Track 1 – Suburban				Track 1 – Urban				Track 2 – Rural				Track 2 – Suburban				Track 2 – Urban			
		CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
Barriers to providing optimal patient care																									
B15a	Extent to which lack of available behavioral health specialists for consultations and/or referrals limits physician's ability to provide optimal care for their patients.				0.002				0.008				0.002				0.001				0.623				0.000
	Does not limit	4%	10%	-6		12%	5%	7		14%	8%	6		15%	7%	8		12%	12%	0		17%	9%	8	
	Limits somewhat	60%	32%	29		47%	39%	8		43%	43%	1		56%	37%	20		48%	43%	6		48%	43%	6	
	Limits a great deal	35%	58%	-22		41%	56%	-15		43%	49%	-6		28%	56%	-28		40%	46%	-6		35%	48%	-14	
	N	119	106			191	197			937	1,112			117	86			187	191			1,218	1,032		
B15b	Extent to which lack of available medical or surgical specialists for consultations and/or referrals limits physician's ability to provide optimal care for their patients.				0.729				0.024				0.000				0.481				0.800				0.005
	Does not limit	46%	42%	4		49%	54%	-6		70%	62%	8		49%	49%	0		59%	56%	3		68%	61%	7	
	Limits somewhat	46%	52%	-6		49%	38%	11		28%	34%	-5		38%	43%	-6		36%	38%	-1		30%	35%	-5	
	Limits a great deal	8%	7%	1		2%	8%	-5		1%	5%	-3		14%	8%	6		5%	7%	-2		3%	4%	-2	
	N	119	105			192	198			935	1,114			117	85			186	192			1,219	1,032		
B15c[b]	Extent to which inadequate reimbursement from insurers for primary care services limits physician's ability to provide optimal care for their patients.				0.824				0.161				0.084				0.803				0.151				0.059
	Does not limit	28%	25%	4		39%	33%	6		41%	40%	1		32%	32%	0		41%	31%	10		42%	39%	2	
	Limits somewhat	51%	52%	-1		45%	42%	3		42%	38%	3		43%	47%	-4		40%	43%	-2		41%	39%	2	
	Limits a great deal	20%	23%	-3		16%	25%	-9		17%	21%	-4		25%	21%	4		19%	26%	-7		17%	22%	-5	
	N	119	106			191	198			935	1,115			116	86			187	192			1,219	1,033		

Table 3.C.16. ***(continued)***

Question		Track 1 – Rural				Track 1 – Suburban				Track 1 – Urban				Track 2 – Rural				Track 2 – Suburban				Track 2 – Urban			
		CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
B15d[b]	Extent to which inadequate time to spend with patients during visits limits physician's ability to provide optimal care for their patients.				0.760				0.069				0.107				0.981				0.000				0.014
	Does not limit	25%	28%	-3		26%	26%	0		23%	22%	1		28%	27%	1		25%	21%	4		20%	20%	0	
	Limits somewhat	48%	50%	-2		51%	40%	11		51%	47%	4		48%	49%	-1		61%	44%	17		54%	47%	6	
	Limits a great deal	27%	23%	4		23%	33%	-11		26%	31%	-5		24%	23%	1		14%	35%	-21		26%	32%	-6	
	N	119	106			192	198			936	1,111			117	86			187	192			1,221	1,029		

Source: CPC+ Physician Survey administered to physicians at the 2017 Starter CPC+ and Comparison practices August through December 2019.

[a] These questions were also asked to physicians whose practices withdrew from CPC+. For these physicians, the questions were asked in the past tense, to reflect their experiences participating in CPC+ in the past.

[b] Cross-listed in other domains. See complete domain mapping for more information.

p.p. = percentage points; n.a. = not applicable because that group of physicians were not asked that question.

Table 3.C.17. CPC+ and comparison physician responses to other questions, by practice's prior primary care transformation experience[34]

Question		Track 1 – Prior primary care practice transformation experience				Track 1 – No previous experience				Track 2 – Prior primary care practice transformation experience				Track 2 – No previous experience			
		CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
Teamwork																	
C1a	Extent to which physician agrees or disagrees that: "The group of staff and providers I work with the most at this practice site work well together as a team."				0.578				0.714				0.032				0.875
	Strongly disagree	1%	1%	0		1%	1%	0		1%	0%	0		1%	1%	0	
	Disagree	2%	2%	0		2%	1%	1		2%	2%	1		2%	1%	1	
	Neither disagree nor agree	4%	6%	-2		4%	6%	-2		3%	5%	-2		4%	5%	-2	
	Agree	36%	39%	-2		37%	38%	-1		34%	38%	-4		40%	40%	0	
	Strongly agree	57%	53%	4		56%	54%	2		60%	54%	5		54%	53%	2	
	N	631	887			615	530			1,166	979			360	330		
C1b	Extent to which physician agrees or disagrees that: "We have a "we are in it together" attitude at my practice site."				0.535				0.919				0.018				0.482
	Strongly disagree	1%	0%	0		1%	1%	0		2%	1%	1		1%	0%	0	
	Disagree	4%	4%	0		4%	4%	0		3%	4%	-1		3%	5%	-2	
	Neither disagree nor agree	10%	11%	0		9%	10%	-1		9%	12%	-2		9%	7%	2	
	Agree	37%	41%	-4		37%	39%	-2		36%	40%	-4		39%	44%	-5	
	Strongly agree	47%	43%	4		49%	46%	3		51%	44%	7		48%	43%	5	
	N	630	885			616	529			1,166	978			359	329		

[34] We considered a practice to be a Multi-Payer Advanced Primary Care Practice participant if it participated in any year, 2011–2014 for 2017 Starters, as determined by a file from CMS. A practice was considered to have medical home recognition if it at least one of its primary care providers was listed as having recognition at some point 2014–2017 from the National Community for Quality Assurance (NCQA), a state, the Accreditation Association for Ambulatory Health Care (AAAHC), The Joint Commission (TJC), or Utilization Review Accreditation Commission (URAC), as determined by the June 2016 (for 2017 Starters) NCQA PCMH file and data extracted from the websites of TJC, AAAHC, URAC, and state-specific sources from October 2016 to February 2017.

Table 3.C.17. ***(continued)***

Question		Track 1 – Prior primary care practice transformation experience				Track 1 – No previous experience				Track 2 – Prior primary care practice transformation experience				Track 2 – No previous experience			
		CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
C1c	Extent to which physician agrees or disagrees that: "My professional skills are used to the fullest at my practice site."				0.617				0.556				0.034				0.995
	Strongly disagree	1%	2%	-1		1%	2%	-1		2%	2%	0		2%	2%	0	
	Disagree	8%	8%	0		7%	7%	0		7%	10%	-3		8%	7%	1	
	Neither disagree nor agree	11%	13%	-1		11%	8%	3		9%	12%	-3		8%	9%	0	
	Agree	38%	39%	-1		39%	42%	-3		39%	37%	2		41%	42%	0	
	Strongly agree	42%	39%	3		42%	40%	2		43%	39%	5		40%	40%	0	
	N	630	883			614	529			1,164	974			359	328		
C1d	Extent to which physician agrees or disagrees that: "It is hard to get things to change at my practice site."				0.076				0.189				0.045				0.075
	Strongly disagree	8%	9%	-1		12%	11%	1		10%	9%	1		13%	8%	5	
	Disagree	38%	33%	4		37%	30%	7		38%	34%	4		37%	32%	5	
	Neither disagree nor agree	25%	23%	2		21%	26%	-5		24%	24%	0		24%	27%	-2	
	Agree	23%	24%	-1		21%	22%	-1		19%	25%	-6		18%	21%	-4	
	Strongly agree	6%	10%	-4		8%	10%	-2		9%	9%	0		8%	13%	-4	
	N	629	884			612	528			1,166	977			360	329		
C1e	Extent to which physician agrees or disagrees that: "I can rely on other people at my practice site to do their jobs well."				0.031				0.291				0.036				0.907
	Strongly disagree	0%	0%	0		1%	1%	0		1%	0%	0		1%	1%	0	
	Disagree	3%	5%	-2		4%	3%	1		3%	4%	-1		4%	3%	1	
	Neither disagree nor agree	8%	10%	-1		8%	11%	-4		9%	10%	-1		9%	10%	-1	
	Agree	48%	53%	-5		53%	50%	4		48%	53%	-5		51%	53%	-2	
	Strongly agree	40%	31%	8		34%	35%	-1		39%	32%	7		35%	33%	2	
	N	631	885			616	530			1,166	978			358	330		
C1f	Extent to which physician agrees or disagrees that: "We regularly take time to consider ways to improve how we do things at my practice site."				0.059				0.004				0.000				0.017
	Strongly disagree	2%	2%	0		3%	2%	1		2%	2%	0		2%	3%	-1	
	Disagree	6%	8%	-3		7%	11%	-4		5%	8%	-3		5%	12%	-8	
	Neither disagree nor agree	12%	15%	-3		11%	16%	-5		10%	16%	-5		13%	12%	0	
	Agree	44%	45%	-1		43%	46%	-3		49%	45%	4		46%	45%	0	
	Strongly agree	37%	30%	7		35%	25%	10		35%	29%	5		35%	27%	8	
	N	631	886			615	530			1,166	979			360	330		

Table 3.C.17. ***(continued)***

Question		Track 1 – Prior primary care practice transformation experience				Track 1 – No previous experience				Track 2 – Prior primary care practice transformation experience				Track 2 – No previous experience			
		CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
Physician satisfaction, burnout, and likelihood to leave the practice																	
A3	Extent to which physician agrees with the statement: "Overall, I am satisfied with my current job".				0.407				0.055				0.909				0.549
	Strongly agree	28%	23%	5		27%	22%	5		24%	23%	1		19%	22%	-2	
	Agree	50%	53%	-3		50%	52%	-2		52%	53%	-1		60%	54%	5	
	Neither disagree nor agree	9%	10%	-1		10%	8%	2		10%	9%	0		7%	8%	-1	
	Disagree	9%	10%	-1		8%	12%	-5		9%	10%	-1		10%	13%	-3	
	Strongly disagree	4%	4%	-1		5%	5%	0		5%	4%	1		5%	4%	1	
	N	630	885			616	527			1,169	982			359	329		
A4	Using physician's own definition of "burnout," statement which best describes physician's situation at work.				0.371				0.911				0.253				0.987
	I enjoy my work. I have no symptoms of burnout.	11%	13%	-2		14%	13%	1		11%	13%	-2		13%	12%	1	
	Occasionally I am under stress, and I don't always have as much energy as I once did, but I don't feel burned out.	51%	48%	3		49%	49%	1		53%	47%	6		50%	50%	0	
	I am definitely burning out and have one or more symptoms of burnout, such as physical and emotional exhaustion.	27%	29%	-2		28%	28%	0		27%	30%	-3		25%	27%	-2	
	The symptoms of burnout that I'm experiencing won't go away. I think about frustrations at work a lot.	10%	7%	2		6%	7%	-1		7%	7%	-1		9%	8%	0	
	I feel completely burned out and often wonder if I can go on. I am at the point where I may need some changes or may need to seek some sort of help.	2%	3%	-1		2%	3%	-1		3%	3%	0		2%	2%	0	
	N	627	886			617	530			1,167	980			361	329		

Table 3.C.17. ***(continued)***

Question		Track 1 – Prior primary care practice transformation experience				Track 1 – No previous experience				Track 2 – Prior primary care practice transformation experience				Track 2 – No previous experience			
		CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
A5	Likelihood physician will leave current practice within two years.				0.606				0.566				0.093				0.683
	Not at all likely	34%	33%	1		37%	36%	1		40%	35%	5		37%	40%	-3	
	Not very likely	39%	37%	2		33%	38%	-4		32%	38%	-5		38%	34%	5	
	Somewhat likely	15%	17%	-3		18%	16%	2		16%	16%	0		14%	15%	-1	
	Very likely	12%	12%	0		12%	11%	1		11%	12%	0		10%	12%	-1	
	N	623	886			616	521			1,163	979			359	324		
Experience with CPC+[a]																	
H1	Overall, extent to which participating in CPC+ changed the quality of care that the physician currently provides to patients.				n.a.				n.a.				n.a.				n.a.
	Improved a lot	15%	n.a.	n.a.		18%	n.a.	n.a.		21%	n.a.	n.a.		20%	n.a.	n.a.	
	Improved somewhat	53%	n.a.	n.a.		54%	n.a.	n.a.		56%	n.a.	n.a.		57%	n.a.	n.a.	
	Did not change	24%	n.a.	n.a.		20%	n.a.	n.a.		16%	n.a.	n.a.		17%	n.a.	n.a.	
	Worsened somewhat	2%	n.a.	n.a.		2%	n.a.	n.a.		3%	n.a.	n.a.		2%	n.a.	n.a.	
	Worsened a lot	0%	n.a.	n.a.		1%	n.a.	n.a.		0%	n.a.	n.a.		1%	n.a.	n.a.	
	Don't know	6%	n.a.	n.a.		5%	n.a.	n.a.		4%	n.a.	n.a.		4%	n.a.	n.a.	
	N	617				594				1,132				349			
H2[b]	Extent to which physician thinks that participating in CPC+ reduced the overall costs of all the health care their patients received.				n.a.				n.a.				n.a.				n.a.
	A lot	4%	n.a.	n.a.		6%	n.a.	n.a.		9%	n.a.	n.a.		7%	n.a.	n.a.	
	Some	38%	n.a.	n.a.		39%	n.a.	n.a.		39%	n.a.	n.a.		34%	n.a.	n.a.	
	Not very much	25%	n.a.	n.a.		28%	n.a.	n.a.		25%	n.a.	n.a.		30%	n.a.	n.a.	
	Not at all	11%	n.a.	n.a.		13%	n.a.	n.a.		10%	n.a.	n.a.		13%	n.a.	n.a.	
	Don't know	22%	n.a.	n.a.		14%	n.a.	n.a.		17%	n.a.	n.a.		16%	n.a.	n.a.	
	N	616				593				1,131				347			

Table 3.C.17. ***(continued)***

Question		Track 1 – Prior primary care practice transformation experience				Track 1 – No previous experience				Track 2 – Prior primary care practice transformation experience				Track 2 – No previous experience			
		CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
H3	Overall, considering the amount of work required by CPC+, adequacy of the CPC+ payments from all payers combined.				n.a.				n.a.				n.a.				n.a.
	More than adequate	1%	n.a.	n.a.		2%	n.a.	n.a.		1%	n.a.	n.a.		1%	n.a.	n.a.	
	Adequate	21%	n.a.	n.a.		26%	n.a.	n.a.		24%	n.a.	n.a.		21%	n.a.	n.a.	
	Less than adequate	40%	n.a.	n.a.		43%	n.a.	n.a.		39%	n.a.	n.a.		43%	n.a.	n.a.	
	Don't know - not familiar with CPC+ payments from all payers or costs of doing CPC+ work	38%	n.a.	n.a.		29%	n.a.	n.a.		35%	n.a.	n.a.		35%	n.a.	n.a.	
	N	618				594				1,125				343			
H4	Given practice's overall experience participating in CPC+, likelihood physician would recommend that their practice participate in CPC+ if their practice could do it all over again.				n.a.				n.a.				n.a.				n.a.
	Very likely	29%	n.a.	n.a.		30%	n.a.	n.a.		36%	n.a.	n.a.		28%	n.a.	n.a.	
	Somewhat likely	39%	n.a.	n.a.		39%	n.a.	n.a.		36%	n.a.	n.a.		42%	n.a.	n.a.	
	Not very likely	11%	n.a.	n.a.		11%	n.a.	n.a.		9%	n.a.	n.a.		12%	n.a.	n.a.	
	Not at all likely	5%	n.a.	n.a.		8%	n.a.	n.a.		6%	n.a.	n.a.		7%	n.a.	n.a.	
	Don't know	17%	n.a.	n.a.		11%	n.a.	n.a.		13%	n.a.	n.a.		10%	n.a.	n.a.	
	N	618				593				1,139				350			
Barriers to providing optimal patient care																	
B15c[b]	Extent to which inadequate reimbursement from insurers for primary care services limits physician's ability to provide optimal care for their patients.				0.173				0.101				0.069				0.064
	Does not limit	42%	39%	3		37%	36%	0		41%	39%	2		42%	33%	9	
	Limits somewhat	42%	40%	2		45%	40%	5		42%	39%	3		37%	42%	-5	
	Limits a great deal	16%	21%	-4		18%	24%	-5		17%	22%	-5		21%	25%	-4	
	N	631	888			614	531			1,164	981			358	330		

Table 3.C.17. ***(continued)***

Question		Track 1 – Prior primary care practice transformation experience				Track 1 – No previous experience				Track 2 – Prior primary care practice transformation experience				Track 2 – No previous experience			
		CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
B15d[b]	Extent to which inadequate time to spend with patients during visits limits physician's ability to provide optimal care for their patients.				0.017				0.777				0.001				0.382
	Does not limit	20%	21%	-1		29%	27%	2		21%	21%	0		22%	21%	2	
	Limits somewhat	54%	46%	8		46%	47%	-1		54%	46%	8		55%	51%	4	
	Limits a great deal	26%	33%	-7		25%	27%	-1		25%	33%	-8		23%	28%	-5	
	N	631	885			616	530			1,166	977			359	330		

Source: CPC+ Physician Survey administered to physicians at the 2017 Starter CPC+ and Comparison practices August through December 2019.

[a] These questions were also asked to physicians whose practices withdrew from CPC+. For these physicians, the questions were asked in the past tense, to reflect their experiences participating in CPC+ in the past.

[b] Cross-listed in other domains. See complete domain mapping for more information.

p.p. = percentage points; n.a. = not applicable because that group of physicians were not asked that question.

Table 3.C.18. CPC+ and comparison physician responses to other questions, by practice's SSP status[35]

		Track 1 – Medicare SSP ACO Participant				Track 1 – Not a Medicare SSP ACO Participant				Track 2 – Medicare SSP ACO Participant				Track 2 – Not a Medicare SSP ACO Participant			
Question		CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
Physician use of data feedback																	
G1	Physician received data feedback on quality of care for their patients in the past 12 months.				0.023				0.000				0.000				0.001
	Yes	92%	88%	4		96%	85%	11		98%	88%	9		94%	87%	7	
	No	4%	7%	-3		3%	10%	-7		2%	6%	-5		4%	8%	-4	
	Don't know	4%	5%	-1		1%	5%	-4		1%	5%	-4		2%	5%	-3	
	N	628	772			605	615			573	612			930	670		
G1a	Among physicians that received data feedback on quality of care for their patients in the past 12 months, the extent to which physician made changes to how their deliver care in response to this feedback.				0.195				0.162				0.001				0.042
	Yes, physician made major changes to how they deliver care	13%	14%	-1		16%	14%	2		16%	14%	2		13%	13%	1	
	Yes, physician made minor changes to how they deliver care	72%	67%	5		70%	67%	3		74%	67%	7		74%	70%	5	
	No, physician made no changes to how they deliver care	14%	18%	-4		13%	18%	-5		10%	19%	-9		12%	18%	-5	
	N	560	649			545	508			534	515			854	566		
G2	Physician received data feedback on health care service utilization for their patients in the past 12 months.				0.019				0.000				0.000				0.000
	Yes	67%	59%	8		72%	47%	25		78%	59%	19		72%	47%	25	
	No	25%	32%	-7		21%	45%	-24		16%	30%	-15		21%	43%	-22	
	Don't know	8%	9%	-1		8%	9%	-1		6%	10%	-4		7%	10%	-3	
	N	630	779			603	615			581	618			931	670		

[35] Whether the physician's practice participated in a Medicare SSP accountable care organization at the start of CPC+ (January 1, 2017).

Table 3.C.18. ***(continued)***

Question		Track 1 – Medicare SSP ACO Participant				Track 1 – Not a Medicare SSP ACO Participant				Track 2 – Medicare SSP ACO Participant				Track 2 – Not a Medicare SSP ACO Participant			
		CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
G2a	Among physicians that received data feedback on health care service utilization for their patients in the past 12 months, the extent to which physician made changes to how their deliver care in response to this feedback.				0.648				0.004				0.029				0.037
	Yes, physician made major changes to how they deliver care	13%	13%	0		9%	6%	3		12%	12%	0		12%	7%	5	
	Yes, physician made minor changes to how they deliver care	58%	55%	3		70%	60%	10		64%	55%	10		60%	60%	0	
	No, physician made no changes to how they deliver care	29%	33%	-3		21%	34%	-13		24%	33%	-9		28%	33%	-5	
	N	439	440			449	286			445	346			674	309		
G3[a]	Physician received data feedback on total cost of health care (reimbursed by insurers to all providers who provide care) for their patients in the past 12 months.				0.001				0.000				0.090				0.000
	Yes	37%	29%	8		36%	19%	17		34%	29%	5		35%	21%	14	
	No	47%	58%	-10		48%	70%	-22		51%	56%	-6		51%	68%	-17	
	Don't know	15%	14%	2		16%	11%	5		15%	15%	0		13%	11%	3	
	N	629	778			604	618			579	616			930	675		

Table 3.C.18. ***(continued)***

Question		Track 1 – Medicare SSP ACO Participant				Track 1 – Not a Medicare SSP ACO Participant				Track 2 – Medicare SSP ACO Participant				Track 2 – Not a Medicare SSP ACO Participant			
		CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
G3a[a]	Among physicians that received data feedback on the total cost of care for their patients in the past 12 months, the extent to which physician made changes to how their deliver care in response to this feedback.				0.131				0.852				0.001				0.946
	Yes, physician made major changes to how they deliver care	9%	12%	-2		10%	8%	2		5%	16%	-11		8%	7%	1	
	Yes, physician made minor changes to how they deliver care	59%	49%	10		59%	58%	1		65%	50%	15		55%	55%	0	
	No, physician made no changes to how they deliver care	31%	39%	-8		32%	34%	-3		30%	34%	-4		37%	38%	-1	
	N	256	219			235	116			220	169			344	139		
G4	Percentage of physicians who receive data on what insurers paid (reimbursed) for individual specialists for physician's practice's patients.				0.000				0.000				0.373				0.000
	%	21%	9%			15%	6%	9		12%	10%	2		16%	6%	10	
	N	625	773			604	617			574	611			919	671		
G4a	Among physicians who receive data on what insurers paid (reimbursed) for individual specialists for physician's practice's patients, extent to which the physician considers these cost data when deciding to which specialist to refer a patient.				0.022				0.002				0.268				0.001
	A lot	20%	18%	3		7%	32%	-25		16%	26%	-10		9%	38%	-29	
	Some	62%	47%	15		57%	38%	20		62%	52%	10		59%	34%	24	
	Not very much	12%	30%	-18		29%	16%	13		19%	14%	5		23%	20%	3	
	Not at all	5%	5%	0		7%	14%	-7		3%	8%	-5		9%	8%	1	
	N	142	68			113	32			84	56			157	35		

Table 3.C.18. ***(continued)***

Question		Track 1 – Medicare SSP ACO Participant				Track 1 – Not a Medicare SSP ACO Participant				Track 2 – Medicare SSP ACO Participant				Track 2 – Not a Medicare SSP ACO Participant			
		CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
Teamwork																	
C1a	Extent to which physician agrees or disagrees that: "The group of staff and providers I work with the most at this practice site work well together as a team."				0.335				0.835				0.005				0.625
	Strongly disagree	1%	1%	0		1%	1%	0		0%	0%	0		1%	1%	0	
	Disagree	2%	2%	1		2%	1%	0		3%	1%	2		2%	2%	0	
	Neither disagree nor agree	3%	6%	-2		5%	5%	-1		3%	6%	-3		4%	5%	-1	
	Agree	38%	39%	-1		35%	38%	-3		35%	42%	-7		36%	37%	-1	
	Strongly agree	56%	53%	3		58%	54%	3		60%	51%	9		58%	56%	2	
	N	637	789			609	628			585	624			941	685		
C1b	Extent to which physician agrees or disagrees that: "We have a "we are in it together" attitude at my practice site."				0.546				0.368				0.001				0.465
	Strongly disagree	1%	1%	1		1%	1%	0		1%	0%	1		1%	1%	0	
	Disagree	4%	4%	0		4%	4%	0		2%	4%	-3		4%	4%	0	
	Neither disagree nor agree	8%	10%	-2		12%	11%	1		11%	11%	-1		8%	10%	-2	
	Agree	41%	41%	0		33%	40%	-6		35%	43%	-8		37%	39%	-2	
	Strongly agree	46%	44%	2		50%	45%	5		51%	42%	10		50%	46%	4	
	N	636	787			610	627			583	622			942	685		
C1c	Extent to which physician agrees or disagrees that: "My professional skills are used to the fullest at my practice site."				0.039				0.971				0.115				0.502
	Strongly disagree	0%	2%	-2		2%	1%	1		1%	2%	-1		2%	2%	0	
	Disagree	8%	8%	-1		7%	7%	0		7%	10%	-2		7%	9%	-2	
	Neither disagree nor agree	11%	11%	0		11%	11%	0		8%	13%	-4		9%	11%	-2	
	Agree	38%	40%	-2		38%	40%	-1		43%	39%	4		37%	38%	0	
	Strongly agree	43%	38%	5		41%	41%	0		41%	37%	4		44%	40%	4	
	N	636	788			608	624			583	622			940	680		

Table 3.C.18. ***(continued)***

Question		Track 1 – Medicare SSP ACO Participant				Track 1 – Not a Medicare SSP ACO Participant				Track 2 – Medicare SSP ACO Participant				Track 2 – Not a Medicare SSP ACO Participant			
		CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
C1d	Extent to which physician agrees or disagrees that: "It is hard to get things to change at my practice site."				0.451				0.089				0.320				0.036
	Strongly disagree	10%	10%	0		10%	11%	0		8%	7%	2		13%	10%	3	
	Disagree	35%	32%	3		40%	32%	8		38%	34%	4		38%	34%	4	
	Neither disagree nor agree	26%	27%	0		21%	22%	-1		25%	27%	-2		23%	22%	1	
	Agree	23%	22%	1		22%	25%	-3		18%	23%	-5		19%	25%	-6	
	Strongly agree	7%	10%	-3		6%	10%	-3		10%	9%	1		8%	10%	-2	
	N	635	786			606	626			584	622			942	684		
C1e	Extent to which physician agrees or disagrees that: "I can rely on other people at my practice site to do their jobs well."				0.781				0.084				0.142				0.324
	Strongly disagree	1%	0%	0		1%	0%	0		0%	0%	0		1%	1%	1	
	Disagree	4%	4%	0		4%	5%	-1		4%	4%	0		3%	4%	-1	
	Neither disagree nor agree	10%	11%	-2		7%	10%	-3		8%	10%	-3		11%	10%	0	
	Agree	53%	54%	0		47%	50%	-3		51%	56%	-5		46%	51%	-5	
	Strongly agree	33%	31%	2		42%	35%	8		38%	30%	8		39%	34%	4	
	N	637	789			610	626			585	624			939	684		
C1f	Extent to which physician agrees or disagrees that: "We regularly take time to consider ways to improve how we do things at my practice site."				0.046				0.011				0.001				0.044
	Strongly disagree	2%	1%	0		2%	2%	1		1%	2%	0		2%	2%	-1	
	Disagree	7%	10%	-3		6%	9%	-3		4%	9%	-5		5%	8%	-3	
	Neither disagree nor agree	12%	15%	-3		11%	17%	-5		9%	15%	-6		12%	15%	-3	
	Agree	45%	48%	-2		42%	43%	-1		50%	46%	4		47%	45%	2	
	Strongly agree	34%	27%	7		38%	29%	9		36%	28%	7		34%	29%	4	
	N	637	789			609	627			584	624			942	685		

Table 3.C.18. ***(continued)***

Question		Track 1 – Medicare SSP ACO Participant				Track 1 – Not a Medicare SSP ACO Participant				Track 2 – Medicare SSP ACO Participant				Track 2 – Not a Medicare SSP ACO Participant			
		CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
Physician satisfaction, burnout, and likelihood to leave the practice																	
A3	Extent to which physician agrees with the statement: "Overall, I am satisfied with my current job".				0.059				0.775				0.674				0.965
	Strongly agree	29%	22%	8		26%	23%	2		22%	22%	0		24%	23%	1	
	Agree	48%	52%	-5		52%	53%	-1		53%	54%	0		54%	53%	0	
	Neither disagree nor agree	10%	10%	0		9%	8%	1		11%	10%	0		8%	8%	0	
	Disagree	9%	11%	-2		9%	11%	-2		10%	11%	-2		9%	10%	-1	
	Strongly disagree	4%	5%	-1		4%	5%	0		5%	3%	2		5%	5%	0	
	N	639	787			607	625			587	624			941	687		
A4	Using physician's own definition of "burnout," statement which best describes physician's situation at work.				0.698				0.294				0.538				0.117
	I enjoy my work. I have no symptoms of burnout.	14%	12%	2		11%	14%	-3		11%	11%	0		12%	15%	-3	
	Occasionally I am under stress, and I don't always have as much energy as I once did, but I don't feel burned out.	53%	50%	3		48%	47%	1		54%	52%	2		51%	44%	7	
	I am definitely burning out and have one or more symptoms of burnout, such as physical and emotional exhaustion.	24%	28%	-3		30%	30%	0		24%	26%	-2		28%	32%	-3	
	The symptoms of burnout that I'm experiencing won't go away. I think about frustrations at work a lot.	7%	8%	-1		10%	7%	3		7%	9%	-2		7%	6%	0	
	I feel completely burned out and often wonder if I can go on. I am at the point where I may need some changes or may need to seek some sort of help.	2%	2%	0		2%	3%	-1		3%	2%	2		2%	3%	-1	
	N	635	790			609	626			585	625			943	684		

Table 3.C.18. ***(continued)***

Question		Track 1 – Medicare SSP ACO Participant				Track 1 – Not a Medicare SSP ACO Participant				Track 2 – Medicare SSP ACO Participant				Track 2 – Not a Medicare SSP ACO Participant			
		CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
A5	Likelihood physician will leave current practice within two years.				0.714				0.955				0.655				0.180
	Not at all likely	37%	34%	3		34%	35%	-1		38%	35%	3		41%	36%	5	
	Not very likely	37%	38%	-1		36%	37%	0		35%	37%	-3		33%	36%	-4	
	Somewhat likely	16%	17%	-2		16%	16%	0		15%	16%	-1		17%	15%	1	
	Very likely	11%	11%	0		13%	12%	1		13%	12%	1		9%	12%	-2	
	N	632	783			607	624			584	619			938	684		
Experience with CPC+[b]																	
H1	Overall, extent to which participating in CPC+ changed the quality of care that the physician currently provides to patients.				n.a.				n.a.				n.a.				n.a.
	Improved a lot	17%	n.a.	n.a.		15%	n.a.	n.a.		23%	n.a.	n.a.		20%	n.a.	n.a.	
	Improved somewhat	52%	n.a.	n.a.		54%	n.a.	n.a.		55%	n.a.	n.a.		57%	n.a.	n.a.	
	Did not change	21%	n.a.	n.a.		24%	n.a.	n.a.		17%	n.a.	n.a.		15%	n.a.	n.a.	
	Worsened somewhat	2%	n.a.	n.a.		2%	n.a.	n.a.		2%	n.a.	n.a.		3%	n.a.	n.a.	
	Worsened a lot	0%	n.a.	n.a.		1%	n.a.	n.a.		0%	n.a.	n.a.		1%	n.a.	n.a.	
	Don't know	7%	n.a.	n.a.		4%	n.a.	n.a.		3%	n.a.	n.a.		4%	n.a.	n.a.	
	N	613				598				564				917			
H2[a]	Extent to which physician thinks that participating in CPC+ reduced the overall costs of all the health care their patients received.				n.a.				n.a.				n.a.				n.a.
	A lot	6%	n.a.	n.a.		3%	n.a.	n.a.		9%	n.a.	n.a.		9%	n.a.	n.a.	
	Some	40%	n.a.	n.a.		37%	n.a.	n.a.		40%	n.a.	n.a.		37%	n.a.	n.a.	
	Not very much	26%	n.a.	n.a.		26%	n.a.	n.a.		26%	n.a.	n.a.		25%	n.a.	n.a.	
	Not at all	8%	n.a.	n.a.		17%	n.a.	n.a.		9%	n.a.	n.a.		12%	n.a.	n.a.	
	Don't know	20%	n.a.	n.a.		18%	n.a.	n.a.		16%	n.a.	n.a.		18%	n.a.	n.a.	
	N	608				601				566				912			

Table 3.C.18. ***(continued)***

Question		Track 1 – Medicare SSP ACO Participant				Track 1 – Not a Medicare SSP ACO Participant				Track 2 – Medicare SSP ACO Participant				Track 2 – Not a Medicare SSP ACO Participant			
		CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
H3	Overall, considering the amount of work required by CPC+, adequacy of the CPC+ payments from all payers combined.				n.a.				n.a.				n.a.				n.a.
	More than adequate	2%	n.a.	n.a.		0%	n.a.	n.a.		2%	n.a.	n.a.		1%	n.a.	n.a.	
	Adequate	26%	n.a.	n.a.		20%	n.a.	n.a.		26%	n.a.	n.a.		22%	n.a.	n.a.	
	Less than adequate	33%	n.a.	n.a.		50%	n.a.	n.a.		33%	n.a.	n.a.		46%	n.a.	n.a.	
	Don't know - not familiar with CPC+ payments from all payers or costs of doing CPC+ work	39%	n.a.	n.a.		30%	n.a.	n.a.		39%	n.a.	n.a.		32%	n.a.	n.a.	
	N	612				600				554				914			
H4	Given practice's overall experience participating in CPC+, likelihood physician would recommend that their practice participate in CPC+ if their practice could do it all over again.				n.a.				n.a.				n.a.				n.a.
	Very likely	31%	n.a.	n.a.		28%	n.a.	n.a.		35%	n.a.	n.a.		34%	n.a.	n.a.	
	Somewhat likely	39%	n.a.	n.a.		38%	n.a.	n.a.		36%	n.a.	n.a.		38%	n.a.	n.a.	
	Not very likely	8%	n.a.	n.a.		14%	n.a.	n.a.		9%	n.a.	n.a.		10%	n.a.	n.a.	
	Not at all likely	5%	n.a.	n.a.		7%	n.a.	n.a.		5%	n.a.	n.a.		7%	n.a.	n.a.	
	Don't know	16%	n.a.	n.a.		13%	n.a.	n.a.		14%	n.a.	n.a.		11%	n.a.	n.a.	
	N	612				599				568				921			
Barriers to providing optimal patient care																	
B15c[a]	Extent to which inadequate reimbursement from insurers for primary care services limits physician's ability to provide optimal care for their patients.				0.040				0.144				0.056				0.153
	Does not limit	45%	40%	5		35%	36%	-2		46%	38%	7		38%	37%	0	
	Limits somewhat	41%	41%	0		45%	40%	6		39%	42%	-2		42%	39%	4	
	Limits a great deal	14%	20%	-5		20%	24%	-4		15%	20%	-5		20%	24%	-4	
	N	637	791			608	628			583	625			939	686		

Table 3.C.18. ***(continued)***

Question		Track 1 – Medicare SSP ACO Participant				Track 1 – Not a Medicare SSP ACO Participant				Track 2 – Medicare SSP ACO Participant				Track 2 – Not a Medicare SSP ACO Participant			
		CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
B15d[a]	Extent to which inadequate time to spend with patients during visits limits physician's ability to provide optimal care for their patients.				0.018				0.568				0.037				0.013
	Does not limit	25%	23%	2		23%	24%	-1		21%	20%	1		21%	21%	0	
	Limits somewhat	52%	46%	6		50%	46%	4		55%	48%	7		54%	47%	7	
	Limits a great deal	23%	31%	-8		28%	30%	-2		24%	32%	-8		25%	32%	-7	
	N	637	788			610	627			584	622			941	685		

Source: CPC+ Physician Survey administered to physicians at the 2017 Starter CPC+ and Comparison practices August through December 2019.

[a] Cross-listed in other domains. See complete domain mapping for more information.

[b] These questions were also asked to physicians whose practices withdrew from CPC+. For these physicians, the questions were asked in the past tense, to reflect their experiences participating in CPC+ in the past.

p.p. = percentage points; n.a. = not applicable because that group of physicians were not asked that question.

Table 3.C.19. CPC+ and comparison physician characteristics and compensation, overall and by track

Question		Overall (Track 1 and 2)	Overall – Track 1				Overall – Track 2			
		CPC+ Physicians	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
Physician characteristics										
A1	Percentage of physicians (MD or DO) who have a primary specialty of family medicine, general medicine, internal medicine, or geriatric medicine					0.798				0.147
	%	100%	100%	100%	0		100%	100%	0	
	N	2,750	1,242	1,408			1,518	1,300		
A2	Percentage of physicians who provide any primary care to patients at the practice site listed on the survey					1.000				1.000
	%	100%	100%	100%	0		100%	100%	0	
	N	2,782	1,256	1,427			1,536	1,319		
I1	Distribution of physicians' gender					0.880				0.802
	Male	59%	57%	58%	0		60%	60%	1	
	Female	41%	43%	42%	0		40%	40%	-1	
	N	2,684	1,209	1,384			1,485	1,273		
I2	Distribution of physicians' age, in years					0.447				0.213
	Less than 30 years	0%	0%	0%	0		0%	0%	0	
	30-39	15%	14%	13%	1		15%	15%	0	
	40-49	28%	27%	24%	3		29%	25%	4	
	50-59	31%	32%	32%	0		30%	31%	-2	
	60-69	23%	23%	26%	-3		23%	25%	-2	
	70 years or older	4%	4%	5%	0		4%	4%	-1	
	N	2,733	1,230	1,397			1,513	1,292		
I3	Percentage of physicians of Hispanic or Latino origin					0.912				0.958
	%	3%	3%	3%	0		3%	3%	0	
	N	2,676	1,206	1,376			1,480	1,266		
I4	Distribution of physicians' race (select only one)					0.977				0.972
	White/Caucasian	81%	79%	79%	0		82%	81%	0	
	Black or African American	3%	3%	2%	0		3%	3%	0	
	Asian	12%	13%	14%	-1		11%	11%	0	
	Native Hawaiian or other Pacific Islander	0%	0%	0%	0		0%	0%	0	
	American Indian or Alaska Native	0%	0%	0%	0		0%	0%	0	
	Other	3%	3%	3%	0		2%	3%	-1	
	Physician is more than one race	2%	2%	1%	0		2%	1%	0	
	N	2,707	1,216	1,385			1,500	1,275		
I5	Percentage of physicians that are a part of the leadership that makes decisions about how physicians and staff at their practice site deliver care					0.012				0.009
	%	59%	60%	54%	6		57%	51%	6	
	N	2,712	1,223	1,391			1,499	1,283		
I5a[a]	Percentage of CPC+ physicians that are a lead or champion for the implementation of CPC+ at their practice site					n.a.				n.a.
	%	34%	35%	n.a.	n.a.		33%	n.a.	n.a.	
	N	2,686	1,210				1,485			

Table 3.C.19. ***(continued)***

Question		Overall (Track 1 and 2)	Overall – Track 1				Overall – Track 2			
		CPC+ Physicians	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
I6	Percentage of physicians that have worked at the practice site for:					0.610				0.789
	Less than 2 years	5%	5%	4%	1		4%	4%	0	
	2 years up to 5 years	18%	18%	17%	1		18%	17%	1	
	More than 5 years up to 10 years	21%	21%	20%	1		21%	23%	-2	
	More than 10 years	57%	56%	59%	-3		57%	56%	1	
	N	2,725	1,231	1,383			1,504	1,281		
I7	Number of hours physician works at the practice site in a typical work week					0.409				0.538
	Less than 20 hours	6%	7%	5%	2		6%	5%	1	
	20-39 hours	32%	32%	32%	1		32%	30%	1	
	40 hours	20%	22%	22%	0		19%	21%	-2	
	More than 40 hours	41%	39%	42%	-3		43%	43%	0	
	N	2,731	1,234	1,398			1,507	1,288		
I8	Number of patients physician sees at the practice site in a typical day					0.852				0.207
	Mean	20	20	20	0		20	20	0	
	Median	20	20	20	0		20	20	0	
	N	2,740	1,234	1,406			1,516	1,299		
I8, I7 = 1	Average number of patients physicians see in a typical day at the practice site listed on the survey, if they work less than 20 hours per week					0.607				0.692
	Mean	18	18	17	1		18	17	0	
	Median	20	18	16	2		20	18	2	
	N	110	53	71			58	63		
I8, I7 = 2	Average number of patients physicians see in a typical day at the practice site listed on the survey, if they work 20-39 hours per week					0.160				0.591
	Mean	19	18	19	-1		19	19	0	
	Median	18	18	18	0		18	18	0	
	N	818	358	425			461	379		
I8, I7 = 3	Average number of patients physicians see in a typical day at the practice site listed on the survey, if they work 40 hours per week					0.200				0.135
	Mean	21	21	20	1		21	20	1	
	Median	20	20	20	0		20	20	0	
	N	581	287	304			296	284		
I8, I7 = 4	Average number of patients physicians see in a typical day at the practice site listed on the survey, if they work more than 40 hours per week					0.833				0.537
	Mean	21	21	21	0		21	21	0	
	Median	20	20	20	0		20	20	0	
	N	1,213	530	595			689	560		

Table 3.C.19. ***(continued)***

Question		Overall (Track 1 and 2)	Overall – Track 1				Overall – Track 2			
		CPC+ Physicians	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
Compensation for clinical activities										
E1_a:h_any	Percentage of physicians reporting any compensation for clinical activities from the following categories:									
	Guaranteed or "base" salary (not based on physician's productivity, the number of patients physician manages, or clinical performance)	50%	51%	50%	1	0.785	50%	48%	2	0.519
	Physician's own individual productivity (e.g., cash collection, billings, relative value units, visits)	77%	79%	79%	0	0.976	76%	81%	-5	0.017
	Number of patients physician managed (regardless of amount or type of services provided)	20%	17%	19%	-2	0.338	23%	19%	4	0.050
	Performance on measures of the quality of care physician provides to patients (e.g., measures of adherence to guidelines, measures of control of chronic conditions)	63%	61%	54%	7	0.007	64%	57%	7	0.004
	Performance on measures of physician's patients' satisfaction with the care physician provide (e.g., results of patient satisfaction surveys)	34%	30%	32%	-2	0.270	37%	35%	2	0.559
	Physician's management of the health care services physician's patients use, as compared to other physicians (e.g., use of specialists)	8%	9%	8%	1	0.648	8%	9%	-1	0.482
	A share of physician's organization's profit or net revenue for the year	22%	20%	19%	1	0.650	23%	20%	3	0.213
	Other payments	8%	10%	11%	-1	0.479	7%	12%	-5	0.000
	N	2,650	1,190	1,361			1,470	1,265		
E1_a:h_hundred	Percentage of physicians reporting 100% compensation from the following categories:									
	Guaranteed or "base" salary (not based on physician's productivity, the number of patients physician manages, or clinical performance)	12%	11%	12%	-1	0.468	12%	11%	1	0.311
	Physician's own individual productivity (e.g., cash collection, billings, relative value units, visits)	8%	10%	13%	-3	0.041	7%	12%	-5	0.000
	Number of patients physician managed (regardless of amount or type of services provided)	0%	0%	1%	-1	0.062	0%	0%	0	0.404
	Performance on measures of the quality of care physician provides to patients (e.g., measures of adherence to guidelines, measures of control of chronic conditions)	0%	0%	0%	0	0.161	0%	0%	0	0.110
	Performance on measures of physician's patients' satisfaction with the care physician provide (e.g., results of patient satisfaction surveys)	0%	0%	0%	0	0.317	0%	0%	0	0.159
	Physician's management of the health care services physician's patients use, as compared to other physicians (e.g., use of specialists)	0%	0%	0%	0	0.317	0%	0%	0	0.159
	A share of physician's organization's profit or net revenue for the year	0%	1%	1%	0	1.000	0%	1%	-1	0.016
	Other payments	1%	1%	1%	0	0.849	0%	1%	-1	0.458
	N	2,650	1,190	1,361			1,470	1,265		
	Among all physician respondents:									
E1_a	Guaranteed or "base" salary (not based on physician's productivity, the number of patients physician manages, or clinical performance)									
	Mean %	39	38	39	-1	0.694	39	37	2	0.334
	Min %	0	0	0	0		0	0	0	
	Max %	100	100	100	0		100	100	0	
	N	2,650	1,190	1,361			1,470	1,265		

Table 3.C.19. ***(continued)***

Question		Overall (Track 1 and 2)	Overall – Track 1				Overall – Track 2			
		CPC+ Physicians	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
E1_b	Physician's own individual productivity (e.g., cash collection, billings, relative value units, visits)									
	Mean %	46	47	48	0	0.860	45	49	-4	0.040
	Min %	0	0	0	0		0	0	0	
	Max %	100	100	100	0		100	100	0	
	N	2,650	1,190	1,361			1,470	1,265		
E1_c	Number of patients physician managed (regardless of amount or type of services provided)									
	Mean %	3	2	3	-1	0.195	3	3	1	0.180
	Min %	0	0	0	0		0	0	0	
	Max %	100	100	100	0		100	100	0	
	N	2,650	1,190	1,361			1,470	1,265		
E1_d	Performance on measures of the quality of care physician provides to patients (e.g., measures of adherence to guidelines, measures of control of chronic conditions)									
	Mean %	6	6	5	1	0.008	7	5	2	0.000
	Min %	0	0	0	0		0	0	0	
	Max %	75	75	100	-25		55	100	-45	
	N	2,650	1,190	1,361			1,470	1,265		
E1_e	Performance on measures of physician's patients' satisfaction with the care physician provide (e.g., results of patient satisfaction surveys)									
	Mean %	2	1	2	0	0.115	2	2	0	0.687
	Min %	0	0	0	0		0	0	0	
	Max %	50	20	100	-80		50	100	-50	
	N	2,650	1,190	1,361			1,470	1,265		
E1_f	Physician's management of the health care services physician's patients use, as compared to other physicians (e.g., use of specialists)									
	Mean %	0	1	1	0	0.436	0	1	0	0.093
	Min %	0	0	0	0		0	0	0	
	Max %	25	25	100	-75		20	100	-80	
	N	2,650	1,190	1,361			1,470	1,265		
E1_g	A share of physician's organization's profit or net revenue for the year									
	Mean %	3	3	3	0	0.860	3	3	0	0.920
	Min %	0	0	0	0		0	0	0	
	Max %	100	100	100	0		100	100	0	
	N	2,650	1,190	1,361			1,470	1,265		
E1_h	Other payments									
	Mean %	2	2	2	0	0.889	1	2	-1	0.054
	Min %	0	0	0	0		0	0	0	
	Max %	100	100	100	0		100	100	0	
	N	2,650	1,190	1,361			1,470	1,265		

Table 3.C.19. ***(continued)***

Question		Overall (Track 1 and 2)	Overall – Track 1				Overall – Track 2			
		CPC+ Physicians	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
E1_a:h_any = 1	Among physician respondents with any compensation:									
E1_a	Guaranteed or "base" salary (not based on physician's productivity, the number of patients physician manages, or clinical performance)									
	Mean percentage of their total compensation	77	75	78	-3	0.082	79	77	2	0.263
	Min %	2	2	5	-3		10	2	8	
	Max %	100	100	100	0		100	100	0	
	N	1,272	574	685			705	615		
E1_b	Physician's own individual productivity (e.g., cash collection, billings, relative value units, visits)									
	Mean percentage of their total compensation	60	60	60	0	0.840	59	61	-2	0.425
	Min %	1	1	1	0		1	1	0	
	Max %	100	100	100	0		100	100	0	
	N	2058	935	1080			1130	1020		
E1_c	Number of patients physician managed (regardless of amount or type of services provided)									
	Mean percentage of their total compensation	14	14	15	-2	0.442	14	14	0	0.955
	Min %	1	1	1	0		1	1	0	
	Max %	100	100	100	0		100	100	0	
	N	515	198	258			320	245		
E1_d	Performance on measures of the quality of care physician provides to patients (e.g., measures of adherence to guidelines, measures of control of chronic conditions)									
	Mean percentage of their total compensation	10	9	9	1	0.230	10	8	2	0.000
	Min %	1	1	1	0		1	1	0	
	Max %	75	75	100	-25		55	100	-45	
	N	1,647	712	759			941	721		
E1_e	Performance on measures of physician's patients' satisfaction with the care physician provide (e.g., results of patient satisfaction surveys)									
	Mean percentage of their total compensation	5	5	5	0	0.275	5	5	0	0.964
	Min %	1	1	1	0		1	1	0	
	Max %	50	20	100	-80		50	100	-50	
	N	892	353	451			540	446		
E1_f	Physician's management of the health care services physician's patients use, as compared to other physicians (e.g., use of specialists)									
	Mean percentage of their total compensation	6	6	8	-2	0.208	6	8	-2	0.106
	Min %	1	1	1	0		1	1	0	
	Max %	25	25	100	-75		20	100	-80	
	N	252	117	118			136	115		
E1_g	A share of physician's organization's profit or net revenue for the year									
	Mean percentage of their total compensation	12	13	13	0	0.914	12	13	-1	0.430
	Min %	1	1	1	0		1	1	0	
	Max %	100	100	100	0		100	100	0	
	N	598	246	267			353	253		

Table 3.C.19. ***(continued)***

Question		Overall (Track 1 and 2)	Overall – Track 1				Overall – Track 2			
		CPC+ Physicians	CPC+	Comparison	Difference (p.p.)	*p*-value	CPC+	Comparison	Difference (p.p.)	*p*-value
E1_h	Other payments									
	Mean percentage of their total compensation	19	21	18	2	0.513	18	16	1	0.662
	Min %	1	1	1	0		1	1	0	
	Max %	100	100	100	0		100	100	0	
	N	212	114	149			99	144		

Source: CPC+ Physician Survey administered to physicians at the 2017 Starter CPC+ and Comparison practices August through December 2019.

[a] This question was also asked to physicians whose practices withdrew from CPC+. For these physicians, the question was asked in the past tense, to reflect their experiences participating in CPC+ in the past.

p.p. = percentage points; n.a. = not applicable because that group of physicians were not asked that question; MD = doctor of medicine; DO = doctor of osteopathic medicine.

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3.C.6. 2019 CPC+ Primary Care Physician Survey

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Comprehensive Primary Care Plus (CPC+)

2019 Primary Care Physician Survey

SPONSORED BY

THE CENTERS FOR MEDICARE & MEDICAID SERVICES (CMS)

[PRACTICENAME]
[PHYSICALADDRESS1], [PHYSICALADDRESS2]
[PHYSICALCITY], [PHYSICALSTATE] [PHYSICALZIP]

Citation: Mathematica. "Evaluation of the Comprehensive Primary Care Plus (CPC+) Model – 2019 Primary Care Physician Survey." Princeton, NJ: Mathematica, August 2019.

[FOR TREATMENT ONLY]

The Comprehensive Primary Care Plus (CPC+) 2019 Physician Survey is a critical component of the study of the CPC+ initiative, sponsored by the Centers for Medicare & Medicaid Services (CMS).

We are collecting information from primary care physicians whose practices are participating in CPC+ in order to learn how CPC+ is changing the way physicians deliver care, and affecting job satisfaction and burnout. You have been randomly selected to complete the survey to help us understand these important issues. Sharing your experiences can help improve CPC+ and shape future Medicare policies for primary care. This survey is being conducted by Mathematica, an independent research company hired by CMS.

We encourage you to respond candidly. Your responses to this survey are collected in a confidential manner and will be anonymous in all reports (i.e., will never be linked to your name or your practice in any reports to your practice, CMS, other payers, or the public). Our independent research team will use your data to study the effects of CPC+. Your responses will not have any consequences for payment or for your participation in CPC+. We are genuinely interested in your observations about how you currently deliver care. Your participation in the survey is voluntary but very important.

Please accept the $100 check (enclosed in the FedEx invitation packet mailed to you) as a token of our appreciation for completing the questionnaire, which should take about 20 to 25 minutes.

Questions? Contact Mathematica's toll-free helpline at 1-833-359-9477 or email at CPCplus-physiciansurvey@mathematica-mpr.com.

[TREATMENT WITHDRAWN]

The Comprehensive Primary Care Plus (CPC+) 2019 Physician Survey is a critical component of the study of the CPC+ initiative, sponsored by the Centers for Medicare & Medicaid Services (CMS).

In order to understand the broader context in which CPC+ is operating, we are collecting information from primary care physicians whose practices are no longer participating in the CPC+ initiative. You have been randomly selected to complete the survey. Sharing your experiences about how you deliver care, as well as job satisfaction and burnout, can help shape future Medicare policies and contribute to discussions about primary care. This survey is being conducted by Mathematica, an independent research company hired by CMS.

We encourage you to respond candidly. Your responses to this survey are collected in a confidential manner and will be anonymous in all reports (i.e., will never be linked to your name or your practice in any reports). Our independent research team will use your data to study the effects of CPC+. We are genuinely interested in your observations about how you currently deliver care. Your participation in the survey is voluntary but very important.

Please accept the $100 check (enclosed in the FedEx invitation packet mailed to you) as a token of our appreciation for completing the questionnaire, which should take about [*recent TWD*: 20 to 25 minutes/*older TWD*:15 to 20 minutes].

Questions? Contact Mathematica's toll-free helpline at 1-833-359-9477 or email at CPCplus-physiciansurvey@mathematica-mpr.com.

[FOR COMPARISON ONLY]

The Comprehensive Primary Care Plus (CPC+) 2019 Physician Survey is a critical component of the study of the CPC+ initiative, sponsored by the Centers for Medicare & Medicaid Services (CMS), which seeks to improve the quality of primary care (https://innovation.cms.gov/initiatives/comprehensive-primary-care-plus).

Even though your practice is not participating in CPC+, we must collect information from primary care physicians whose practices are not participating (as well as primary care physicians whose practices are participating). This information will help us learn how CPC+ is changing the way physicians deliver care, and affecting job satisfaction and burnout. You have been randomly selected to complete the survey to help us understand these important issues. Sharing your experiences can help shape future Medicare policies for primary care. This survey is being conducted by Mathematica, an independent research company hired by CMS.

We encourage you to respond candidly. Your responses to this survey are collected in a confidential manner and will be anonymous in all reports (i.e., will never be linked to your name or your practice in any reports). Our independent research team will use your data to study the effects of CPC+. We are genuinely interested in your observations about how you currently deliver care. Your participation in the survey is voluntary but very important.

Please accept the $100 check (enclosed in the FedEx invitation packet mailed to you) as a token of our appreciation for completing the questionnaire, which should take about 15 to 20 minutes.

Questions? Contact Mathematica's toll-free helpline at 1-833-359-9477 or email at CPCplus-physiciansurvey@mathematica-mpr.com.

IMPORTANT DEFINITIONS FOR THIS SURVEY

Practice site:

- Your practice site is identified [on the cover of this questionnaire/at the top of this web page]. If you work at multiple practice sites, please respond only about your work at this site.

Primary care:

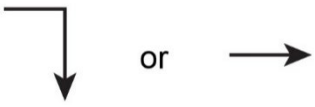
- The first point of contact in the health care system. It refers to continuous and comprehensive care across a patient's needs and conditions, rather than focusing on just one body system. Primary care also includes coordination with specialists the patients may see.

Care team:

- You and the health professionals (physicians, nurse practitioners, physician assistants, nurses, medical assistants, clinical pharmacists, and other health care professionals) with whom you work to provide primary care to your patients.

INSTRUCTIONS FOR COMPLETING THE SURVEY [HARDCOPY VERSION]

- Answer all questions to the best of your ability and be as accurate as possible.
- If you answer "Other" for a question, please write what you mean on the "specify" line.
- To answer questions that require marking a box, please use an "X".
- For each item, please mark only one answer unless the instructions say to "MARK ALL THAT APPLY."
- Some answer options are followed by a directional arrow. Please proceed to the appropriate question, as indicated by the arrow:



- Follow all "GO TO" instructions after marking a box. If no such instruction is provided, you should continue to the next question.
- You may use either pen or pencil.
- Mailing instructions for completed questionnaires are provided after the last survey question.

A. JOB SATISFACTION

A1. Are you a physician (MD or DO) who has a primary specialty of family medicine, general medicine, internal medicine, or geriatric medicine?

1 ☐ Yes

0 ☐ No

A2. Do you provide any primary care to patients at the practice site listed [on the cover of this questionnaire/at the top of this web page]?

1 ☐ Yes

0 ☐ No → **GO TO SECTION I, PAGE 20**

A3. Please indicate how much you agree or disagree with the following statement:

Overall, I am satisfied with my current job.

1 ☐ Strongly disagree

2 ☐ Disagree

3 ☐ Neither disagree nor agree

4 ☐ Agree

5 ☐ Strongly agree

A4. Using your own definition of "burnout," please indicate which statement best describes your situation at work.

1 ☐ I enjoy my work. I have no symptoms of burnout.

2 ☐ Occasionally I am under stress, and I don't always have as much energy as I once did, but I don't feel burned out.

3 ☐ I am definitely burning out and have one or more symptoms of burnout, such as physical and emotional exhaustion.

4 ☐ The symptoms of burnout that I'm experiencing won't go away. I think about frustrations at work a lot.

5 ☐ I feel completely burned out and often wonder if I can go on. I am at the point where I may need some changes or may need to seek some sort of help.

A5. What is the likelihood that you will leave your current practice within two years?

1 ☐ Very likely

2 ☐ Somewhat likely

3 ☐ Not very likely

4 ☐ Not at all likely

B. APPROACHES TO PROVIDING PRIMARY CARE

B1. Are the following services available to your patients on-site, at your office?

		[MARK/SELECT] ONE RESPONSE PER ROW	
		YES	NO
a.	Counseling for behavioral or mental health problems	1 ☐	0 ☐
b.	Performing a skin biopsy	1 ☐	0 ☐
c.	Cervical cancer screening (e.g., Pap tests)	1 ☐	0 ☐
d.	Treatment of a minor laceration	1 ☐	0 ☐
e.	Aspiration of a swollen knee joint	1 ☐	0 ☐

B2. For each of the problems below, if a patient sees you for this problem, how likely are you to provide initial management for the patient's condition yourself, rather than referring the patient to a specialist?

Initial management includes <u>all</u> of the following:

1) Conducting the needed history and physical examination for an initial assessment,

2) Ordering and interpreting any necessary diagnostic tests, and

3) Initiating treatment.

		[MARK/SELECT] ONE RESPONSE PER ROW			
		VERY LIKELY	SOMEWHAT LIKELY	NOT VERY LIKELY	NOT AT ALL LIKELY
a.	New onset amenorrhea in a 44-year-old woman	1 ☐	2 ☐	3 ☐	4 ☐
b.	New symptoms of major depression (without suicidal thoughts) in a 66-year-old man	1 ☐	2 ☐	3 ☐	4 ☐
c.	New onset of knee pain that limits activity in a 66-year-old woman	1 ☐	2 ☐	3 ☐	4 ☐
d.	Type 2 diabetes not well controlled on oral medications in a 66-year-old woman	1 ☐	2 ☐	3 ☐	4 ☐
e.	New diagnosis of COPD in a 53-year-old man	1 ☐	2 ☐	3 ☐	4 ☐

B3. How many of your adult patients (age 18 and older) are screened at least once a year <u>with a formal screening tool</u> for each of these conditions?

[MARK/SELECT] ONE RESPONSE PER ROW

Condition (examples of formal screening tools)	NONE	SOME	MANY	MOST OR ALL
a. Depression (such as PHQ-2 or PHQ-9)	1 ☐	2 ☐	3 ☐	4 ☐
b. Anxiety (such as GAD-7)	1 ☐	2 ☐	3 ☐	4 ☐
c. Substance use (such as CAGE, AUDIT-C, or DAST)	1 ☐	2 ☐	3 ☐	4 ☐
d. Adult attention-deficit/hyperactivity disorder (such as Adult ADHD self-report tool)	1 ☐	2 ☐	3 ☐	4 ☐

B4. How many of your patients age 65 and older are screened for dementia at least once a year <u>with a formal screening tool</u> (such as Mini-Mental State Examination or Mini-Cog)?

1 ☐ None
2 ☐ Some
3 ☐ Many
4 ☐ Most or all

B5. For how many of your patients do you (or someone from your care team) offer <u>scheduled</u> phone, video, or e-visits?

1 ☐ None → **GO TO B6**
2 ☐ Some
3 ☐ Many
4 ☐ Most or all

B5a. How often do these scheduled phone, video, or e-visits <u>replace</u> what would have been face-to-face office visits for these patients?

1 ☐ Never or rarely
2 ☐ Sometimes
3 ☐ Frequently
4 ☐ Usually or always

B6. For how many of your frail or homebound patients do you (or someone from your care team) <u>offer home visits</u>?

1 ☐ None

2 ☐ Some

3 ☐ Many

4 ☐ Most or all

B7. How many of your hospitalized patients do you (or someone from your care team) <u>visit in the hospital</u> in a professional capacity?

1 ☐ None

2 ☐ Some

3 ☐ Many

4 ☐ Most or all

The four response boxes in each row below represent different approaches to providing a specific aspect of primary care. For each row, please [mark/select] the box that best describes the level of care you currently provide.

B8. When your patients come to your practice for acute care, they see you …	…never or rarely. ☐	…sometimes. ☐	…frequently. ☐	…usually or always. ☐
B9. Patient after-hours access (24 hours, 7 days a week) to a physician, PA/NP/CNS, or answering service …	...is not available or is limited to an answering machine. ☐	…is (1) always available, but (2) the practitioner on call does not regularly communicate problems and decisions back to you. ☐	…is (1) always available, and (2) the practitioner on call regularly communicates problems and decisions back to you, but (3) does not have real-time access to the practice's electronic health record (EHR) system. ☐	…is (1) always available, and (2) the practitioner on call regularly communicates problems and decisions back to you, and (3) does have real-time access to the practice's EHR system. ☐
B10. Follow-up by you or your practice with your patients who had emergency department (ED) or hospital visits …	…generally does not occur. ☐	…occurs only if the ED or hospital alerts you or your practice. ☐	…occurs because you or your practice makes proactive efforts to identify these patients. ☐	…is done routinely because you or your practice has arrangements in place with the ED and hospital to track these patients and ensure that follow-up occurs within a few days. ☐
B11. Linking your patients to supportive community-based resources (e.g., transportation, caregiver support, housing) …	…is not done systematically by you or your practice. ☐	…is limited to providing your patients a list of identified community resources. ☐	…is accomplished by a designated staff person who is responsible for connecting your patients with community resources. ☐	…is accomplished by a designated staff person who actively coordinates and follows up with the community service agencies and your patients. ☐
B12. You (or someone from your care team) document advance care preferences (e.g., for end-of-life care and/or advance directives for when patients might become too sick to make their own decisions) in your electronic health record (EHR) for …	…none of your high-risk patients. ☐	…some of your high-risk patients. ☐	…many of your high-risk patients. ☐	…most or all of your high-risk patients. ☐

B13. When you refer a patient to a specialist, how often do you send the specialist notification of the patient's history and reason for the consultation?

1 ☐ Always or most of the time

2 ☐ Sometimes

3 ☐ Seldom or never

NA ☐ Not applicable

B14. How often do you receive useful information about your referred patients from specialists?

1 ☐ Always or most of the time

2 ☐ Sometimes

3 ☐ Seldom or never

NA ☐ Not applicable

B15. How much does each of the following factors limit your ability to provide optimal care for your patients?

		[MARK/SELECT] ONE RESPONSE PER ROW		
		DOES NOT LIMIT	LIMITS SOMEWHAT	LIMITS A GREAT DEAL
a.	Lack of available behavioral health specialists for consultations and/or referrals	1 ☐	2 ☐	3 ☐
b.	Lack of available medical or surgical specialists for consultations and/or referrals	1 ☐	2 ☐	3 ☐
c.	Inadequate reimbursement from insurers for primary care services	1 ☐	2 ☐	3 ☐
d.	Inadequate time to spend with patients during visits	1 ☐	2 ☐	3 ☐

C. TEAMWORK AND STAFFING AT YOUR PRACTICE SITE

C1. How much do you agree or disagree with each of the following statements related to <u>teamwork</u> at your practice site?

[MARK/SELECT] ONE RESPONSE PER ROW

		STRONGLY DISAGREE	DISAGREE	NEITHER DISAGREE NOR AGREE	AGREE	STRONGLY AGREE
a.	The group of staff and providers I work with the most at this practice site work well together as a team	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
b.	We have a "we are in it together" attitude at my practice site	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
c.	My professional skills are used to the fullest at my practice site	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
d.	It is hard to get things to change at my practice site	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
e.	I can rely on other people at my practice site to do their jobs well	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
f.	We regularly take time to consider ways to improve how we do things at my practice site	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐

C2. At this practice site, how are medical assistants organized to work with you?

1 ☐ You are paired with the same medical assistant(s) most days

2 ☐ You are <u>not</u> paired with the same medical assistant(s) most days

3 ☐ You don't work with medical assistants

C3. At this practice site, how are nurses organized to work with you?

1 ☐ You are paired with the same nurse(s) most days

2 ☐ You are <u>not</u> paired with the same nurse(s) most days

3 ☐ You don't work with nurses

C4. Care team huddles are brief meetings among physicians and staff such as nurses and medical assistants. They are typically held before morning or afternoon patient visits to discuss patient-specific issues and keep the core clinical team informed.

How often do you have huddles with your care team?

1 ☐ Never

2 ☐ On some days

3 ☐ On most days

4 ☐ Every day

The next set of questions is about designated care managers whose primary role is to help high-risk patients (patients at highest risk for adverse and potentially preventable outcomes). Care managers provide ongoing support and education on chronic care management, and help coordinate care from other providers between and during visits. A designated care manager, which some practices call a care coordinator or patient navigator, can work on-site or off-site, and works to support the primary care provided by the physician.

C5. Does your practice use designated care managers, as defined above?

1 ☐ Yes

0 ☐ No → **GO TO SECTION D, PAGE 14**

C6. How many designated care managers work on-site, at the practice site listed [on the cover of this questionnaire/at the top of this web page]? Please include only staff who are located on-site at least once per week, regardless of who employs them.

Please enter "0" if you do not have any designated care managers who work on-site.

|__|__| Number of designated care managers who work on-site

C7. Does your practice use any designated care managers who are always located off-site?

1 ☐ Yes

0 ☐ No

C8. On average, about how often do designated care managers engage in meetings, huddles, or conversations with you about your high-risk patients whom they manage? Please consider on-site and off-site designated care managers.

1 ☐ Daily

2 ☐ Weekly

3 ☐ Monthly

4 ☐ A few times per year

5 ☐ Less than once per year or never

D. CARE MANAGEMENT AT YOUR PRACTICE SITE

D1. Some practices or health systems categorize their entire patient population into groups (such as high, medium, or low risk) based on the patients' <u>overall risk level</u> for adverse and potentially preventable outcomes, such as ED visits or hospitalizations.

Does your practice or health system categorize your patients into risk levels using a <u>standard method, tool, or algorithm</u>?

1 ☐ Yes

0 ☐ No → **GO TO D2**

D1a. Do you (or someone from your care team) use the overall risk level to identify patients for care management?

1 ☐ Yes

0 ☐ No

D2. A care plan is a structured, <u>personalized</u> plan of care developed with patient input and documented by you or someone from your care team. A care plan is more comprehensive than an after-visit summary, a hospital discharge plan, or a standard treatment/action plan for a single condition (such as diabetes or congestive heart failure).

For about how many of your <u>high-risk</u> patients do you (or someone from your care team) develop a care plan, as defined above?

1 ☐ None → **GO TO E1, PAGE 16**

2 ☐ Some

3 ☐ Many

4 ☐ Most or all

D2a. How often are the following elements included in the care plans developed for your high-risk patients?

[MARK/SELECT] ONE RESPONSE PER ROW

		NEVER OR RARELY	SOMETIMES	FREQUENTLY	USUALLY OR ALWAYS	DON'T KNOW
a.	Patient diagnoses	1 ☐	2 ☐	3 ☐	4 ☐	d ☐
b.	Treatment goals identified by the care team	1 ☐	2 ☐	3 ☐	4 ☐	d ☐
c.	Health goals identified collaboratively with the patient	1 ☐	2 ☐	3 ☐	4 ☐	d ☐
d.	Patient concerns or barriers to meeting health goals	1 ☐	2 ☐	3 ☐	4 ☐	d ☐
e.	Patient self-management action steps	1 ☐	2 ☐	3 ☐	4 ☐	d ☐
f.	Advance directives	1 ☐	2 ☐	3 ☐	4 ☐	d ☐

D2b. How often are the care plans that are developed for your high-risk patients used in the following ways?

[MARK/SELECT] ONE RESPONSE PER ROW

	NEVER OR RARELY	SOMETIMES	FREQUENTLY	USUALLY OR ALWAYS	DON'T KNOW
a. Used by you <u>personally</u> in ongoing care	1 ☐	2 ☐	3 ☐	4 ☐	
b. Documented in your practice's electronic health record (EHR) or other health information technology (IT)	1 ☐	2 ☐	3 ☐	4 ☐	d ☐
c. Shared with your patients	1 ☐	2 ☐	3 ☐	4 ☐	d ☐
d. Revised or redeveloped after major events, such as hospital discharge, exacerbation of a condition, or change in patient preferences	1 ☐	2 ☐	3 ☐	4 ☐	d ☐

E. YOUR COMPENSATION

E1. What percentage of your total compensation for clinical activities is based on the following ways physicians can be paid? Please provide your best estimate. Enter "0" if a category does not apply.

The total percentage of your compensation should sum to 100%.

		PERCENTAGE OF YOUR COMPENSATION
a.	Guaranteed or "base" salary (not based on your productivity, the number of patients you manage, or clinical performance)	|___|___|___|%
b.	Your own individual productivity (e.g., cash collection, billings, relative value units, visits)	|___|___|___|%
c.	Number of patients you managed (regardless of amount or type of services provided)	|___|___|___|%
d.	Performance on measures of the quality of care you provide to your patients (e.g., measures of adherence to guidelines, measures of control of chronic conditions)	|___|___|___|%
e.	Performance on measures of your patients' satisfaction with the care you provide (e.g., results of patient satisfaction surveys)	|___|___|___|%
f.	Your management of the health care services your patients use, as compared to other physicians (e.g., use of specialists)	|___|___|___|%
g.	A share of your organization's profit or net revenue for the year	|___|___|___|%
h.	Other payments *(please describe)*	|___|___|___|%
	_____	
		SUM = 100%

F. HEALTH INFORMATION TECHNOLOGY (IT)

F1. Did you or someone from your care team routinely use your practice's electronic health record (EHR) or other health IT to perform the following activities in the <u>past six months</u>?

[MARK/SELECT] ONE RESPONSE PER ROW

		YES: ROUTINELY USED FUNCTION IN EHR OR HEALTH IT	**NO:** FUNCTION NOT AVAILABLE IN EHR OR HEALTH IT, OR DID NOT ROUTINELY USE FUNCTION
a.	Document patients' health-related social needs (e.g., for transportation, caregiver support, housing)	1 ☐	0 ☐
b.	Track referral and consultation communications with other providers	1 ☐	0 ☐
c.	Identify gaps in care (e.g., recommended screening tests)	1 ☐	0 ☐
d.	Identify and track patients with specific health conditions, risk states, or medications.	1 ☐	0 ☐

F2. Please indicate how much you agree or disagree with the following statement:

This practice's EHR (or other health IT) is a big help to me in providing quality care to my patients.

1 ☐ Strongly disagree

2 ☐ Disagree

3 ☐ Neither disagree nor agree

4 ☐ Agree

5 ☐ Strongly agree

G. DATA FEEDBACK YOU RECEIVED

Physicians may receive data feedback on their performance, including feedback on quality, cost, or utilization. This data feedback may be internally generated by you, your practice, or the organization that owns your practice. It may also be provided by external sources, such as private health insurance plans, state health agencies, Medicaid, or Medicare. The questions in this section are about any feedback or performance data that you may have received in the past 12 months.

G1. In the past 12 months, have <u>you</u> received data feedback on <u>quality of care</u> for your patients?

Examples of data feedback on quality of care include percentage of your patients with diabetes with a recent eye exam, or percentage of adults age 50–75 who had appropriate screening for colorectal cancer.

1 ☐ Yes

0 ☐ No → **GO TO G2**

d ☐ Don't know → **GO TO G2**

G1a. In response to this data feedback on quality of care, did <u>you</u> make any changes to how you deliver care?

1 ☐ No, you made no changes to how you deliver care

2 ☐ Yes, you made <u>minor</u> changes to how you deliver care

3 ☐ Yes, you made <u>major</u> changes to how you deliver care

G2. In the past 12 months, have <u>you</u> received data feedback on <u>health care service utilization</u> for your patients?

Examples of data feedback on health care service utilization include number of hospitalizations or ED visits.

1 ☐ Yes

0 ☐ No → **GO TO G3, PAGE 19**

d ☐ Don't know → **GO TO G3, PAGE 19**

G2a. In response to this data feedback on health care service utilization, did <u>you</u> make any changes to how you deliver care?

1 ☐ No, you made no changes to how you deliver care

2 ☐ Yes, you made <u>minor</u> changes to how you deliver care

3 ☐ Yes, you made <u>major</u> changes to how you deliver care

G3. In the past 12 months, have <u>you</u> received data feedback on the total cost of health care (reimbursement by insurers to <u>all providers</u> who provide care) for any of your patients?

1 ☐ Yes

0 ☐ No → **GO TO G4**

d ☐ Don't know → **GO TO G4**

G3a. In response to this data feedback on the total cost of health care, did <u>you</u> make any changes to how you deliver care?

1 ☐ No, you made no changes to how you deliver care

2 ☐ Yes, you made <u>minor</u> changes to how you deliver care

3 ☐ Yes, you made <u>major</u> changes to how you deliver care

G4. Some practices get data on their patients' costs (that is, reimbursement by insurers), presented <u>separately</u> for the individual specialists seen. For example, if the practice's patients have seen Dr. Smith and Dr. Jones for cardiology services, the data will present the costs for Dr. Smith and the costs for Dr. Jones.

Do you receive any data on what insurers paid (reimbursed) for individual specialists for your practice's patients? Data can be presented as actual dollar costs or categories (low, medium, high cost).

1 ☐ Yes

0 ☐ No → **GO TO SECTION H, PAGE 20**

G4a. When deciding which specialist to refer a patient to, how much do you consider these cost data?

1 ☐ A lot

2 ☐ Some

3 ☐ Not very much

4 ☐ Not at all

H. YOUR IMPRESSIONS OF CPC+ [PARTICIPATING T AND RECENT TWD ONLY]

Your practice site participates [*recent TWD use*: recently participated] in CPC+, which supports specific care delivery approaches (for example, providing 24/7 access to a care team practitioner and risk stratifying patients). CPC+ provides participating practices with financial incentives, learning activities, and data feedback, and requires them to meet annual care delivery requirements and submit regular reports.

The next questions are about your practice site's [*recent TWD insert*: past] participation in CPC+. We encourage you to answer freely so that we can understand the strengths and weaknesses of CPC+. As a reminder, your responses to this survey will never be linked to your name or practice in any reports to your practice, CMS or other payers, or the public. Your responses will only be reported in aggregate (with all physicians combined).

H1. Overall, how much has participating in CPC+ changed the quality of care that you currently provide to your patients? [*recent TWD use*: Overall, how much did participating in CPC+ change the quality of care that you provided to your patients?]

1 ☐ Improved a lot

2 ☐ Improved somewhat

3 ☐ Did not change

4 ☐ Worsened somewhat

5 ☐ Worsened a lot

d ☐ Don't know

H2. How much do you think participating in CPC+ reduced the overall costs of all the health care your patients received?

1 ☐ A lot

2 ☐ Some

3 ☐ Not very much

4 ☐ Not at all

d ☐ Don't know

H3. Overall, considering the amount of work required by CPC+, how adequate or inadequate do you think the CPC+ payments from all payers combined are [*recent TWD use*: were]?

1 ☐ More than adequate

2 ☐ Adequate

3 ☐ Less than adequate

d ☐ Don't know – not familiar with CPC+ payments from all payers or costs of doing CPC+ work

H4. In answering this question, please consider:

- **Improvements made to your practice site's care delivery**
- **CPC+ participation requirements (including care delivery, health IT, and reporting requirements)**
- **CPC+ supports (payments, learning activities, data feedback, and health IT vendor support)**

Given your practice's overall experience participating in CPC+, how likely is it that you would recommend that your practice participate in CPC+ if your practice could do it all over again?

1 ☐ Very likely

2 ☐ Somewhat likely

3 ☐ Not very likely

4 ☐ Not at all likely

d ☐ Don't know

I. BACKGROUND CHARACTERISTICS

This final section asks basic information about you and your work schedule. This information will be aggregated and used to generally describe survey participants.

I1. What is your gender?

1 ☐ Male

2 ☐ Female

I2. What is your current age in years?

1 ☐ Less than 30 years

2 ☐ 30–39

3 ☐ 40–49

4 ☐ 50–59

5 ☐ 60–69

6 ☐ 70 years or older

I3. Are you of Hispanic or Latino origin?

1 ☐ Yes

0 ☐ No

I4. What is your race?

[MARK/SELECT] ALL THAT APPLY

1 ☐ White/Caucasian

2 ☐ Black or African American

3 ☐ Asian

4 ☐ Native Hawaiian or other Pacific Islander

5 ☐ American Indian or Alaska Native

6 ☐ ..... O THER (SPECIFY).....

I5. Are you a part of the leadership that makes decisions about how physicians and staff at this practice site deliver care?

1 ☐ Yes

0 ☐ No

I5a. Are [*recent TWD use*: Were] you a lead or champion for the implementation of CPC+ at the practice site listed [on the cover of this questionnaire/at the top of this web page]? [T ONLY]

1 ☐ Yes

0 ☐ No

I6. How long have you worked at the practice site listed [on the cover of this questionnaire/at the top of this web page]?

1 ☐ Less than 2 years

2 ☐ 2 years up to 5 years

3 ☐ More than 5 years up to 10 years

4 ☐ More than 10 years

I7. In a typical week, how many hours do you work at the practice site listed [on the cover of this questionnaire/at the top of this web page]?

1 ☐ Less than 20 hours

2 ☐ 20–39 hours

3 ☐ 40 hours

4 ☐ More than 40 hours

I8. In a typical day, how many patients do you see at the practice site listed [on the cover of this questionnaire/at the top of this web page]? If you work part time, please adjust your estimate to represent a full day.

|___|___| Number of patients seen in a typical day

In case we need to contact you to verify the information in the survey, please provide your name and contact information. Your personal information will not be shared.

I9. What is your name?

_____

I10. What is your e-mail address?

_____

I11. Is your practice site name and address correct as listed [on the cover of this questionnaire/at the top of this web page]?

1 ☐ Yes → **GO TO I12**

0 ☐ No

I11a. What is your correct practice site name and/or address?

_____

_____

_____

I12. What is your phone number?

|___|___|___| - |___|___|___| - |___|___|___|___| EXT: |___|___|___|___|
AREA CODE NUMBER

TODAY'S DATE: |___|___| / |___|___| / 2019
Month Day

Thank you for completing the questionnaire. [Hardcopy] Please return it in the enclosed postage paid envelope. If you have misplaced the envelope, please send your completed questionnaire to:

Karen Markowski
Mathematica Policy Research
P.O. Box 2393
Princeton, NJ 08543-2393

or

Fax to 609-799-0005
Attention: Karen Markowski

[Treatment] If you have more information about your experience with CPC+ or this survey that you think may be of interest to this study, please feel free to add it below.

[Comparison] If you have more information about this survey that you think may be of interest to this study, please feel free to add it below.

Comments:

_____

_____

_____

_____

3.D. Medicare's Performance-Based Incentive Payments: Practices' perspectives and associations with outcomes and characteristics in CPC+

This Appendix examines how well the CPC+ Performance-based Incentive Payments (PBIPs) worked in the first three program years to motivate practices and reward them for improvements in patient outcomes. It also identifies the practice characteristics that were associated with better PBIP performance. In this Appendix, we first introduce the motivation and research questions for the analysis (Section 1). We then explain the analytic methods (Section 2). Finally, we describe the results (Section 3) and discuss their implications (Section 4). In Section 5, we present the supplemental tables for this analysis.

3.D.1. Introduction

The health care landscape in the United States is rapidly shifting toward value-based care. One prominent feature of this transformation is the use of performance-based payments to reward providers for delivering high-quality and cost-efficient care (Chee et al. 2016). Previous studies have analyzed the relationship between performance-based incentives and outcomes in a variety of settings, including accountable care organizations (ACOs) and hospitals (Werner et al. 2011; Douven et al. 2015; Joynt et al. 2016; Chen et al. 2017). However, the effectiveness of performance-based payments in primary care settings is less understood (Gillam 2015; Park et al. 2018; Rybowski et al. 2015). Alternative payment models in primary care implemented by the Centers for Medicare & Medicaid Services (CMS) provide a unique opportunity to study the associations of primary care practices' measured performance in performance-based systems with their characteristics, outcomes, and characteristics of beneficiaries they serve, as well as the perspectives of primary care practices regarding such payment approaches. Calibrating payment incentives to drive behavioral change is challenging and lessons learned from existing models can inform the design of payment systems for future models (Verma 2020).

Comprehensive Primary Care Plus (CPC+) is the largest voluntary primary care payment and delivery reform model CMS has implemented to date. This five-year model, launched in January 2017, tests whether multipayer payment reform, robust learning supports, actionable data feedback, and health information technology (IT) vendor support will enable primary care practices to transform and improve the delivery of care. CPC+ includes two care transformation tracks: Track 1 and Track 2. Compared to Track 1, Track 2 offers greater financial support and a greater shift from fee-for-service (FFS) payments, to further enhance care delivery capabilities and better support patients who have complex care needs.

Under CPC+, practices receive PBIPs that reward high quality clinical care, improved patient experience of care, and lower service utilization that drives the total cost of care (see Section 3.D.2.A for a description of practices eligible to receive PBIPs). Apart from performance-based payments, CMS provides two other types of payments for care delivered to the Medicare FFS beneficiaries attributed to each practice. First, CMS provides monthly per-beneficiary care management fees to all participating practices, intended to support non-billable and non-visit-based services and activities, such as staff training and care coordination improvement, that align with the goals of CPC+. Second, CMS provides Comprehensive Primary Care Payments (CPCPs) only to Track 2 practices. CPCPs are prospective, lump-sum payments made in

exchange for reduced FFS payments, intended to provide the resources up front for practices to increase the breadth and depth of services. Please refer to Section 3.2.1 in Peikes et al. (2021) for further details on these payments.

Using a mixed-methods approach, we answer five questions in this analysis. Below we describe these questions and how they contribute to our understanding of PBIPs.

First, we examine whether practices' PBIP scores (percentage of PBIP amount retained) were associated with both the absolute levels of performance (on utilization and quality metrics) and favorable changes in performance over time because a well-calibrated incentive payment system would be expected to reward both. This question is relevant because PBIPs were designed to reward practices based on the level of performance and on a continuous scale-up to the maximum threshold (CMMI 2017a, CMMI 2017c, CMMI 2019a). The benefit of this design is that it is simple to implement and allows CMS to establish clear performance goals and to provide timely feedback to practices regarding their performance. The continuous scale reflects the intention to reward practices for every increment by which they outperform the benchmark. The downside of this design is that it does not provide explicit incentives to improve outcomes over time once a practice achieves the maximum threshold needed to retain the full PBIP. However, even without the explicit incentives, it is possible that the PBIPs may indirectly encourage practices to improve over time as they seek to achieve higher scores.

Second, we examine the association between practices' PBIP scores and Medicare FFS expenditures to understand whether PBIPs reward practices that reduce expenditures. Cost reduction is an important outcome in assessing payment reform models, and a well-calibrated incentive payment system would reward practices that are successful in reducing expenditures without reducing quality (CMMI 2020). PBIP scores are calculated based on utilization measures (acute hospitalizations and emergency department [ED] visits) and quality measures (electronic clinical quality measures [eCQMs] and patient experience-of-care measures). Although hospital and ED expenditures are large components of expenditures and CMS chose these measures because they were major drivers of the total cost of care, the PBIP calculus does not directly account for levels or changes in expenditures. Furthermore, improvements in quality measures could also lead to increases in expenditures. Therefore, the relation between PBIP scores and expenditures merits investigation.

Third, we examine the association between practices' PBIP scores and a wide range of their beneficiary characteristics (aggregated to the practice level) to understand the extent to which beneficiary composition influences PBIP scores. A key goal of a performance-based payment system is to account for beneficiaries' risk based on health conditions and socioeconomic status, so that practices are not rewarded or penalized based on their patients' characteristics. For the utilization measures, the PBIP methodology accounts for a limited set of beneficiary risk factors (specifically, age, gender, and comorbidities as measured by Hierarchical Condition Categories [HCCs] calculated using CMS's risk-adjustment model), but it does not account for socioeconomic factors, such as race, dual eligibility for Medicaid, education, and income, which can influence outcomes. For the quality component, the Consumer Assessment of Healthcare Providers and Systems Clinician and Group (CG CAHPS) measures are adjusted for self-reported age, gender, education, and physical health, and the eCQMs are not risk adjusted at all.

It is unknown whether the PBIP's current risk-adjustment methodology sufficiently adjusts for differences in risk factors among the beneficiaries whom practices serve.

Fourth, we use data from CPC+ practice surveys and interviews to understand practices' perspectives on PBIPs, the scoring methodology, and its fairness. Another key goal of a performance-based payment system would be to motivate practices and change behaviors. Practices' perspectives obtained through primary data collection could provide insights into whether and how the system drove behavioral change.

Fifth, we examine the association between practices' PBIP scores and practice characteristics (at the start of CPC+) to infer which types of practices performed better on PBIP scores. The PBIP scoring methodology and benchmarks are the same for all practices that are eligible to receive PBIPs (for fairness and transparency). However, certain types of practices could end up performing better than others and identifying practice characteristics that are associated with better performance could help inform recruitment and payment system design for future models.

3.D.2. Methods

A. Setting: PBIP methodology and components

At the beginning of each CPC+ program year, CMS prospectively pays the maximum amount of PBIP that practices are eligible to receive in that year. After the program year, CMS retrospectively reconciles the PBIP based on the practice's performance on clinical quality, patient experience of care, and service utilization measures. Informed by behavioral economics theory, PBIPs were designed to test whether timely payments (via prospective, maximum payments) combined with loss aversion (to avoid retrospective recoupments) provide practices with greater incentives to achieve the goals of CPC+, as compared to a conventional retrospective performance-based payment approach, where payment is not made until well after the end of each performance year (Audet and Zezza 2015; Khuller et al. 2015).

CMS pays the maximum PBIP amount at the beginning of the program year. The total amount is the PBIP rate ($2.50 per beneficiary per month [PBPM] for Track 1 and $4.00 PBPM for Track 2) multiplied by the number of eligible Medicare FFS beneficiaries attributed to the practice in the first month of that program year. The PBIP has two components—quality and utilization. The total amount of PBIP is split equally between these two components.

CMS calculates the quality PBIP score using eCQMs (constituting 75 percent of the score in 2017 and 2018 and 60 percent of the score in 2019) and patient experience-of-care measures from the CG CAHPS Patient-Centered Medical Home Survey (constituting the remaining 25 percent of the score in 2017 and 2018 and 40 percent of the score in 2019). CMS calculates the utilization PBIP score using claims-based inpatient hospital utilization (constituting 67 percent of the score) and ED utilization (constituting the remaining 33 percent of the score). Each component score ranges from 0 to 1, representing the proportion of the component PBIP amount retained. For example, a practice with a quality PBIP score of 1 keeps all of its quality PBIP (which is 50 percent of the total PBIP). Practices that do not meet the minimum reporting and performance requirements in the quality component are not eligible to retain any PBIP.

In the year following the performance year, CMS recoups PBIPs based on the practice's performance relative to benchmarks. The recoupment is based on a total PBIP score ranging from 0 to 1 that takes the average of the quality and utilization components. CMS also shares measure performance results and final PBIP scores with practices so they can identify areas for improvement.

The benchmarks vary by outcome (CMMI 2017a, CMMI 2017c, CMMI 2019a). Briefly, for eCQMs, CMS uses the same benchmarks as those used in the Merit-based Incentive Payment System (MIPS) to ensure consistency in performance goals across programs. The MIPS benchmarks are calculated using MIPS performance data from two years prior for the national sample of all Taxpayer Identification Numbers (TINs) that submitted eCQM data on a given measure. For the patient experience-of-care measures, CMS uses a national reference group of all practices that submitted data for the CG CAHPS measures to the 2013, 2014, or 2015 CAHPS database. For the utilization benchmarks, CMS uses all Medicare FFS TINs and their attributed Medicare beneficiaries (national reference group). At the beginning of each program year, CMS publishes the PBIP scoring methodology and the benchmarks for each measure. For ease of understanding, the published materials focus on the minimum benchmark thresholds to retain any PBIP and the maximum thresholds to retain the full PBIP. It is important to note that, although these benchmarks are a key component in determining how well a payment incentive functions, our analysis does not assess the appropriateness of these benchmarks.

Practices participating in both CPC+ and a Medicare Shared Savings Program (SSP) ACO are not eligible to receive PBIPs because they are eligible to receive a portion of any shared savings earned by their ACO, and CMS rules prohibit "double dipping." SSP practices still receive PBIP scores that reflect their performance on utilization and quality measures. However, we do not include SSP practices in this analysis because they are not incentivized by PBIPs.

B. Study sample

Our study sample included primary care practices that participated in CPC+ across 14 regions from January 2017 through December 2019. For each program year, we restricted the sample to PBIP-eligible practices (that is, those that did not participate in Medicare SSP at the beginning of the year). As practices joined or left SSP, the sample of practices eligible for PBIPs changed over time. This resulted in 1,763 unique practices across the three years. These practices collectively provided care for 1.21 million Medicare FFS beneficiaries in 2016—the year before CPC+ (baseline year). Our sample included 1,518 practices in 2017 (627 in Track 1 and 891 in Track 2), 1,371 practices in 2018 (548 in Track 1 and in 823 Track 2), and 1,430 practices in 2019 (566 in Track 1 and 864 in Track 2). Of the 1,763 practices, 1,184 (67.2 percent) remained as non-SSP participants in all three years.

C. Data sources

For the quantitative analyses, we assembled a unique practice-year dataset that included four types of data: (1) practice characteristics at the start of CPC+ (2016); (2) practices' PBIP scores (total, quality, and utilization scores) from 2017 through 2019; (3) claims-based outcomes and characteristics of beneficiaries, aggregated to the practice level, from 2017 through 2019; and (4)

practices' responses on survey questions related to PBIPs in 2018 and 2019. For the qualitative analyses, we conducted primary data collection through practice interviews.

Practice characteristics. We began with a practice-level dataset constructed for the independent evaluation of CPC+ (Peikes et al. 2021). This dataset includes practice characteristics defined for the baseline year—the year before the start of CPC+ (2016). We assembled data from the SK&A office-based physician database (IQVIA) that includes a roster of all U.S. practices with at least one practitioner (defined as physician, nurse practitioner, or physician assistant) with a primary care specialty (defined as family practice, general practice, geriatrics, or internal medicine), the list of practitioners who worked at each practice site, and their National Provider Identifiers (NPIs). We identified CPC+ practices in this SK&A roster by matching practice name and/or address and by NPIs listed in CPC+ application data. We linked approximately 95 percent of the CPC+ practices to a practice in the SK&A data. For the remaining 5 percent of CPC+ practices, we used CPC+ application data to ensure that we had the full sample of CPC+ practices at the start of CPC+. This process defined three characteristics for the full sample of CPC+ practices that started in 2017: (1) counts of primary care practitioners (PCPs), (2) ownership status (hospital or system owned/independent), and (3) whether the practice had any nurse practitioners or physician assistants.

To this dataset, we added other practice and market characteristics, such as urban/rural status, participation in prior primary care transformation models, and county median household income, using publicly available data (such as the Area Resource File), CMS restricted-use data (such as the Master Data Management and CMS data on participation in other initiatives), and proprietary data (such as National Committee for Quality Assurance data) (see Table 3.D.i in Section 3.D.5 for all data sources).

We added data on the characteristics of the practice's Medicare FFS beneficiaries using Medicare claims and enrollment data from 2014 through 2019. We updated the practitioner rosters in each year for the purpose of assigning beneficiaries. We assigned Medicare beneficiaries to practices where they had a chronic care management visit or an annual wellness visit, or where they received the largest number of primary care visits (see Appendix 6.B of Ghosh et al. [2020] for more details on the assignment process). For each practice, we calculated the proportion of beneficiaries in each age group (under 65, 65 to 74, 75 to 84, and 85 or older), sex (male), race (White, Black, all other races), original reason for Medicare entitlement (old age, disability, or end-stage renal disease (ESRD)/ESRD and disability combined), dual eligibility for Medicaid, chronic conditions (captured by HCCs and Chronic Conditions Warehouse [CCW] algorithm) and the mean HCC risk score of beneficiaries assigned to each practice .

PBIP scores. We use the final quality, utilization, and total PBIP scores for 2017, 2018, and 2019 calculated by CMS's CPC+ performance and operations contractors.

Claims-based outcomes. For all attributed beneficiaries, we constructed five claims-based outcome measures for 2016 through 2019: (1) annualized acute hospitalizations per 1,000 beneficiaries; (2) annualized outpatient ED visits per 1,000 beneficiaries; (3) total Medicare Part A and B expenditures PBPM; (4) indicator for whether beneficiaries with diabetes received all of three recommended services: hemoglobin A1c test, eye exam, or attention for nephropathy; and

(5) indicator for whether eligible female beneficiaries received breast cancer screening. Note that the acute hospitalizations, outpatient ED visits, and recommended diabetes care and breast cancer screening measures that we used for this analysis come from the CPC+ evaluation data. Although the evaluation measures are slightly different from the measures used to calculate PBIP scores, they are a good approximation of the PBIP measures (for a complete listing of measures used in the analysis and those used for PBIP calculations, please refer to Table 3.D.ii. in Section 3.D.5).[36] We do not consider the small differences in measures to be a major limitation of our analysis, because a good scoring methodology would not be expected to be sensitive to small changes in measures definitions. We aggregated these beneficiary outcomes to the practice level by taking the average of each outcome across all eligible beneficiary-months. Beneficiaries were considered eligible in any month in which they were enrolled in Medicare Parts A and B with Medicare as primary payer and had no HMO coverage. This approach ensures that beneficiaries who were eligible for a larger part of the year contributed more to the average practice-level outcome.

To measure the improvement in these outcomes, we calculated the percentage change from the baseline year. An alternative would be to calculate the percentage change in outcomes with respect to the prior year. We prefer calculating the change from the baseline year as it allows for a fixed point of reference and ensures that the measure of improvement in a particular outcome is not sensitive to the changes in the level of that outcome during the intervention period.

Practice surveys. In each program year, we fielded a practice survey to CPC+ practices that asked about practice staffing, revenues, use of heath IT, data feedback, and their experience with and perspectives on CPC+. The 2018 survey was administered from June to September 2018 and it asked practices to reflect on their CPC+ experience in 2017. The 2019 survey was administered from July to November 2019 and it asked practices to reflect on their CPC+ experience in 2018. The practice survey from 2018 and 2019 included two questions related to PBIPs:

1. Our practice understands how Medicare FFS calculates the proportion of the PBIP my practice retains and the proportion CMS recoups. (Response options: Strongly agree, Agree, Disagree, Strongly disagree.)
2. Our practice feels that Medicare FFS's methodology is fair in how it determines the proportion of the PBIP my practice retains and the proportion CMS recoups. (Response options: Strongly agree, Agree, Disagree, Strongly disagree, and Don't know.)

(We did not include the 2017 survey in this study because it occurred too early to ask questions related to PBIPs.)

[36] Beginning in the third program year, 2019, only two eCQMs were used for quality PBIP scoring: (1) Controlling High Blood Pressure and (2) Diabetes: Hemoglobin A1c (HbA1c) Poor Control (> 9 percent). In previous program years, 2017 and 2018, other eCQMs were available for PBIP scoring, including measures for other aspects of diabetes care, such as eye exams and attention for nephropathy, and breast cancer screening (see PBIP methodology papers for a full list of eCQMs available for reporting in each program year [CMMI 2017a, CMMI 2017c, CMMI 2019a]). For this analysis, we used the two measures for diabetes care and breast cancer screening, as described above, for all program years (Table 3.D.ii describes each measure in more detail).

Deep-dive practice interviews. We conducted two rounds of "deep-dive" practice interviews to learn about practices' experiences with all of the CPC+ payments. The first interviews were conducted in Spring 2018. We selected 27 practices using stratified random sampling and asked them to reflect on their experiences with the 2017 payments. Of the 27 practices, 12 were eligible to receive PBIPs. In Spring 2019, we re-interviewed 24 of these 27 practices and asked them to reflect on their experiences with the 2018 payments. Of the 24 practices, 11 were eligible to receive PBIPs. In both rounds of interviews, key topics included the practice's overall perceptions and assessment of CPC+ payments, key challenges or concerns resulting from payment approaches used by either CMS or payer partners, how the practice used or budgeted for different types of CPC+ payments, and any changes the practice or clinicians implemented regarding care and operations. To understand whether PBIPs factored into practices' decisions to change their SSP participation status (either join SSP and become ineligible to receive PBIPs or leave SSP and become eligible to receive PBIPs), we interviewed a total of 11 practices in 2019 that changed their SSP participation status after being in CPC+ for at least one year. Among the sample of 24 practices interviewed in 2019, there were 5 practices that had changed their SSP status after joining CPC+. To supplement this small sample, we conducted brief interviews with an additional six practices that had changed their SSP status. These six practices were selected using stratified random sampling. This analysis focuses on practices that were eligible to receive PBIPs (12 practices in the 2018 sample and 11 practices in the 2019 sample) and practices that switched SSP participation since the start of CPC+ (11 practices in the 2019 sample).

D. Analysis

Multivariate regression to examine associations. We estimated four sets of multivariate linear regression models to understand the association between practices' PBIP retention and: (1) utilization and quality outcomes of beneficiaries assigned to the practice aggregated to the practice level, (2) average PBPM expenditures of the practice, (3) characteristics of beneficiaries assigned to the practice aggregated to the practice level, and (4) practice characteristics (defined as of the start of CPC+). All four sets included three years of practice-level data on practice outcomes and composition (from 2017 through 2019) and we conducted the analyses separately by track and type of PBIP score (that is, total, quality, and utilization).

Weighting to assess relationships by practice and by beneficiaries. The relationships between a practice's performance (PBIP scores) and its outcomes and characteristics examined as part of this analysis could be used to inform and guide payment system design and recruitment of practices in future payment reform models. Therefore, we weighted the performance of each practice equally (regardless of its size) in assessing these relationships. However, since larger practices impact a larger number of beneficiaries, payers may also be interested in understanding how these relationships alter (if at all) when practice performance is weighted by the number of beneficiaries assigned to the practice. Therefore, we also report regression results where each practice is weighted by the number of its assigned beneficiaries in Tables 3.D.iv to 3.D.viii in Section 3.D.5. To account for correlation in scores within practices over time, we used cluster-robust standard errors, clustering at the practice level. We show statistical significance at the 0.05 and 0.1 levels. Although we did not apply any formal multiple comparison corrections, our approach to interpreting regression results aimed to avoid mistaking noise for signal by combining evidence from *p*-values, similarity in findings across tracks, and findings from the

implementation of CPC+. All statistical analyses were conducted using Stata, version 15.1 (StataCorp, LLC).

Below we describe the specific analyses conducted to address each of the research questions.

D.1. Do PBIPs reward better performance in service use?

To test the correlation of PBIP scores with service use, we estimated a model where the utilization PBIP score in a particular year is explained by the contemporaneous (that is, same-year) acute hospitalizations and outpatient ED visits and the percentage change in these measures since 2016. Similarly, to test the correlation of PBIP scores with quality-of-care measures, we estimated a model where the quality PBIP score in a particular year is explained by the same-year receipt of diabetes care and breast cancer screening and the percentage change in these measures since 2016. Note that we did not include patient experience-of-care measures, which are also a component of quality PBIP scores, because the patient survey data collected for the evaluation are for Medicare FFS beneficiaries only and the sample is too small to support practice-level estimates.

D.2. Do PBIPs reward better performance in expenditures?

To test the correlation of PBIP scores with expenditures, we estimated a model where the PBIP score in a particular year is explained by the contemporaneous level and percentage change since 2016 in total Medicare expenditures.

D.3. To what extent does the current PBIP risk-adjustment methodology account for patient risk factors?

We estimated two models by regressing the PBIP score in a particular year on (1) the set of risk characteristics that are included in the PBIP methodology and (2) a wider set of characteristics of practices' assigned beneficiaries (aggregated to the practice level), in addition to the risk characteristics used in the PBIP methodology (see Table 3.D.ii in Section 3.D.5 for a listing of all the characteristics). The PBIP methodology includes age, gender, comorbidities, and self-reported education level (only for the CAHPS measures). We approximated the comorbidities by a combination of HCC scores and 22 chronic conditions (captured by HCCs and the CCW algorithm). We also approximated education level by the percentage of adults with college education in the practice's county. The additional characteristics that we controlled for included (1) percentage of beneficiaries who belong to White, Black, or all other races; (2) the percentage of beneficiaries dually eligible for Medicaid; (3) the percentages of beneficiaries eligible for Medicare through disability or ESRD; (4) percentage of adults with college education in the practices' county; and (5) the median household income in the practices' county. We used county-specific income and education levels since we did not have data for the specific beneficiaries assigned to the practice for these variables. We assessed the fit of the two models using the adjusted R-squared (R^2). We also compared the predicted PBIP scores using both models to assess the extent of the difference in practice scores.

D.4. Do PBIPs motivate practice changes?

To understand practices' perspectives on PBIPs, the methodology, and its fairness, we tabulated survey responses on the two PBIP questions asked and summarized the interview responses. Following each interview, the interview team summarized key findings by topic area for a given practice in a structured data analysis table, to allow for systematic tabulation of interview findings. When reporting on findings from the practice interviews, we use the word "couple" to denote two respondents, "several" to denote 3 to 4 respondents, "many" to denote 5 to 8 respondents, and "most" to indicate more than three-fourths of practices.

D.5. Does PBIP performance vary by practice type?

To understand the relationship between PBIP scores and practice characteristics, we regressed yearly PBIP scores on practice characteristics that we measured as of the start of CPC+, such as ownership status, size of the practice, and prior experience with primary care transformation.

3.D.3. Results

A. Summary statistics

PBIP scores were higher for quality than for utilization and grew over time for both components of the payment. In 2019 (the final year of our study), the average Track 1 CPC+ practice retained 84 percent ($1.05 PBPM) of its quality component and 52 percent ($0.65 PBPM) of its utilization component; the corresponding numbers for Track 2 practices were 86 percent ($1.72 PBPM) and 59 percent ($1.18 PBPM) for the quality and utilization components, respectively (Table 3.D.1). In both tracks, the mean PBIP scores were higher for both utilization and quality components in 2018 and 2019 relative to 2017 (the first year of the intervention). Most practices retained some of their total PBIP, and the average proportions retained were 68 percent ($1.70 PBPM) in Track 1 and 72 percent ($2.88 PBPM) in Track 2.

Table 3.D.1. Summary of PBIP scores in the first three program years of CPC+

	Track 1			Track 2		
	Practices that did not retain any PBIP (%)	Practices that retained full PBIP (%)	Mean score (IQR)	Practices that did not retain any PBIP (%)	Practices that retained full PBIP (%)	Mean score (IQR)
Quality PBIP						
2017	29 (4.63)	106 (16.91)	0.72 (0.61, 0.89)	6 (0.67)	168 (18.86)	0.76 (0.65, 0.89)
2018	7 (1.28)	283 (51.64)	0.85 (0.73, 1.00)	0 (0.00)	462 (56.14)	0.89 (0.74, 1.00)
2019	6 (1.06)	321 (56.71)	0.84 (0.60, 1.00)	4 (0.46)	526 (60.88)	0.86 (0.60, 1.00)
Utilization PBIP						
2017	221 (35.25)	26 (4.15)	0.37 (0.00, 0.67)	235 (26.37)	30 (3.37)	0.43 (0.00, 0.70)
2018	107 (19.53)	26 (4.74)	0.51 (0.22, 0.78)	136 (16.52)	40 (4.68)	0.52 (0.24, 0.83)
2019	114 (20.14)	32 (5.65)	0.52 (0.22, 0.80)	105 (12.15)	54 (6.25)	0.59 (0.33, 0.87)
Total PBIP						
2017	29 (4.63)	5 (0.80)	0.54 (0.40, 0.72)	6 (0.67)	6 (0.23)	0.60 (0.44, 0.76)
2018	7 (1.28)	16 (2.92)	0.68 (0.53, 0.84)	0 (0.00)	28 (3.40)	0.71 (0.55, 0.86)
2019	6 (1.06)	22 (3.89)	0.68 (0.53, 0.85)	4 (0.46)	44 (5.09)	0.72 (0.60, 0.89)

Source: Mathematica's analysis of PBIP performance data from 2017 through 2019.

Note: Each PBIP score ranges from 0 to 1, representing the proportion of the total PBIP amount practices retained in each program year. Analysis includes total practices that did not participate in Medicare SSP in each program year of CPC+ because only non-SSP practices were eligible to receive the PBIP. SSP status can change from year to year as practices join and exit the program. For Track 1, we included 627, 548, and 566 practices in 2017, 2018, and 2019, respectively. For Track 2, we included 891, 823, and 864 practices in 2017, 2018, and 2019, respectively. All practices were weighted equally, irrespective of their size.

IQR = interquartile range; PBIP = Performance-based Incentive Payment; SSP = Medicare Shared Savings Program.

B. Summary of associations of PBIPs with practice outcomes and characteristics

Over the first three program years, we found some key associations of PBIPs with practice outcome measures and characteristics. We summarize the findings in Table 3.D.2. For each outcome or characteristic, we provide the direction of the association (indicated with up or down arrows) and whether the association improved or reduced PBIP scores (indicated in green shading if it improved PBIP scores and in red shading if it reduced PBIP scores), by track and type of PBIP score. We also describe the interpretation of the association. We present only the associations that were statistically significant at the 10 percent level. Following Table 3.D.2, we discuss each finding in detail.

Table 3.D.2. Summary of associations between PBIP scores and outcome measures

	Quality PBIP		Utilization PBIP		
	Track 1	Track 2	Track 1	Track 2	What does it mean?
Service use and quality of care					
Acute hospitalizations	n.a.	n.a.	↓	↓	Higher utilization PBIPs associated with lower levels and improvements (decreases or lower growth from baseline) in acute hospitalizations in both tracks.
Percentage change from baseline	n.a.	n.a.	↓	↓	
Outpatient ED visits	n.a.	n.a.	↓	↓	Higher utilization PBIPs associated with lower levels of ED visits in both tracks and with improvements (decreases or lower growth from baseline) in Track 2.
Percentage change from baseline	n.a.	n.a.	–	↓	
Diabetes composite	↑	↑	n.a.	n.a.	Higher quality PBIPs associated with higher levels but not improvements (increases) in diabetes composite in both tracks.
Percentage change from baseline	–	–	n.a.	n.a.	
Breast cancer screening	↑	↑	n.a.	n.a.	Higher quality PBIPs associated with higher levels but not improvements (increases) in breast cancer screening in both tracks.
Percentage change from baseline	–	–	n.a.	n.a.	
Expenditures					
Medicare FFS expenditures PBPM	↓	↓	↓	↓	Higher quality PBIPs associated with only lower levels of expenditures in both tracks; higher utilization PBIPs associated with both lower levels and improvements (decreases or lower growth from baseline) in Medicare FFS expenditures in both tracks.
Percentage change from baseline	–	–	↓	↓	
Additional risk-adjustment factors					
Original reason for Medicare entitlement					
Disability	↓	↓	↓	↓	Lower quality and utilization PBIPs associated with higher proportion of beneficiaries who were entitled to Medicare through disability in both tracks.
ESRD combined	–	↓	–	–	Lower quality PBIPs associated with higher proportion of beneficiaries who were entitled to Medicare through ESRD in Track 2.
Dual eligibility	–	–	↑	↑	Higher utilization PBIPs associated with higher proportion of beneficiaries with dual eligibility status in both tracks.
County median household income	–	–	↑	–	Higher utilization PBIPs associated with higher median household income in Track 1.

Table 3.D.2 *(continued)*

	Quality PBIP		Utilization PBIP		
	Track 1	Track 2	Track 1	Track 2	What does it mean?
Race					
Black	–	–	–	–	Association not significant.
All other race	↓	–	–	↑	Lower quality PBIPs associated with higher proportion of non-White, non-Black beneficiaries in Track 1; but higher utilization PBIPs associated with higher proportion of non-White, non-Black beneficiaries in Track 2.
Practice characteristics					
Number of PCPs					
3 to 5	–	↓	↑	–	Higher quality and utilization PBIPs associated with higher PCP count in Track 1; but lower quality PBIP associated with higher PCP count in Track 2.
6 or more	↑	↓	–	–	
Owned by hospital or health system	–	↓	↓	↓	Lower quality PBIPs associated with ownership by hospital or health system in Track 2; lower utilization PBIP associated with ownership by hospital or health system in both tracks.
Multispecialty practice	–	–	–	–	Association not significant.
Participation in prior primary care transformation activities					
CPC Classic	–	↓	↑	–	Lower quality PBIPs associated with experience in CPC Classic in Track 2; higher utilization PBIP associated with experience in CPC Classic in Track 1.
MAPCP	↑	↑	–	–	Higher quality PBIPs associated with experience in MAPCP in both tracks and with recognition as a medical home in Track 2.
Medical home	–	↑	–	–	Higher quality PBIPs associated with medical home recognition in Track 2.
TCPI	–	–	–	↓	Lower utilization PBIPs associated with experience in TCPI in Track 2.
Meaningful EHR use, attested 2011 or 2012	↑	↑	↑	↑	Higher quality and utilization PBIPs associated with early attestation of meaningful EHR use in both tracks.
Urbanicity					
Rural	↓	–	–	–	Lower quality PBIPs associated with rural region in Track 1.
Suburban	–	–	↑	↑	Higher utilization PBIPs associated with suburban region in both tracks.
HRR price index	–	–	↑	↑	Higher utilization PBIPs associated with higher HRR price index in both tracks.

Source: Mathematica's analysis of PBIP performance data from 2017 through 2019 and Medicare Enrollment Database and claims from January 2014 through December 2019.

Note: This table summarizes associations between PBIP scores and outcome measures included in this analysis that were statistically significant at the 10 percent level on a two-sided test. An upward arrow indicates that the association was positive (i.e., higher PBIP scores were associated with higher levels of outcome). A downward arrow indicates that the association was negative (i.e., lower PBIP scores were associated with higher levels of the outcome). **Green shading** indicates that the association was

Table 3.D.2 *(continued)*

favorable (i.e., increased PBIP scores) and ***red shading*** indicates that the association was unfavorable (i.e., reduced PBIP scores). A hyphen indicates that the association was not statistically significant.

CPC = Comprehensive Primary Care; ED = emergency department; EHR = electronic health record; ESRD = end-stage renal disease; FFS = fee-for-service; HRR = hospital referral region; MAPCP = Multi-Payer Advanced Primary Care Practice; n.a. = not applicable because the outcome was not included in the analysis of the PBIP score; PBIP = Performance-based Incentive Payment; PBPM = per beneficiary per month; PCP = primary care practitioner; SSP = Medicare Shared Savings Program; TCPI = Transforming Clinical Practice Initiative.

C. Associations of PBIPs with utilization and quality outcomes

Performance on utilization PBIPs was associated with both lower levels and favorable changes in acute hospitalizations relative to the baseline year (2016). We hypothesized that better PBIP scores would be associated with lower levels of service use because PBIPs directly reward for lowering utilization measures. However, we did not expect to see an association between PBIP scores and favorable changes in the utilization measures because PBIPs do not provide explicit incentives to improve outcomes over time.

We found that one fewer hospitalization per 1,000 beneficiaries was associated with average increases of 0.00186 (gain of $0.0023 PBPM or 0.19 percent in the PBIP amount retained) and 0.00193 (gain of $0.0039 PBPM or 0.19 percent) in the utilization PBIP score in Tracks 1 and 2, respectively (Table 3.D.3).[37] Since performance on acute hospitalizations is used to calculate PBIP scores, it is not surprising that there is a negative association between the levels of acute hospitalizations and the utilization PBIP scores and the total PBIP scores in both tracks. Even though the PBIPs do not explicitly reward improvements over time, we also found a negative association between the utilization PBIP score in a particular year and the percentage change in acute hospitalizations in that year relative to the baseline year, after controlling for the level of acute hospitalizations. For example, a 1 percent reduction in hospitalizations per 1,000 beneficiaries relative to the baseline year was associated with average increases of 0.00116 (gain of $0.0015 PBPM or 0.12 percent) and 0.000169 (gain of $0.0012 PBPM or 0.02 percent) in the utilization PBIP score in Tracks 1 and 2, respectively. This suggests that PBIPs in CPC+ ended up rewarding both practices that had lower levels of hospitalizations (and possibly less room for improvement in each year) and those that experienced greater reductions in hospitalizations (even if they had higher levels of hospitalizations).

Performance on utilization PBIPs was associated with lower levels of outpatient ED visits in both tracks and with favorable changes relative to the baseline year only in Track 2. We found that 1 fewer ED visit per 1,000 beneficiaries was associated with average increases of 0.00027 (gain of $0.0003 PBPM or 0.03 percent) and 0.00031 (gain of $0.0006 PBPM or 0.03 percent) in the utilization PBIP score in Tracks 1 and 2, respectively (Table 3.D.3). Also, in Track 2 only, we found that the utilization PBIP scores were associated with greater reductions in ED visits (relative to baseline year), controlling for the levels of ED visits, where a 1 percent reduction in ED visits per 1,000 beneficiaries was associated with an average increase in the utilization PBIP score of 0.000871 (gain of $0.0017 PBPM). These findings are consistent with the expectation that Track 2 practices would achieve better outcomes (levels and favorable changes over time) because they have more extensive care delivery requirements and also receive higher enhanced payments.

[37] The PBPM estimates are calculated as the regression coefficient multiplied by the PBPM rate for the PBIP component. For example, for the utilization PBIP scores, the regression coefficients for hospitalizations per 1,000 beneficiaries are -0.00186 and -0.00193, for Track 1 and Track 2, respectively (Table 3.D.3). Because PBIP scores represent the proportion of the component PBIP amount that practices retained, these coefficients translate to a reduction of $0.0023 in the utilization PBIP for Track 1 (that is, -0.00186 * $1.25 PBPM) and a reduction of $0.0039 in the utilization PBIP for Track 2 (that is, -0.00193 * $2.00 PBPM) for every increase of one hospitalization per 1,000 beneficiaries.

Although performance on quality PBIPs was associated with the levels of claims-based quality measures, it was not associated with favorable changes in these measures relative to the baseline. We expected to observe a positive association between the quality scores and claims-based approximations of some of the eCQMs that are used to calculate the PBIP scores. (For more details on which eCQMs are used to calculate the quality component of PBIP scores, please refer to the CPC+ payment methodology papers [CMMI 2017a, CMMI 2017c, CMMI 2019a].) Consistent with these expectations, we found a positive association between the quality PBIP score and both the percentage of beneficiaries with diabetes receiving recommended services for diabetes (receiving all of the three services: HbA1c test, eye exam, and attention for nephropathy) and the percentage of eligible female beneficiaries receiving breast cancer screening. For example, a 1 percentage point increase in the percentage of beneficiaries with diabetes receiving recommended care increased the quality PBIP score by 0.00251 (gain of $0.0031 PBPM or 0.25 percent) and 0.00174 (gain of $0.0035 PBPM or 0.17 percent) on average in Tracks 1 and 2, respectively. A 1 percentage point increase in the percentage of beneficiaries receiving breast cancer screening was associated with average increases of 0.00462 (gain of $0.0058 PBPM or 0.46 percent) and 0.00408 (gain of $0.0082 PBPM or 0.41 percent) in the quality PBIP score for Tracks 1 and 2, respectively. But favorable changes over time in these measures were not associated with higher quality PBIP scores, after controlling for the level of the measures in the year.

D. Associations of PBIPs with expenditures

Performance on utilization PBIPs was associated with both lower levels and favorable changes in expenditures relative to the baseline year (2016). Performance on quality PBIPs was associated with the levels of expenditures but not with favorable changes relative to the baseline. We hypothesized that better PBIP scores would be associated with lower levels of expenditures because, although the calculation of PBIP scores does not include expenditures, favorable changes in utilization measures are expected to drive favorable changes in expenditures. Consistent with the associations between PBIPs and the utilization outcomes of hospitalizations and ED visits, we found that higher utilization PBIP scores were associated with lower levels of and lower growth in expenditures in both tracks (Table 3.D.4). We also found that higher quality PBIP scores were associated with lower expenditures in both tracks. There are no direct channels through which favorable changes in the quality measures used to calculate the PBIPs (eCQMs and CAHPS patient experience-of-care measures) lead to a reduction in expenditures in the short run. Therefore, it is likely that this association is due to other factors that affect the quality score as well as practices' average PBPM expenditures.

E. Associations of PBIPs with practices' beneficiary composition

After controlling for risk factors used in the PBIP adjustment methodology, PBIP scores were statistically significantly associated with additional beneficiary risk factors (entitlement to Medicare through disability and median income of the county); this suggests that the PBIP risk-adjustment methodology could be refined further. We examined the association of PBIPs with practices' beneficiary characteristics to assess whether the PBIP risk-adjustment could be refined by controlling for additional variables.

As described in the introduction to this Appendix, the PBIP methodology adjusts for age, gender, and HCCs for the utilization measures, and for age, gender, education level, and self-reported physical health status for the CAHPS survey measures. No risk adjustment is applied for eCQMs. We controlled for the factors included in the PBIP methodology (age, gender, approximation of the full set of comorbidities and self-reported health status by HCC scores and 22 chronic conditions captured by HCCs and the CCW algorithm, and approximation of education level using the percentage of adults with college education in the practice's county). We also included additional demographic variables and risk factors not included in the PBIP methodology, such as race and original reason for Medicare entitlement (capturing entitlement through disability or ESRD), as well as socioeconomic factors, such as Medicaid dual eligibility status, income (defined by median income in the practice's county), and education (defined by percentage of adults with college education in the practice's county). We hypothesized that if the PBIP methodology sufficiently accounts for risk based on these additional demographic, health, and socioeconomic factors (which are not explicitly included in the methodology), then we would not see these factors significantly correlated with PBIP scores.

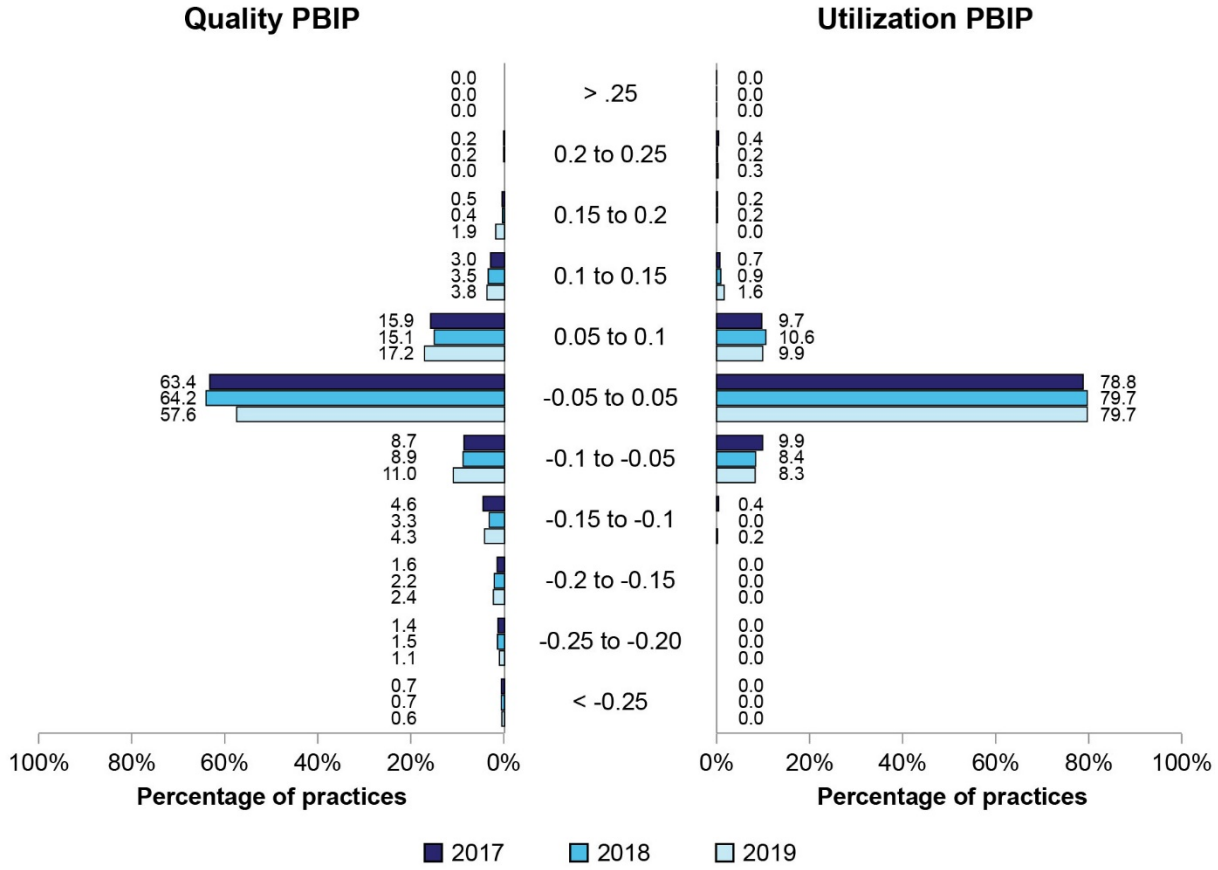
Including additional risk-adjustment factors increased the explanatory power of the regressions for both tracks. For Track 1, including additional risk factors increased the R^2 from 0.207 to 0.221 for the utilization PBIP score and from 0.149 to 0.242 for the quality PBIP score (Tables 3.D.5 and 3.D.6). For Track 2, the additional factors increased the R^2 from 0.200 to 0.252 for the utilization PBIP score and from 0.118 to 0.173 for the quality PBIP score. The explanatory power of the additional risk factors was larger for the quality than the utilization PBIP scores for Track 1, while it was about the same for both PBIP scores for Track 2.

After controlling for factors included in the PBIP methodology, we found some associations for additional possible risk adjusters, but many of the relationships showed inconsistent patterns across tracks (Table 3.D.6). However, two findings were notable and consistent across tracks: (1) practices with a greater percentage of beneficiaries who were entitled to Medicare through disability had both lower utilization and lower quality PBIP scores and (2) practices with a higher percentage of beneficiaries with dual eligibility status tended to have higher utilization scores. Additionally, higher county median household income was associated with higher utilization scores, but the association was statistically significant only in Track 1.

We also predicted the PBIP scores, separately by track and type of score, using the two models that included (1) only the factors used in the PBIP methodology and (2) all risk factors. Note that including additional risk factors could either improve or worsen a practice's PBIP scores depending on the beneficiary composition of the practice. For most practices, the additional risk factors changed the PBIP scores minimally by less than 0.05 (or 5 percent of PBIP) (Figures 3.D.1 and 3.D.2). However, for a small subset of practices, the additional risk factors changed the PBIP scores more substantially. The additional risk factors changed (either improved or worsened) the quality PBIP scores by at least 0.10 (or 10 percent of PBIP) for 12 to 14 percent of practices in Track 1 (depending on the year) and for 2 to 4 percent of practices in Track 2; the additional risk factors changed the utilization PBIP scores by at least 0.10 for about 2 percent of Track 1 practices and for 14 to 17 percent of Track 2 practices.

Overall, the increased explanatory power of the regressions with the additional risk factors and the significant associations of PBIP scores with the additional risk factors suggest that the PBIP methodology could be refined further to adjust for high-risk beneficiaries. However, these refinements would need to be weighed carefully against potential drawbacks, such as increased complexity and the unintended consequence of masking health disparities by adjusting for socioeconomic factors.

Figure 3.D.1. Percentage of practices with changes in predicted scores when using PBIP risk factors only versus including additional risk factors, for Track 1, from 2017 to 2019

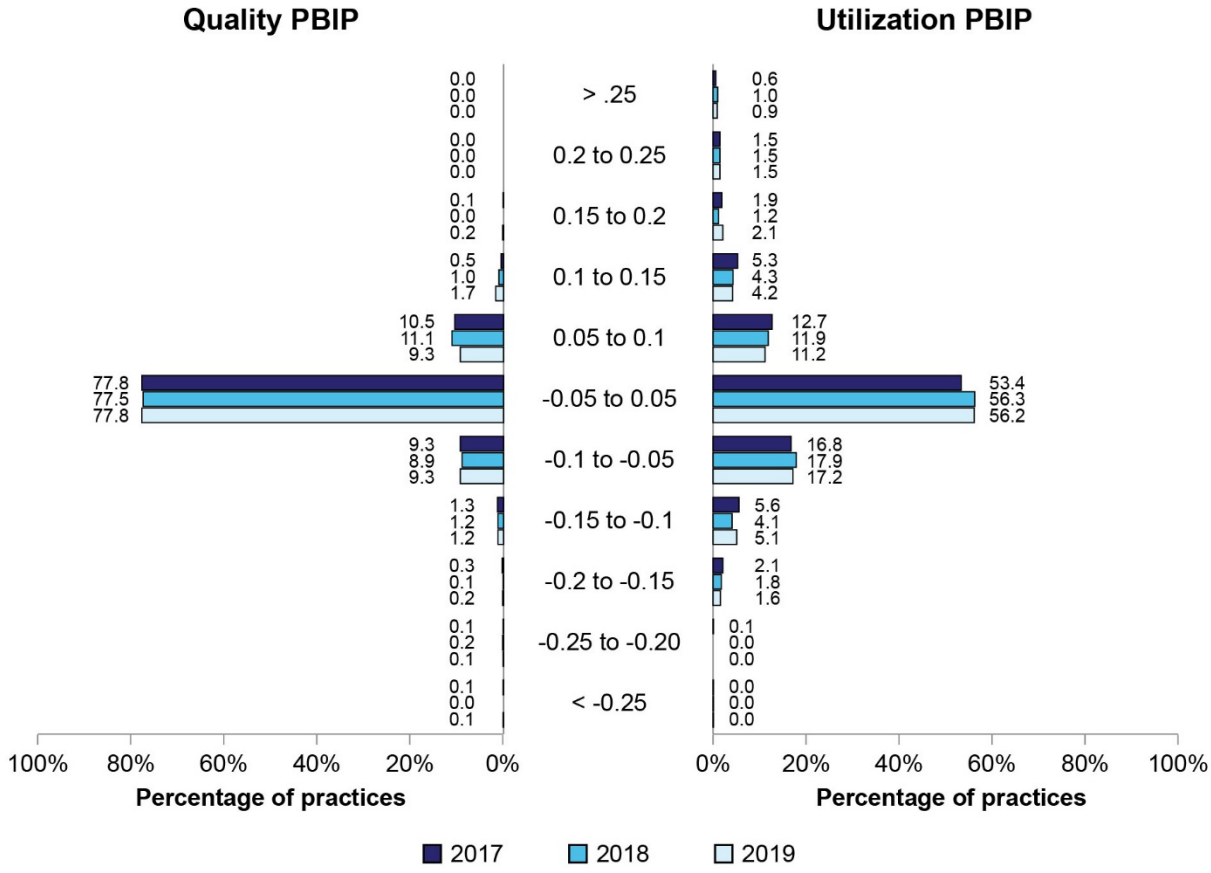


Source: Mathematica's analysis of PBIP performance data from 2017 through 2019 and Medicare Enrollment Database and claims from January 2014 through December 2019.

Note: This figure shows the percentage of Track 1 practices and the changes in their predicted scores between the model that included only the PBIP risk factors and the model that included all risk factors. This figure shows changes in scores ranging from less than -0.25 to greater than 0.25 in intervals of 0.05 (equivalent to 5 percent of PBIP). The PBIP score ranges from 0 to 1, representing the proportion of the total PBIP amount practices retained in each program year.

PBIP = Performance-based Incentive Payment

Figure 3.D.2. Percentage of practices with changes in predicted scores when using PBIP risk factors only versus including additional risk factors, for Track 2, from 2017 to 2019



Source: Mathematica's analysis of PBIP performance data from 2017 through 2019 and Medicare Enrollment Database and claims from January 2014 through December 2019.

Note: This figure shows the percentage of Track 2 practices and the changes in their predicted scores between the model that included only the PBIP risk factors and the model that included all risk factors. This figure shows changes in scores ranging from less than -0.25 to greater than 0.25 in intervals of 0.05 (equivalent to 5 percent of PBIP). The PBIP score ranges from 0 to 1, representing the proportion of the total PBIP amount practices retained in each program year.

PBIP = Performance-based Incentive Payment

F. Associations of PBIPs with characteristics of practices

Ownership by a hospital or health system was associated with lower utilization PBIP scores, while practices with experience in prior primary care transformation and practices in suburban areas were likely to have higher PBIP scores. We investigated several hypotheses related to practice characteristics. First, we hypothesized that larger practices (measured by the number of PCPs), practices that are multispecialty, and practices that are owned by a hospital or health system would have lower utilization PBIP scores. Although these practices likely have access to greater resources and better medical infrastructure than smaller practices, they may also face weaker incentives to reduce service use under the FFS payment environment, as well as to reduce service use from other providers.

Accordingly, we found that larger, more integrated practices had lower quality and utilization PBIP scores than smaller, independent practices. Specifically, in Track 2, practices that were medium-sized (three to five practitioners) and large-sized (six or more practitioners) had lower quality PBIP scores relative to small practices (one or two practitioners) (Table 3.D.7). Also, practices owned by a hospital or health system had lower utilization PBIP scores relative to independently owned practices in both tracks. Multispecialty practices did not have statistically significantly different PBIP scores than primary care-only practices.

Second, we hypothesized that practices with prior primary care transformation experience would have higher PBIP scores because they may be more advanced and require less time and resources to achieve higher performance scores than practices that did not have such experience.

Consistent with expectations, we found that practices with prior primary care transformation experience generally had higher utilization and quality PBIP scores. Specifically, Track 1 practices that participated in MAPCP or TCPI, and Track 2 practices that participated in MAPCP or were recognized as medical homes had higher quality PBIP scores. Practices that attested to meaningful electronic health record (EHR) use in 2011 or 2012 had higher quality and utilization PBIP scores in both tracks. Although practices that participated in CPC Classic or TCPI had statistically significantly lower PBIP scores compared to practices that did not participate in these initiatives, it is difficult to interpret the coefficients on these initiatives because the vast majority of those practices were also early adopters of meaningful EHR use.

Third, we hypothesized that practices in rural areas would have lower PBIP scores than those in urban areas because they have more limited resources and medical infrastructure to achieve higher performance than practices in urban areas.

As expected, we found that rural practices had lower quality PBIP scores than urban practices in Track 1. Practices in suburban regions had higher utilization PBIP scores than urban practices in both tracks. Also, practices located in HRRs with a higher price index had higher utilization PBIP scores in both tracks.

Table 3.D.3. Regression results on the correlation between practices' yearly PBIP scores and annual service use and quality-of-care outcomes, from 2017 to 2019

	Track 1			Track 2		
	Total PBIP	Quality PBIP[a]	Utilization PBIP[b]	Total PBIP	Quality PBIP[a]	Utilization PBIP[b]
Year[c]						
2018	***0.112******	***0.120******	***0.107******	***0.0975******	***0.119******	***0.0812******
	(0.0101)	(0.0106)	(0.0134)	(0.00626)	(0.00623)	(0.00998)
2019	***0.110******	***0.106******	***0.117******	***0.109******	***0.0884******	***0.134******
	(0.0109)	(0.0117)	(0.0145)	(0.00739)	(0.00787)	(0.0110)
Service use outcomes[d]						
Acute hospitalizations	***-0.000928******	n.a.	***-0.00186******	***-0.000869******	n.a.	***-0.00193******
	(0.0000831)	n.a.	(0.000133)	(0.0000797)	n.a.	(0.000171)
Percentage change from baseline	***-0.0569****	n.a.	***-0.116******	***-0.0511******	n.a.	***-0.0619****
	(0.0299)	n.a.	(0.0402)	(0.0195)	n.a.	(0.0356)
Outpatient ED visits	***-0.000184******	n.a.	***-0.000274******	***-0.000192******	n.a.	***-0.000307******
	(0.0000502)	n.a.	(0.0000564)	(0.0000380)	n.a.	(0.0000612)
Percentage change from baseline	-0.00642	n.a.	0.0316	***-0.0501****	n.a.	***-0.0871****
	(0.0316)	n.a.	(0.0436)	(0.0229)	n.a.	(0.0366)
Quality-of-care outcomes						
Received all care for diabetes[e]	***0.196******	***0.251******	n.a.	***0.303******	***0.174******	n.a.
	(0.0470)	(0.0626)	n.a.	(0.0440)	(0.0419)	n.a.
Percentage change from baseline	-0.0252	-0.0136	n.a.	-0.0284	0.0207	n.a.
	(0.0222)	(0.0195)	n.a.	(0.0195)	(0.0199)	n.a.
Received breast cancer screening	***0.203******	***0.462******	n.a.	0.0492	***0.408******	n.a.
	(0.0657)	(0.0858)	n.a.	(0.0593)	(0.0522)	n.a.
Percentage change from baseline	0.0450	0.0328	n.a.	0.0664	0.0372	n.a.
	(0.0443)	(0.0651)	n.a.	(0.0553)	(0.0422)	n.a.
Constant	0.672***	0.267***	1.059***	0.747***	0.373***	1.143***
	(0.0600)	(0.0506)	(0.0394)	(0.0438)	(0.0342)	(0.0426)
N	1,740	1,740	1,741	2,572	2,572	2,578
R^2	0.373	0.176	0.378	0.388	0.180	0.401

Sources: Mathematica's analysis of PBIP performance data from 2017 through 2019 and Medicare Enrollment Database and claims from January 2014 through December 2019.

Note: This table shows the results of six regressions, one for each type of PBIP score by track. In each regression, we controlled for the year of PBIP score, outcome levels in that year, and the percentage change in the outcomes from baseline (2016). All practices were weighted equally, irrespective of their size. Each PBIP score ranges from 0 to 1, representing the proportion of the total PBIP amount practices retained in each program year. The analysis included only non-SSP practices because SSP practices were not eligible to receive PBIPs. ***Yellow shading with bold, italicized text*** signifies that the underlying coefficient was statistically significant at the 10 percent level using a two-sided test.

Table 3.D.3 *(continued)*

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

[a] In the regressions for quality PBIP, we did not include the service use measures (acute hospitalizations and outpatient ED visits) as control variables.

[b] In the regressions for utilization PBIP, we did not include the quality measures (diabetes composite and breast cancer screening) as control variables.

[c] The reference year is 2017.

[d] Service use outcomes are annualized per 1,000 beneficiaries.

[e] We included hemoglobin A1c test, eye exam, and attention for nephropathy.

ED = emergency department; n.a. = not applicable because the outcome was not included in the analysis of the PBIP score; PBIP = Performance-based Incentive Payment; SSP = Medicare Shared Savings Program.

Table 3.D.4. Regression results on the correlation between practices' yearly PBIP scores and their Medicare PBPM expenditures, from 2017 to 2019

	Track 1			Track 2		
	Total PBIP	Quality PBIP	Utilization PBIP	Total PBIP	Quality PBIP	Utilization PBIP
Year[a]						
2018	***0.153******	***0.140******	***0.167******	***0.128******	***0.132******	***0.124******
	(0.00996)	(0.0104)	(0.0141)	(0.00674)	(0.00647)	(0.0110)
2019	***0.172******	***0.135******	***0.209******	***0.161******	***0.103******	***0.218******
	(0.0111)	(0.0120)	(0.0161)	(0.00806)	(0.00837)	(0.0125)
Expenditure outcomes						
Monthly Medicare Part A and B expenditures (PBPM)[b]	***-0.000359******	***-0.000150******	***-0.000568******	***-0.000291******	***-0.0000568****	***-0.000525******
	(0.0000308)	(0.0000428)	(0.0000490)	(0.0000316)	(0.0000242)	(0.0000597)
Percentage change from baseline	***-0.0687****	0.00629	***-0.144****	***-0.0623****	0.0118	***-0.136*****
	(0.0412)	(0.0481)	(0.0576)	(0.0278)	(0.0283)	(0.0463)
Constant	0.866***	0.852***	0.881***	0.857***	0.811***	0.904***
	(0.0287)	(0.0376)	(0.0454)	(0.0286)	(0.0216)	(0.0530)
N	1,741	1,741	1,741	2,578	2,578	2,578
R^2	0.184	0.088	0.173	0.180	0.091	0.179

Source: Mathematica's analysis of PBIP performance data from 2017 through 2019 and Medicare Enrollment Database and claims from January 2014 through December 2019.

Note: This table shows the results of six regressions, one for each type of PBIP score by track. In each regression, we controlled for the year of PBIP score, Medicare PBPM expenditures in that year, and the percentage change in expenditures from baseline (2016). All practices were weighted equally, irrespective of their size. Each PBIP score ranges from 0 to 1, representing the proportion of the total PBIP amount practices retained in each program year. The analysis included only non-SSP practices because SSP practices were not eligible to receive PBIPs. ***Yellow shading with bold, italicized text*** signifies that the underlying coefficient was statistically significant at the 10 percent level using a two-sided test.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

[a] The reference year is 2017.

[b] Expenditures for Medicare Part A and B services in 2019 include QPP payment adjustments, based on practitioner performance two years before. The adjustments are composed of (1) MIPS adjustments, which are applied directly to physician and outpatient claims (as a percentage of the charges on the claims); and (2) lump sum incentive payments to eligible practitioners who participated in Advanced APMs in 2017 (calculated based on 2018 claims for these practitioners). For Track 2 practices, Medicare Part A and B expenditures include the base CPCPs, but not the 10 percent comprehensiveness supplement. We include CPCPs in Part B spending because Track 2 practices agreed to lower Part B payment for evaluation and management services in exchange for CPCPs.

APM = Alternative Payment Model; CPCP = Comprehensive Primary Care Payment; MIPS = Merit-based Incentive Payment System; PBIP = Performance-based Incentive Payment; PBPM = per beneficiary per month; QPP = Quality Payment Program; SSP = Medicare Shared Savings Program

Table 3.D.5. Regression results on the correlation between practices' yearly PBIP scores and PBIP risk-adjustment factors, from 2017 to 2019

	Track 1			Track 2		
	Total PBIP	Quality PBIP	Utilization PBIP	Total PBIP	Quality PBIP	Utilization PBIP
Year[a]						
2018	***0.138***	***0.143***	***0.134***	***0.112***	***0.140***	***0.0813***
	(0.0118)	(0.0121)	(0.0173)	(0.00788)	(0.00707)	(0.0131)
2019	***0.160***	***0.148***	***0.167***	***0.145***	***0.121***	***0.158***
	(0.0161)	(0.0159)	(0.0244)	(0.0114)	(0.0105)	(0.0183)
Beneficiary characteristics in PBIP methodology						
Age						
Under 65	***-0.697***	***-0.572***	***-1.079***	***-0.619***	***-0.318***	***-1.060***
	(0.156)	(0.146)	(0.231)	(0.113)	(0.0903)	(0.176)
75 to 84	***-0.357***	***-0.377****	-0.387	***-0.373***	0.145	***-0.901***
	(0.179)	(0.211)	(0.273)	(0.152)	(0.139)	(0.247)
85 or older	***0.869***	0.251	***1.157***	0.230	***-0.327***	***0.601***
	(0.229)	(0.211)	(0.363)	(0.170)	(0.118)	(0.285)
Male	-0.0352	-0.0711	0.0307	0.0918	-0.117*	***0.294***
	(0.0775)	(0.0839)	(0.125)	(0.0793)	(0.0639)	(0.123)
HCC score	***-0.279***	-0.0986	-0.255	***-0.202***	0.0294	***-0.250****
	(0.113)	(0.0633)	(0.168)	(0.0807)	(0.0366)	(0.129)
Chronic conditions						
Metastatic cancer and acute leukemia	***2.814***	n.a.	***3.012****	***2.180***	n.a.	2.131
	(1.143)	n.a.	(1.804)	(1.050)	n.a.	(1.736)
Diabetes with chronic complications	0.0524	n.a.	0.223	***0.410***	n.a.	***0.590***
	(0.155)	n.a.	(0.230)	(0.144)	n.a.	(0.238)
Protein-calorie malnutrition	***-3.953***	n.a.	***-6.654***	-1.168	n.a.	***-3.738***
	(1.188)	n.a.	(1.870)	(0.776)	n.a.	(1.303)
Morbid obesity	0.0546	n.a.	-0.223	-0.124	n.a.	***-0.785***
	(0.294)	n.a.	(0.452)	(0.236)	n.a.	(0.393)
Other significant endocrine and metabolic disorders	0.595	n.a.	0.993	***0.985***	n.a.	***1.607***
	(0.517)	n.a.	(0.698)	(0.245)	n.a.	(0.365)
Congestive heart failure	0.0151	n.a.	0.236	-0.268	n.a.	-0.129
	(0.347)	n.a.	(0.518)	(0.278)	n.a.	(0.510)
Specified heart arrhythmias	-0.327	n.a.	***-1.423***	-0.108	n.a.	***-0.987***
	(0.293)	n.a.	(0.457)	(0.227)	n.a.	(0.371)
Atherosclerosis of extremity with ulceration or gangrene	1.702	n.a.	***5.176***	-0.315	n.a.	-0.973
	(1.938)	n.a.	(2.577)	(1.502)	n.a.	(2.528)

Table 3.D.5 *(continued)*

	Track 1			Track 2		
	Total PBIP	Quality PBIP	Utilization PBIP	Total PBIP	Quality PBIP	Utilization PBIP
Chronic obstructive pulmonary disease	0.257	n.a.	0.381	-0.134	n.a.	-0.370
	(0.179)	n.a.	(0.256)	(0.172)	n.a.	(0.273)
Traumatic amputations and complications	4.350	n.a.	0.571	-1.427	n.a.	-2.292
	(3.093)	n.a.	(4.638)	(2.512)	n.a.	(4.334)
Major organ transplant status or replacement status	-1.296	n.a.	***-7.036****	-1.682	n.a.	-4.042
	(2.515)	n.a.	(3.684)	(1.946)	n.a.	(3.338)
Rheumatoid arthritis and inflammatory connective tissue disease or disorders of immunity	0.198	n.a.	0.375	***-0.491****	n.a.	***-1.158*****
	(0.187)	n.a.	(0.333)	(0.265)	n.a.	(0.439)
Severe hematological disorders or coagulation defects and other specified hematological disorders	***1.211*****	n.a.	***1.102****	0.412	n.a.	***1.121****
	(0.459)	n.a.	(0.662)	(0.369)	n.a.	(0.564)
Drug/alcohol psychosis or drug/alcohol dependence	0.337	n.a.	***1.244****	***0.599****	n.a.	***1.207*****
	(0.323)	n.a.	(0.519)	(0.242)	n.a.	(0.246)
Schizophrenia or major depressive, bipolar, and paranoid disorders	***0.531*****	n.a.	0.456	***0.275****	n.a.	***0.426****
	(0.203)	n.a.	(0.289)	(0.151)	n.a.	(0.235)
Quadriplegia or paraplegia	1.521	n.a.	3.157	0.912	n.a.	1.925
	(1.951)	n.a.	(2.834)	(1.397)	n.a.	(2.080)
Coma, brain compression/anoxic damage or respirator dependence/tracheostomy status	0.590	n.a.	0.0545	-0.982	n.a.	-1.203
	(1.973)	n.a.	(2.950)	(1.505)	n.a.	(2.536)
Acute myocardial infarction, unstable angina and other acute ischemic heart disease, or angina pectoris	-0.0984	n.a.	***-1.038****	-0.00888	n.a.	-0.0923
	(0.368)	n.a.	(0.516)	(0.287)	n.a.	(0.481)
Cerebral hemorrhage or ischemic or unspecified stroke	-0.303	n.a.	-1.017	-0.439	n.a.	-1.224
	(0.612)	n.a.	(0.976)	(0.475)	n.a.	(0.785)
Vascular disease with complications or vascular disease	0.128	n.a.	0.105	***0.355*****	n.a.	***0.459****
	(0.154)	n.a.	(0.213)	(0.126)	n.a.	(0.210)

Table 3.D.5 *(continued)*

	Track 1			Track 2		
	Total PBIP	Quality PBIP	Utilization PBIP	Total PBIP	Quality PBIP	Utilization PBIP
Pressure ulcer of skin with necrosis through to muscle, tendon, or bone or pressure ulcer of skin with full thickness skin loss	-1.052	n.a.	-3.051	-0.847	n.a.	-2.004
	(1.831)	n.a.	(2.992)	(1.479)	n.a.	(2.306)
Alzheimer's disease or dementia	***-0.931******	n.a.	***-1.095****	***-0.401****	n.a.	-0.269
	(0.282)	n.a.	(0.466)	(0.203)	n.a.	(0.335)
County percentage of adults age 25 and older with 4-year college education	***0.129****	0.0867	n.a.	***0.130****	***0.117****	n.a.
	-0.0704	(0.0659)	n.a.	(0.0617)	(0.0552)	n.a.
Constant	0.872***	0.991***	0.903***	0.857***	0.788***	1.018***
	(0.0835)	(0.0845)	(0.119)	(0.0669)	(0.0592)	(0.0995)
N	1,741	1,741	1,741	2,578	2,578	2,578
R^2	0.268	0.149	0.207	0.221	0.118	0.200

Sources: Mathematica's analysis of PBIP performance data from 2017 through 2019 and Medicare Enrollment Database and claims from January 2014 through December 2019.

Note: This table shows the results of six regressions, one for each type of PBIP score by track. In each regression, we controlled for the year of PBIP score and PBIP risk adjustment factors. For the utilization measures, the PBIP methodology controls for age, gender, and comorbidities. We approximated the comorbidities by a combination of HCC scores and 22 chronic conditions (captured by HCCs and the CCW algorithm). For the CAHPS measures under the quality component, the PBIP methodology controls for age, gender, self-reported education level, and self-reported physical health status. We approximated the education level by the percentage of adults with college education in the practice's county and the physical health status by the same HCC scores and 22 chronic conditions used for the utilization measures. All practices were weighted equally, irrespective of their size. Each PBIP score ranges from 0 to 1, representing the proportion of the total PBIP amount practices retained in each program year. The analysis included only non-SSP practices because SSP practices were not eligible to receive PBIPs. ***Yellow shading* with bold, italicized text** signifies that the underlying coefficient was statistically significant at the 10 percent level using a two-sided test.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

[a] The reference year is 2017.

CAHPS = Consumer Assessment of Healthcare Providers and Systems; CCW = Chronic Conditions Warehouse; HCC = hierarchical condition category; n.a. = not applicable because the risk factor was not included in the analysis of the PBIP score; PBIP = Performance-based Incentive Payment; SSP = Medicare Shared Savings Program.

Table 3.D.6. Regression results on the correlation between practices' yearly PBIP scores and all risk-adjustment factors, from 2017 to 2019

	Track 1			Track 2		
	Total PBIP	Quality PBIP	Utilization PBIP	Total PBIP	Quality PBIP	Utilization PBIP
Year[a]						
2018	0.116***	0.114***	0.117***	0.0751***	0.115***	0.0351**
	(0.0136)	(0.0149)	(0.0199)	(0.00911)	(0.00909)	(0.0150)
2019	0.108***	0.0814***	0.134***	0.0648***	0.0683***	0.0612**
	(0.0217)	(0.0240)	(0.0330)	(0.0158)	(0.0165)	(0.0250)
Beneficiary characteristics included in PBIP methodology						
Age						
Under 65	0.0710	0.575**	-0.433	0.574***	0.585***	0.563*
	(0.254)	(0.277)	(0.382)	(0.184)	(0.189)	(0.289)
75 to 84	-0.184	-0.168	-0.201	-0.152	0.280*	-0.583**
	(0.189)	(0.206)	(0.290)	(0.157)	(0.145)	(0.251)
85 or older	0.750***	0.481**	1.020***	0.0909	-0.229	0.411
	(0.235)	(0.242)	(0.369)	(0.159)	(0.151)	(0.267)
Male	-0.0229	-0.0918	0.0460	0.0619	-0.0821	0.206*
	(0.0764)	(0.0829)	(0.123)	(0.0767)	(0.0658)	(0.119)
HCC scores	-0.259*	-0.0705	-0.447*	-0.218**	0.0578	-0.494***
	(0.148)	(0.159)	(0.232)	(0.109)	(0.111)	(0.167)
Chronic conditions						
Metastatic cancer and acute leukemia	2.659**	1.981	3.336*	2.371**	1.575	3.167*
	(1.226)	(1.254)	(1.979)	(1.038)	(1.093)	(1.668)
Diabetes with chronic complications	0.151	0.167	0.136	0.222	0.201	0.244
	(0.165)	(0.200)	(0.239)	(0.151)	(0.127)	(0.250)
Protein-calorie malnutrition	-4.009***	-1.493	-6.525***	-1.255*	0.730	-3.241**
	(1.187)	(1.178)	(1.873)	(0.748)	(0.730)	(1.270)
Morbid obesity	0.0986	0.169	0.0279	0.0632	0.393*	-0.266
	(0.297)	(0.319)	(0.468)	(0.234)	(0.202)	(0.377)
Other significant endocrine and metabolic disorders	0.599	0.217	0.981	0.967***	0.362	1.571***
	(0.499)	(0.577)	(0.685)	(0.285)	(0.232)	(0.433)
Congestive heart failure	0.120	-0.327	0.568	-0.0401	-0.535**	0.455
	(0.354)	(0.383)	(0.527)	(0.268)	(0.250)	(0.467)
Specified heart arrhythmias	-0.280	0.403	-0.964*	0.131	0.618***	-0.356
	(0.318)	(0.327)	(0.501)	(0.238)	(0.232)	(0.381)
Atherosclerosis of extremity with ulceration or gangrene	1.137	-2.843	5.116**	0.149	0.537	-0.240
	(1.849)	(2.207)	(2.539)	(1.512)	(1.439)	(2.517)

Table 3.D.6 *(continued)*

	Track 1			Track 2		
	Total PBIP	Quality PBIP	Utilization PBIP	Total PBIP	Quality PBIP	Utilization PBIP
Chronic obstructive pulmonary disease	***0.437****	-0.00635	***0.880*****	0.173	-0.0636	0.409
	(0.204)	(0.214)	(0.318)	(0.177)	(0.176)	(0.289)
Traumatic amputations and complications	3.181	***6.068****	0.294	-0.810	-1.230	-0.390
	(3.111)	(3.434)	(4.628)	(2.438)	(2.016)	(4.098)
Major organ transplant status or replacement status	-0.521	***4.665****	-5.707	-0.272	1.312	-1.855
	(2.454)	(2.659)	(3.641)	(2.002)	(1.751)	(3.315)
Rheumatoid arthritis and inflammatory connective tissue disease or disorders of immunity	0.257	-0.0728	***0.587****	-0.0842	0.00159	-0.170
	(0.185)	(0.293)	(0.301)	(0.253)	(0.245)	(0.409)
Severe hematological disorders or coagulation defects and other specified hematological disorders	***0.922****	***0.859****	0.986	-0.0481	-0.336	0.240
	(0.452)	(0.489)	(0.666)	(0.358)	(0.354)	(0.542)
Drug/alcohol psychosis or drug/alcohol dependence	0.493	-0.380	***1.365*****	***0.706*****	0.0347	***1.377*****
	(0.323)	(0.360)	(0.517)	(0.236)	(0.316)	(0.244)
Schizophrenia or major depressive, bipolar, and paranoid disorders	***0.506****	***0.451****	***0.561****	***0.297****	0.102	***0.493****
	(0.203)	(0.230)	(0.295)	(0.154)	(0.145)	(0.242)
Quadriplegia or paraplegia	1.795	0.166	3.425	0.688	-0.178	1.554
	(1.943)	(2.061)	(2.892)	(1.410)	(1.478)	(1.999)
Coma, brain compression/anoxic damage or respirator dependence/tracheostomy status	0.883	0.755	1.011	-0.700	-1.148	-0.252
	(1.948)	(2.086)	(2.975)	(1.513)	(1.389)	(2.508)
Acute myocardial infarction, unstable angina and other acute ischemic heart disease, or angina pectoris	-0.123	***0.678****	***-0.924****	-0.108	0.0220	-0.237
	(0.372)	(0.385)	(0.512)	(0.276)	(0.258)	(0.448)
Cerebral hemorrhage or ischemic or unspecified stroke	-0.383	0.529	-1.294	***-0.797****	0.309	***-1.903****
	(0.600)	(0.630)	(0.952)	(0.458)	(0.414)	(0.748)
Vascular disease with complications or vascular disease	-0.0111	-0.0491	0.0269	***0.501*****	0.185	***0.816*****
	(0.163)	(0.167)	(0.240)	(0.135)	(0.133)	(0.222)

Table 3.D.6 *(continued)*

	Track 1			Track 2		
	Total PBIP	Quality PBIP	Utilization PBIP	Total PBIP	Quality PBIP	Utilization PBIP
Pressure ulcer of skin with necrosis through to muscle, tendon, or bone or pressure ulcer of skin with full thickness skin loss	-1.436	0.0654	-2.938	0.0992	-0.577	0.775
	(1.879)	(2.342)	(3.030)	(1.486)	(1.377)	(2.295)
Alzheimer's disease or dementia	***-0.731****	***-0.547****	***-0.915****	***-0.449****	***-0.379****	-0.520
	(0.293)	(0.314)	(0.473)	(0.199)	(0.221)	(0.320)
County percentage of adults age 25 and older with 4-year college education	-0.0874	-0.101	-0.0735	-0.0288	0.0329	-0.0905
	(0.0961)	(0.0972)	(0.154)	(0.0871)	(0.0846)	(0.144)
Additional beneficiary characteristics						
Race						
Black	0.0299	-0.0110	0.0707	0.00930	0.00617	0.0124
	(0.0730)	(0.0810)	(0.0947)	(0.0655)	(0.0573)	(0.100)
All other	-0.0564	***-0.208****	0.0948	***0.178****	-0.0593	***0.415****
	(0.0492)	(0.0437)	(0.0717)	(0.0444)	(0.0462)	(0.0667)
Original reason for entitlement						
Disability	***-0.884****	***-0.893****	***-0.874****	***-1.209****	***-0.673****	***-1.745****
	(0.217)	(0.233)	(0.330)	(0.173)	(0.165)	(0.274)
ESRD combined[b]	-0.428	-1.231	0.375	-2.043	***-2.708****	-1.379
	(1.368)	(1.618)	(2.077)	(1.242)	(1.172)	(1.931)
Dually eligible for Medicaid	0.182	-0.0326	***0.397****	0.207	-0.0875	***0.502**** d
	(0.127)	(0.141)	(0.198)	(0.131)	(0.125)	(0.196)
County median household income[c]	***0.00175****	0.00113	***0.00237****	0.000556	-0.000261	0.00137
	(0.000697)	(0.000719)	(0.00103)	(0.000533)	(0.000518)	(0.000878)
Constant	0.794***	0.792***	0.797***	0.804***	0.665***	0.942***
	(0.0945)	(0.107)	(0.145)	(0.0723)	(0.0727)	(0.112)
N	1,741	1,741	1,741	2,578	2,578	2,578
R^2	0.285	0.242	0.221	0.261	0.173	0.252

Sources: Mathematica's analysis of PBIP performance data from 2017 through 2019 and Medicare Enrollment Database and claims from January 2014 through December 2019.

Note: This table shows the results of six regressions, one for each type of PBIP score by track. In each regression, we controlled for the year of PBIP score, PBIP risk adjustment factors (age, gender, HCC score, HCCs, education), and additional risk adjustment factors (race, original reason for Medicare entitlement, dual eligibility status, and county median household income). All practices were weighted equally, irrespective of their size. Each PBIP score ranges from 0 to 1, representing the proportion of the total PBIP amount practices retained in each program year. The analysis included only non-SSP practices because SSP practices were not eligible to receive PBIPs. ***Yellow shading* with bold, italicized text** signifies that the underlying coefficient was statistically significant at the 10 percent level using a two-sided test.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 3.D.6 *(continued)*

[a] The reference year is 2017.

[b] We combined the original entitlement reasons of "ESRD and "both disability and ESRD."

[c] Income is measured in thousands of dollars.

CPCP = Comprehensive Primary Care Payment; ESRD = end-stage renal disease; HCC = hierarchical condition category; PBIP = Performance-based Incentive Payment; SSP = Medicare Shared Savings Program.

Table 3.D.7. Regression results on the correlation between practices' average PBIP scores (over 2017 through 2019) and baseline characteristics

	Track 1			Track 2		
	Total PBIP	Quality PBIP	Utilization PBIP	Total PBIP	Quality PBIP	Utilization PBIP
Number of PCPs[a]						
3 to 5	0.0308	0.0189	***0.0427****	***-0.0301****	***-0.0355*****	-0.0247
	(0.0190)	(0.0194)	(0.0254)	(0.0135)	(0.0135)	(0.0208)
6 or more	0.0231	***0.0367****	0.00958	***-0.0302****	***-0.0458*****	-0.0145
	(0.0203)	(0.0212)	(0.0286)	(0.0151)	(0.0145)	(0.0235)
Owned by hospital or health system[b]	***-0.0394*****	0.0205	***-0.0993*****	***-0.0957*****	***-0.0417*****	***-0.150*****
	(0.0152)	(0.0155)	(0.0219)	(0.0109)	(0.0102)	(0.0166)
Multispecialty practice[c]	0.00199	-0.0125	0.0164	-0.00528	-0.0143	0.00377
	(0.0217)	(0.0213)	(0.0301)	(0.0139)	(0.0134)	(0.0220)
Participation in prior primary care transformation activities[d]						
CPC Classic	0.0338	-0.0177	***0.0854*****	0.000502	***-0.0214****	0.0224
	(0.0254)	(0.0272)	(0.0326)	(0.0119)	(0.0122)	(0.0177)
MAPCP	***0.0624****	***0.107*****	0.0183	0.0210	***0.0569*****	-0.0150
	(0.0243)	(0.0278)	(0.0439)	(0.0182)	(0.0154)	(0.0296)
Medical home[e]	-0.00546	-0.0192	0.00826	***0.0177****	***0.0290*****	0.00643
	(0.0158)	(0.0161)	(0.0224)	(0.0108)	(0.0106)	(0.0163)
TCPI	0.00786	***0.0480****	-0.0323	***-0.0323****	0.00720	***-0.0718*****
	(0.0205)	(0.0200)	(0.0303)	(0.0149)	(0.0141)	(0.0233)
Meaningful EHR use, attested in 2011 or 2012[f]	***0.0653*****	***0.0687*****	***0.0619****	***0.0981*****	***0.106*****	***0.0906*****
	(0.0182)	(0.0187)	(0.0241)	(0.0164)	(0.0165)	(0.0237)
Urbanicity[g]						
Rural	-0.0282	***-0.0635****	0.00716	0.0178	-0.000601	0.0361
	(0.0240)	(0.0247)	(0.0320)	(0.0197)	(0.0184)	(0.0289)
Suburban	***0.0335****	0.0166	***0.0504****	0.0232	-0.00325	***0.0496****
	(0.0185)	(0.0200)	(0.0275)	(0.0156)	(0.0157)	(0.0247)
Hospital Referral Region price index[h]	***0.565*****	-0.00279	***1.133*****	***0.560*****	-0.0694	***1.190*****
	(0.104)	(0.106)	(0.141)	(0.0668)	(0.0672)	(0.0985)
Constant	-0.0253	0.721***	-0.771***	0.0534	0.846***	-0.740***
	(0.110)	(0.112)	(0.151)	(0.0721)	(0.0727)	(0.109)
N[i]	730	730	730	1,033	1,033	1,033
R^2	0.122	0.074	0.180	0.210	0.085	0.252

Sources: Mathematica's analysis of PBIP performance data from 2017 through 2019 and Medicare Enrollment Database and claims from January 2014 through December 2019.

Table 3.D.7 ***(continued)***

Note: This table shows the results of six regressions, one for each type of PBIP score by track. We calculated the average of PBIP scores across the three program years. In each regression, we controlled for practice characteristics defined at the start of CPC+. All practices were weighted equally, irrespective of their size. Each PBIP score ranges from 0 to 1, representing the proportion of the total PBIP amount practices retained in each program year. The analysis included only non-SSP practices because SSP practices were not eligible to receive PBIPs. ***Yellow shading with bold, italicized text*** signifies that the underlying coefficient was statistically significant at the 10 percent level using a two-sided test.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

[a] The reference group is practices with a PCP count of 1 or 2.

[b] The reference group is independently owned practices.

[c] We defined multispecialty as having at least one practitioner, according to SK&A, with a specialty other than general practice, internal medicine, family medicine, or geriatrics. The reference group is primary care-only practices.

[d] The reference group is practices that did not participate in each of these prior primary care transformation activities.

[e] We defined experience in a medical home program if the practice was recognized as a medical home by NCQA, TJC, AAAHC, URAC, or a state medical-home recognition program.

[f] We defined meaningful EHR use as practice with at least one practitioner who attested to meaningful use of EHR in 2011 or 2012. The reference group is practices that did not attest to meaningful EHR use in 2011 or 2012.

[g] The urbanicity of a practice's county (rural, urban, suburban) was derived from the 2013 (latest year available) rural-urban continuum codes (https://www.ers.usda.gov/data-products/rural-urban-continuum-codes/documentation/) available in the ARFs. The reference group is practices in urban regions.

[h] We used CMS's Medicare Geographic Variation data from 2015 for HRR price index.

[i] The number of observations included in each regression reflects the total number of non-SSP practices that ever received a PBIP in any program year.

AAAHC = Accreditation Association for Ambulatory Health Care; ARF = Area Resource File; APM = Alternative Payment Model; CPC = Comprehensive Primary Care; CPCP = Comprehensive Primary Care Payment; EHR = electronic health record; HCC = hierarchical condition category; HRR = hospital referral region; MAPCP = Multi-Payer Advanced Primary Care Practice; NCQA = National Committee for Quality Assurance; PA = physician assistant; PBIP = Performance-based Incentive Payment; PCP = primary care practitioner; SSP = Medicare Shared Savings Program; TCPI = Transforming Clinical Practice Initiative; TJC = The Joint Commission; URAC = Utilization Review Accreditation Commission.

G. Practices' perspectives on PBIPs

G.1 Understanding of PBIP methodology and its fairness

In the 2018 and 2019 practice surveys, about three-quarters of practices reported that they understood the PBIP methodology, but only about half reported that the methodology was fair. Among the practices that responded to the practice survey in 2018, 68.4 percent and 75.4 percent in Tracks 1 and 2, respectively, responded that they understood the PBIP methodology (Table 3.D.8). A lower percentage of practices reported that they believed the PBIP methodology was fair (43.9 percent in Track 1, 48.9 percent in Track 2). In 2019, these rates slightly increased. Of the practices that responded to the survey, 76.7 and 84.4 percent said they understood the methodology in Tracks 1 and 2, respectively, and 51.0 and 50.8 believed it was fair in Tracks 1 and 2, respectively. These findings were consistent with the increase in mean PBIP scores over time presented in Table 3.D.1 and with our expectation that more practices would understand the methodology as they gained more experience with CPC+.

During the 2018 deep-dive interviews, most practices (8 of 11 that we interviewed and that received PBIPs in 2017) reported that they (1) understood how performance and recoupments were calculated, (2) had been able to track their own performance during the year, and (3) had largely expected the PBIP recoupment results they received. Most of these practices also reported that they deemed the PBIP results to be fair overall, and in line with their quality improvement (QI) efforts. The remaining practices that did not understand the methodology expressed that they found the PBIP methodology overly complex. Several practices reported that the PBIP methodology was unfair because the performance standards were unrealistic. One practice said the performance benchmarks were too stringent; another practice (showing a misunderstanding of the PBIP quality methodology) believed it was penalized for being a high performer at baseline.

Table 3.D.8. Practice survey responses on PBIP-related questions

	Track 1 practices (%)		Track 2 practices (%)	
	2018	2019	2018	2019
N[a]	488	494	691	825
Survey items				
Understands PBIP methodology	334 (68.4)	379 (76.7)	521 (75.4)	696 (84.4)
Believes PBIP methodology is fair	214 (43.9)	252 (51.0)	324 (46.9)	419 (50.8)
Among practices that understand the PBIP methodology:				
Believes it is fair	202 (60.5)	248 (65.4)	314 (60.3)	405 (58.2)
Does not believe it is fair	132 (39.5)	131 (34.6)	207 (39.7)	291 (41.8)
Among practices that do not understand the PBIP methodology:				
Believes it is fair	12 (7.8)	4 (3.5)	10 (5.9)	14 (10.9)
Does not believe it is fair	142 (92.2)	111 (96.5)	160 (94.1)	115 (89.1)

Source: Mathematica's analysis of the 2018 and 2019 CPC+ Practice Surveys.

[a] We included only non-SSP practices that responded to both survey items—SSP practices were not asked these items because they were not eligible for PBIPs. In 2018, 3 percent of practices in both tracks did not respond to either item. In 2019, 13 percent of Track 1 practices and 5 percent of Track 2 practices did not respond to either item.

PBIP = Performance-based Incentive Payment; SSP = Medicare Shared Savings Program.

Among practices that reported that they understood the PBIP methodology, about 60 percent reported that they also believed the methodology was fair (Table 3.D.8). Nearly all practices that reported that they did not understand the methodology also reported that they did not agree the methodology was fair.

G.2. Practices' efforts to retain PBIPs

Over the two years of deep-dive interviews, practices reported low confidence in their ability to retain PBIPs and some expressed that PBIPs are too modest. In 2018, nearly all practices (11 of 12 practices) interviewed that received PBIPs in 2017 reported that they set aside at least some portion of PBIP until CMS determined the recoupment amounts; 8 reported that they set aside the entire amount. Only four practices reported that they were taking concrete steps to retain the full PBIP, and most of these efforts focused on quality measures rather than utilization measures. These activities included encouraging patients to complete the CAHPS surveys and adding QI resources to meet the performance targets. The remaining practices that did not take any measures to earn the maximum PBIP expressed pessimism about their ability to retain most or all of the PBIP. One practice noted that, compared to the CPC+ care management fees, which average $15 PBPM for Track 1 and $28 PBPM for Track 2, the PBIPs were too small to incentivize meaningful changes in provider behavior.

In 2019, more practices reported taking concrete—but still limited—steps to improve PBIP performance. About half of the practices (6 of 11 interviewed practices that received PBIPs in 2018) reported investing in activities to improve their performance, and more practices made efforts to improve their utilization measures compared to the previous year. However, nearly all of the utilization-related efforts focused on trying to reduce ED visits rather than hospitalizations—only one practice described taking action that directly focused on inpatient utilization. These practices explained that they focused on ED visits because they found it hard to identify feasible, concrete steps to prevent hospitalizations beyond the care management activities they were already providing for high-risk patients. Three of the six practices that reported taking concrete steps to improve PBIP performance recognized that their actions to retain PBIPs were limited, especially on the utilization side; however, they continued to report that the maximum PBIP earning opportunity was modest and they felt it would not be cost-effective for their practices to devote more resources to retaining a larger portion of the payments.

G.3. Motivations for changing SSP status

We found that practices that changed SSP status during the program years reported that the prospect of earning or losing PBIPs played little to no role in their decision to leave or join an SSP ACO. We explored the influence of PBIPs in practices' decisions to leave or join an SSP ACO because SSP practices are not eligible for PBIPs but are eligible for shared savings earned by their ACO. Among 11 deep-dive practices that either left or joined an SSP ACO, none viewed CPC+ payments as a significant factor in their decisions. Practices explained that their decisions were largely motivated by disappointing financial performance in SSP (if the practice left) or projected earnings of shared savings (if the practice joined).

3.D.4. Discussion

The CPC+ model provides a unique opportunity to study the workings of performance-based incentive payments for primary care practices. Using a rich dataset that we assembled for the CPC+ evaluation, we examined associations between PBIPs and practices' outcomes and characteristics. We also used qualitative data from practice surveys and interviews to examine practices' perspectives on these payments.

Although the associations of practices' PBIP scores with their outcomes and characteristics inform the assessment of PBIPs in CPC+, this study has several limitations. First, this is a descriptive analysis, so the associations between PBIP scores and practice outcomes and characteristics should not be interpreted as causal relationships. Second, our analysis has certain data limitations. We do not have any measures of patient experience of care (which constitute 25 to 40 percent of the quality component, depending on program year). The definitions of the outcome measures and risk adjusters as well as the beneficiary sample used in our analysis differ slightly from the ones used in the PBIP methodology by CMS's payment contractor. Third, CPC+ is only one model of primary care transformation, so our results may not generalize to other care transformation models. Finally, participation in CPC+ is voluntary and practices in CPC+ are a self-selected group, so the effectiveness of the CPC+ PBIPs and their relationships with practice characteristics may not be generalizable when the model is scaled to all primary care practices in the country.

Nonetheless, this analysis makes several important contributions to understanding how well PBIPs worked in CPC+ to meet CMS's objectives. Policymakers can use these insights for designing performance-based payments in future models.

We found that:

- Better utilization PBIP scores were associated with lower levels of service use outcomes and also favorable changes in these outcomes (for both acute hospitalizations and ED visits in Track 2, and for acute hospitalizations only in Track 1) relative to the baseline. Although performance on quality PBIPs was associated with the levels of claims-based quality measures, it was not associated with favorable changes in these measures relative to the baseline.
- Better utilization PBIP scores were also associated with both lower levels and lower growth in expenditures, even though expenditures were not part of the PBIP calculations. This is not surprising, since hospitalizations are a major component of the utilization PBIP score and expenditures on acute inpatient services constitute about one-third of Medicare expenditures (Audet and Zezza 2015).
- After controlling for risk factors used in the PBIP adjustment methodology, PBIP scores were significantly associated with additional beneficiary risk factors. Two findings were consistent across the tracks: (1) practices with a higher percentage of beneficiaries entitled to Medicare through disability were associated with both lower utilization and lower quality PBIP scores, and (2) practices with a higher percentage of dually eligible beneficiaries tended to have better utilization PBIP scores. Additionally, higher county median household income was associated with better utilization PBIP scores in Track 1. This suggests that the PBIP

risk-adjustment methodology could be refined further. However, such refinements could increase the complexity of the methodology, potentially requiring a higher level of effort for practices to understand their PBIP scores and identify concrete strategies to retain PBIPs. Our results also suggest that most practices would not be affected much by risk-adjustment refinements, but a small percentage of practices would see changes (either favorable or unfavorable) in their PBIP scores.

- Findings from the deep-dive practice interviews and practice survey data (covering 2018 and 2019) suggest that practices were not motivated much by the PBIPs because the payments were small relative to the care management fees. These practices also expressed low confidence in their ability to retain PBIPs, as they found it hard to identify feasible, concrete actions to take to reduce utilization, particularly hospital admissions. Significant fractions of practices that responded to the survey also did not understand the PBIP calculation methodology (about one-third of practices) or did not find it to be fair (about one-half of practices).
- Practice performance varied somewhat by practice type. Practices owned by a hospital or health system were more likely to have worse PBIP scores than independently owned practices. Practices that participated in prior primary care transformation or were early adopters of meaningful use EHR were more likely to have better PBIP scores than those that did not. Finally, practices that were in rural areas were more likely to have worse PBIP scores, but practices in suburban areas were more likely to have better PBIP scores than urban practices. In Track 2, medium- and large-sized practices had worse quality PBIP scores relative to small practices. There were no differences in scores for multispecialty versus primary care-only practices.

The evidence on the success of PBIPs in incentivizing performance is mixed. There is favorable evidence that PBIPs measure the right outcomes if the goal is to reduce expenditures. Although PBIPs were not designed to explicitly reward practices for reductions in expenditures or improvements in outcomes over time, higher PBIPs were associated with lower expenditures, lower growth of expenditures, and improvements in hospitalizations and ED visits relative to baseline.

The associations of PBIPs with the beneficiary characteristics that we examined that were not in the PBIP risk-adjustment methodology suggest that adding other factors into the risk adjustment could improve accuracy. These factors include entitlement to Medicare due to disability and socioeconomic risk factors such as Medicaid dual eligibility status and county income. However, refining the risk-adjustment methodology must be weighed carefully against the potential drawbacks of increased complexity for both model implementors and practices, who would ultimately be impacted by any adjustments to the methodology. Including socioeconomic factors without careful consideration could have an unintended consequence of masking health disparities. In particular, adjusting for socioeconomic factors implicitly sets lower standards for practices whose patients have lower socioeconomic status, and therefore might inadvertently reduce or nullify important health disparities.

Practices' perspectives on PBIPs seem to suggest that the PBIP methodology could be simplified, or explained more clearly, and the maximum possible PBIP amount may need to be higher to sufficiently incentivize practices. Practices also reported having less control over the utilization outcomes, particularly acute hospitalizations. There is a strong rationale for using hospitalizations as a performance measure since they are major drivers of expenditures, but other providers may need analogous incentives.

Finally, we found that practice performance may also be related to practice characteristics. For example, practices that are not owned by a hospital or health system and practices with some prior transformation experience had better PBIP scores than their counterparts. This suggests the need to consider how to incentivize and support practices at risk for lower PBIP scores.

3.D.5. Supplemental tables

Table 3.D.i. Variables and data sources

Variable	Data source
Claims-based outcomes	
Acute hospitalizations (per 1,000 beneficiaries per year)	Medicare claims data, 2016-2019
Outpatient ED visits, including observations stays (per 1,000 beneficiaries per year)	Medicare claims data, 2016-2019
Diabetes composite (received all of: HbA1c test, eye exam, attention for nephropathy)	Medicare claims data, 2016-2019
Breast cancer screening	Medicare claims data, 2016-2019
Medicare FFS Part A and B expenditures (PBPM)	Medicare claims data, 2016-2019
Practice characteristics	
Number of practitioners with primary care specialty	SK&A 2016, NPPES 2016
Whether practice is owned by either a hospital or health system	SK&A 2016
Prior experience in selected practice transformation activities: NCQA, TJC, AAAHC, URAC, or state medical-home recognition status (whether practice is in a medical home) or alumni of CPC Classic or MAPCP and participation in TCPI	NCQA, TJC, AAAHC, URAC, state-specific sources; CPC+ data; CMS, 2016
Whether practice is multispecialty	SK&A 2016
Meaningful use status (whether physicians at practice had attested to meaningful use of EHRs and earliest year that physician at practice became meaningful user)	CMS 2016
Whether in an urban, rural, or suburban area	Area Resource File, 2015–2016
Medicare price index of the hospital referral region	CMS' Medicare Geographic Variation data, 2015
Characteristics of Medicare beneficiaries attributed to practices	
Demographic mix of attributed beneficiaries (percentage of practice in age, race, and gender categories)	Medicare enrollment data, 2014–2019
Distribution of Medicare risk scores (HCC)	2015–2018 risk scores computed from Medicare claims and enrollment data
Percentage of practice's attributed Medicare beneficiaries with 22 chronic conditions defined by HCCs or CCW algorithm)	Medicare claims data, 2013–2019
Percentage of adults age 25 or older in the county with a degree from a four-year college	Area Resource File, 2017
Percentage in categories for original reason for Medicare entitlement	Medicare enrollment data, 2014–2019
Percentage of dually eligible for Medicaid	Medicare enrollment data, 2014–2019
Median household income of county	Area Resource File, 2017

Note: We defined practice characteristics at the start of CPC+. Beneficiary characteristics are defined in each program year, except for two: (1) percentage of adults age 25 or older in the county with a degree from a four-year college and (2) median household income of county. These variables are defined at the county level of the practice, but we use them as proxies for beneficiaries' education and income levels.

AAAHC = Accreditation Association for Ambulatory Health Care; CCW = Chronic Conditions Warehouse; CMS = Centers for Medicare & Medicaid Services; ED = emergency department; EHR = electronic health record; FFS = fee-for-service; HCC = Hierarchical Condition Category; MAPCP = Multi-Payer Advanced Primary Care Practice; NCQA = National Committee for Quality Assurance; NPPES = National Plan & Provider Enumeration System; PBPM = per beneficiary per month; TCPI = Transforming Clinical Practices Initiative; TJC = The Joint Commission; URAC = Utilization Review Accreditation Commission.

Table 3.D.ii. Measure specifications

Measure	For this study	For PBIP calculation	Differences
Outcomes			
Medicare FFS Part A and B expenditures (PBPM)	Medicare FFS payments for inpatient, outpatient, physician and nonphysician services, skilled nursing facilities, home health, hospice services, and durable medical equipment services. Excludes third-party and beneficiary liability payments. The 2019 expenditures include payments made under the QPP, including both claims-based adjustments for MIPS and lump-sum incentive payments for Advanced APMs. Track 2 expenditures include base CPCPs because Track 2 practices agreed to lower Part B payment for evaluation and management services in exchange for CPCPs. Excludes the 10 percent comprehensiveness supplement.	n.a – expenditure measures not included in the PBIP methodology	n.a. – expenditure measures not included in the PBIP methodology
Acute hospitalizations	Hospitalizations at short-stay acute hospitals and critical access hospitals (CAHs), annualized rate per 1,000 beneficiaries.	2017 HEDIS measure: Inpatient Hospital Utilization (IHU) per 1,000 attributed beneficiaries – risk-adjusted ratio of observed to expected acute inpatient discharges for members 18 years of age or older. Risk-adjustment factors include age, gender, and HCC comorbidities. For PBIP, the measure is limited to Medicare FFS beneficiaries ages 65 or older.	Study measure: • Count of admissions • No risk adjustment • Requires enrollment in the month of hospitalization • PBIP measure • Risk-adjusted observed-to-expected ratio • Allows a 45-day gap in enrollment
Outpatient ED visits	Emergency room visits and observation stays that do not lead to a hospitalization, annualized per 1,000 beneficiaries.	2017 HEDIS measure: Emergency Department Utilization (EDU) per 1,000 attributed beneficiaries – risk-adjusted ratio of observed to expected ED visits for members 18 years of age or older. Risk adjustment factors include age, gender, and HCC comorbidities. For PBIP, the measure is limited to outpatient visits that do not result in hospital admission and calculated for attributed Medicare FFS beneficiaries ages 65 or older.	Study measure: • Count of visits • No risk adjustment • Requires enrollment in the month of ED visit PBIP measure • Risk-adjusted observed-to-expected ratio • Allows a 45-day gap in enrollment

Table 3.D.ii *(continued)*

Measure	For this study	For PBIP calculation	Differences
Diabetes composite	Percentage of beneficiaries 18–75 years of age with diabetes (types 1 and 2) who received all of the following: • Hemoglobin A1c (HbA1c) test • Eye (retinal) exam • Attention for nephropathy Measure uses the 2018 HEDIS specifications with a few minor modifications: <u>Denominator</u> • Requires 12 months of enrollment in measurement year, rather than allowing a 45-day gap in enrollment. • Expands the criteria for enrollment to match the eligibility criteria for the CPC+ evaluation. • Uses a broad range of E codes for identification of diabetes diagnoses; removes codes 99420 and 9943 from the Outpatient VDS (new codes 96160 and 96161 not included). <u>Numerator</u> • Does not include HbA1c control (< 8.0%). • Eye exam excludes eye enucleation. • Adds ICD-9 codes for diabetes without complications for prior year identification of retinal exams because analogous ICD-10 codes were added to the HEDIS measure in 2017.	n.a. – diabetes composite is not used in PBIP scoring. However, related diabetes eCQMs were available for PBIP reporting:[a] CMS122v#[b] – Diabetes: Hemoglobin A1c (HbA1c) Poor control (>9%) – percentage of beneficiaries 18–75 years of age with diabetes (types 1 and 2) who had HbA1c > 9.0 percent during the measurement period. CMS131v# – Diabetes: Eye Exam – percentage of beneficiaries 18–75 years of age with diabetes who had an eye screening for diabetic retinal disease (a retinal or dilated eye exam by an eye care professional) or had a negative retinal exam (no evidence of retinopathy) in the 12 months before the measurement period. CMS134v# – Diabetes: Medical Attention for Nephropathy – percentage of beneficiaries 18–75 years of age with diabetes who had a nephropathy screening test or evidence of nephropathy during the measurement period.	Study measure: • Composite of diabetes care • Includes HbA1c testing • Restricted to Medicare FFS beneficiaries only • Requires 12 months of enrollment in Medicare FFS in measurement year PBIP measures: • Separate measures for individual diabetes care • Includes HbA1c control but not testing • Includes all patients at the practice, regardless of payer • Allows a 45-day gap in enrollment • Measure for eye exam was available only in program years 2017 and 2018. • Measure for nephropathy was available only in program year 2018.
Breast cancer screening	Percentage of women 50–74 years of age who had at least one breast mammogram to screen for breast cancer during the measurement period or the 15 months before the measurement period. Measure uses the 2018 HEDIS specifications with a few minor modifications: <u>Denominator</u> • Requires 12 months of enrollment in measurement year, rather than allowing a 45-day gap in enrollment.	eCQM: CMS125v#[b] – Breast Cancer Screening – percentage of women 50–74 years of age who had a mammogram to screen for breast cancer during the measurement period or the 15 months before the measurement period.	Study measure: • Requires enrollment in Medicare FFS all 12 months of measurement year PBIP measures • Includes all patients at the practice, regardless of payer • Allows a 45-day gap in enrollment • Measure was available only in program years 2017 and 2018.

Table 3.D.ii *(continued)*

Measure	For this study	For PBIP calculation	Differences
Risk adjustment factors			
Age groups	Under 65, 65 to 74, 75 to 84, 85 and older	For utilization measures: 18 to 44, 45 to 54, 55 to 64, 65 to 74, 75 to 84, and 85 or older For CAHPS measures: 18 to 24, 25 to 34, 35 to 44, 45 to 54, 55 to 64, 65 to 74, and 75 or older	PBIP measures have granular age groups
Gender groups	Male	For utilization measures: male and female For CAHPS measures: male, female, missing, in applicable, no answer given	PBIP CAHPS measures have categories for missing or non-response.
Health conditions	HCC risk-adjustment score 21 HCCs and Alzheimer's disease or dementia	For utilization measures: around 50–70 HCCs, depending on IHU or EDU For CAHPS measures: self-reported physical health status. Response options are: Excellent, Very good, Good, Fair, Poor, and missing.	Study measure: • Includes HCC scores and 22 conditions PBIP measures: • Includes expanded list of HCCs • Does not include HCC for Alzheimer's disease or dementia • Includes self-reported assessment of health for CAHPS
Education level	Percentage of adults age 25 or older in the county of the practice with a degree from a four-year college, defined at the start of CPC+	For CAHPS measures: self-reported education level. Response options are: 8th grade or less, Some high school but did not graduate, High school graduate or GED, Some college or two-year degree, Four-year college graduate, More than four-year college degree, and missing.	Study measure: • County percentage • Measured at the start of CPC+ PBIP measures: • Self-reported • Includes granular categories
Race groups	White, Black, all other races	n.a. – race not included in the PBIP methodology	n.a. – race not included in the PBIP methodology
Original reason for Medicare entitlement	Old age and survivor's insurance, disability insurance benefits, ESRD, both disability and ESRD	n.a. – original reason for Medicare entitlement not included in the PBIP methodology. However, the HCCs used for utilization measures include chronic renal disease, which overlaps with the entitlement reasons related to ESRD,	n.a. – original reason for Medicare entitlement not included in the PBIP methodology.
Dual eligibility	Either full or partial dually eligible status	n.a. – dual eligibility not included in the PBIP methodology	n.a. – dual eligibility not included in the PBIP methodology

Table 3.D.ii *(continued)*

Measure	For this study	For PBIP calculation	Differences
Income level	Median household income of the county, defined at the start of CPC+	n.a. – income level not included in the PBIP methodology	n.a. – income level not included in the PBIP methodology

Sources: National Committee for Quality Assurance (NCQA). "HEDIS Volume 2: Technical Specifications." 2016–2018; PBIP methodology papers for program years 2017–2019; AHRQ, "Instructions for Analyzing Data from CAHPS Surveys: Using the CAHPS Analysis Program Version 4.1," available at: https://www.ahrq.gov/sites/default/files/wysiwyg/cahps/surveys-guidance/helpful-resources/analysis/2015-instructions-for-analyzing-data.pdf.

[a] Only CMS122 was available for reporting in all three program years—it was optional in 2017 and required in 2018 and 2019. CMS131 was optional in 2017 and 2018 but not available at all in 2019. CMS134 was optional only in 2018, but not available for 2017 or 2019.

[b] The version numbers of eCQMs are updated every year. For example, the measure for poor hemoglobin control was CMS122v5, CMS122v6, and CMS122v7 in 2017, 2018, and 2019, respectively.

AHRQ = Agency for Healthcare Research and Quality; CAH = critical access hospital; CAHPS = Consumer Assessment of Healthcare Providers and Systems; eCQM = electronic clinical quality measure; ED = emergency department; ESRD = end-stage renal disease; FFS = fee-for-service; GED = Generalized Education Development; HbA1c = Hemoglobin A1c; HCC = hierarchical condition category; HEDIS = Healthcare Effectiveness Data and Information Set; HMO = health maintenance organization; ICD-9 = International Classification of Diseases Version 9; ICD-10 = International Classification of Diseases Version 10; MIPS = Merit-based Incentive Payment System; n.a = not applicable; PBIP = Performance-based Incentive Payment; PBPM = per beneficiary per month; QPP = Quality Payment Program; VDS = HEDIS value data set.

Table 3.D.iii. Mean outcomes from 2016 to 2019

	Track 1				Track 2			
	2016	2017	2018	2019	2016	2017	2018	2019
Acute hospitalizations (95% CI)[a]	290 (284, 296)	292 (285, 299)	282 (274, 289)	282 (275, 288)	283 (278, 289)	286 (280, 291)	285 (279, 291)	278 (273, 284)
Outpatient ED visits (95% CI)[a]	519 (503, 535)	524 (506, 543)	505 (488, 523)	502 (486, 518)	506 (494, 518)	514 (501, 527)	494 (482, 505)	488 (477, 499)
Diabetes composite (95% CI)[b]	0.51 (0.50, 0.52)	0.51 (0.49, 0.52)	0.52 (0.51, 0.54)	0.52 (0.51, 0.54)	0.54 (0.53, 0.54)	0.53 (0.52, 0.54)	0.55 (0.55, 0.56)	0.55 (0.54, 0.56)
Breast cancer screening (95% CI)[c]	0.71 (0.70, 0.72)	0.70 (0.69, 0.71)	0.72 (0.71, 0.73)	0.73 (0.72, 0.74)	0.72 (0.72, 0.73)	0.72 (0.71 ,0.73)	0.74 (0.73, 0.74)	0.74 (0.73, 0.74)
Medicare FFS Part A and B expenditures (95% CI)[d]	900 (884, 916)	888 (872, 905)	932 (914, 950)	976 (958, 993)	895 (881, 908)	889 (875, 903)	940 (925, 956)	977 (962, 993)

Sources: Mathematica's analysis of Medicare claims from January 2014 through December 2019.

Note: This table shows the mean and 95% CI for the service use, quality of care, and expenditure outcomes we analyzed. Acute hospitalizations and outpatient ED visits are measured in annualized rates per 1,000 beneficiaries. Diabetes composite and breast cancer screening measures are percentage of beneficiaries in each practice who received these recommended services. Medicare FFS Part A and B expenditures are measured in dollar amounts PBPM.

[a] Service use outcomes are annualized per 1,000 beneficiaries.

[b] Percentage of beneficiaries with diabetes who received all three tests: hemoglobin A1c test, eye exam, and attention for nephropathy.

[c] Percentage of female beneficiaries who received breast cancer screening.

[d] Expenditures for Medicare Part A and B services in 2019 include QPP payment adjustments, based on practitioner performance two years before. The adjustments are composed of (1) MIPS adjustments, which are applied directly to physician and outpatient claims (as a percentage of the charges on the claims); and (2) lump sum incentive payments to eligible practitioners who participated in Advanced APMs in 2017 (calculated based on 2018 claims for these practitioners). For Track 2 practices, Medicare Part A and B expenditures include the base CPCPs, but not the 10 percent comprehensiveness supplement. We include CPCPs in Part B spending because Track 2 practices agreed to lower Part B payment for evaluation and management services in exchange for CPCPs.

APM = Alternative Payment Model; CI = confidence interval; CPCP = Comprehensive Primary Care Payment; ED = emergency department; FFS = fee-for-service; MIPS = Merit-based Incentive Payment System; PBIP = Performance-based Incentive Payment; PBPM = per beneficiary per month; QPP = Quality Payment Program; SSP = Medicare Shared Savings Program.

Table 3.D.iv. Regression results on the correlation between practices' yearly PBIP scores and annual service use and quality of care outcomes, weighted by number of beneficiaries, from 2017 to 2019

	Track 1			Track 2		
	Total PBIP	Quality PBIP[a]	Utilization PBIP[b]	Total PBIP	Quality PBIP[a]	Utilization PBIP[b]
Year[c]						
2018	***0.114******	***0.124******	***0.103******	***0.0928******	***0.116******	***0.0718******
	(0.0121)	(0.0138)	(0.0154)	(0.00769)	(0.00847)	(0.0112)
2019	***0.119******	***0.111******	***0.125******	***0.105******	***0.0835******	***0.126******
	(0.0129)	(0.0149)	(0.0159)	(0.00855)	(0.0107)	(0.0113)
Service use outcomes[d]						
Acute hospitalizations	***-0.00114******	n.a.	***-0.00229******	***-0.000966******	n.a.	***-0.00220******
	(0.0000894)	n.a.	(0.000225)	(0.000108)	n.a.	(0.000217)
Percentage change from baseline	-0.0457	n.a.	-0.0753	***-0.0740******	n.a.	***-0.131******
	(0.0338)	n.a.	(0.0580)	(0.0261)	n.a.	(0.0470)
Outpatient ED visits	***-0.000174******	n.a.	***-0.000221******	***-0.000226******	n.a.	***-0.000356******
	(0.0000524)	n.a.	(0.0000640)	(0.0000455)	n.a.	(0.0000673)
Percentage change from baseline	-0.0113	n.a.	-0.00764	***-0.0694******	n.a.	***-0.102****
	(0.0330)	n.a.	(0.0561)	(0.0269)	n.a.	(0.0407)
Quality of care outcomes						
Received all care for diabetes[e]	***0.151******	***0.257******	n.a.	***0.317******	***0.242******	n.a.
	(0.0534)	(0.0638)	n.a.	(0.0518)	(0.0561)	n.a.
Percentage change from baseline	-0.0258	-0.0365	n.a.	-0.0107	0.00746	n.a.
	(0.0228)	(0.0236)	n.a.	(0.0245)	(0.0317)	n.a.
Received breast cancer screening	***0.138****	***0.460******	n.a.	0.0222	***0.336******	n.a.
	(0.0761)	(0.101)	n.a.	(0.0828)	(0.0863)	n.a.
Percentage change from baseline	0.0137	0.00754	n.a.	0.0263	0.0708	n.a.
	(0.0541)	(0.0716)	n.a.	(0.0555)	(0.0579)	n.a.
Constant	0.792***	0.274***	1.139***	0.798***	0.384***	1.238***
	(0.0660)	(0.0607)	(0.0613)	(0.0570)	(0.0529)	(0.0482)
N	1,740	1,740	1,741	2,572	2,572	2,578
R^2	0.401	0.184	0.413	0.418	0.162	0.472

Sources: Mathematica's analysis of PBIP performance data from 2017 through 2019 and Medicare claims from January 2014 through December 2019.

Note: This table shows the results of six regressions, one for each type of PBIP score by track. In each regression, we controlled for the year of PBIP score, outcome levels in that year, and the percentage change in the outcomes from baseline (2016). Practices were weighted by the number of attributed beneficiaries. Each PBIP score ranges from 0 to 1, representing the proportion of the total PBIP amount practices retained in each program year. The analysis included only non-SSP practices because SSP practices were not eligible to receive PBIPs. ***Yellow shading* with bold, italicized text** signifies that the underlying coefficient was statistically significant at the 10 percent level using a two-sided test.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 3.D.iv *(continued)*

[a] In the regressions for quality PBIP, we did not include the service use measures (acute hospitalizations and outpatient ED visits) as control variables.

[b] In the regressions for utilization PBIP, we did not include the quality-of-care measures (diabetes composite and breast cancer screening) as control variables.

[c] The reference year is 2017.

[d] Service use outcomes are annualized per 1,000 beneficiaries.

[e] We included hemoglobin A1c test, eye (retinal) exam, and attention for nephropathy.

ED = emergency department; n.a. = not applicable because the outcome was not included in the analysis of the PBIP score; PBIP = Performance-based Incentive Payment; SSP = Medicare Shared Savings Program.

Table 3.D.v. Regression results on the correlation between practices' yearly PBIP scores and their Medicare PBPM expenditures, weighted by number of beneficiaries, from 2017 to 2019

	Track 1			Track 2		
	Total PBIP	Quality PBIP	Utilization PBIP	Total PBIP	Quality PBIP	Utilization PBIP
Year[a]						
2018	***0.158******	***0.145******	***0.171******	***0.128******	***0.127******	***0.128******
	(0.0121)	(0.0133)	(0.0166)	(0.00822)	(0.00882)	(0.0125)
2019	***0.186******	***0.140******	***0.231******	***0.163******	***0.0974******	***0.228******
	(0.0131)	(0.0150)	(0.0185)	(0.00947)	(0.0112)	(0.0138)
Expenditure outcomes						
Monthly Medicare Part A and B expenditures (PBPM)[b]	***-0.000367******	***-0.000126****	***-0.000608******	***-0.000302******	-0.000021	***-0.000582******
	(0.0000403)	(0.0000637)	(0.0000816)	(0.0000566)	(0.0000278)	(0.000106)
Percentage change from baseline	***-0.0869****	-0.0170	***-0.157****	***-0.123******	-0.0120	***-0.235******
	(0.0494)	(0.0550)	(0.0870)	(0.0387)	(0.0342)	(0.0674)
Constant	0.875***	0.847***	0.902***	0.866***	0.779***	0.952***
	(0.0374)	(0.0553)	(0.0725)	(0.0505)	(0.0252)	(0.0927)
N	1,741	1,741	1,741	2,578	2,578	2,578
R^2	0.203	0.099	0.177	0.179	0.082	0.197

Sources: Mathematica's analysis of PBIP performance data from 2017 through 2019 and Medicare claims from January 2014 through December 2019.

Note: This table shows the results of six regressions, one for each type of PBIP score by track. In each regression, we controlled for the year of PBIP score, Medicare PBPM expenditures in that year, and the percentage change in expenditures from baseline (2016). Practices were weighted by the number of attributed beneficiaries. Each PBIP score ranges from 0 to 1, representing the proportion of the total PBIP amount practices retained in each program year. The analysis included only non-SSP practices because SSP practices were not eligible to receive PBIPs. ***Yellow shading with bold, italicized text*** signifies that the underlying coefficient was statistically significant at the 10 percent level using a two-sided test.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

[a] The reference year is 2017.

[b] Expenditures for Part A and B services in 2019 include QPP payment adjustments, based on practitioner performance two years before. The adjustments are composed of (1) MIPS adjustments, which are applied directly to physician and outpatient claims (as a percentage of the charges on the claims); and (2) lump sum incentive payments to eligible practitioners who participated in Advanced APMs in 2017 (calculated based on 2018 claims for these practitioners). For Track 2 practices, Medicare Part A and B expenditures include the base CPCPs, but not the 10 percent comprehensiveness supplement. We include CPCPs in Part B spending because Track 2 practices agreed to lower Part B payment for evaluation and management services in exchange for CPCPs.

APM = Alternative Payment Model; CPCP = Comprehensive Primary Care Payment; MIPS = Merit-based Incentive Payment System; PBIP = performance-based incentive payment; PBPM = per beneficiary per month; QPP = Quality Payment Program; SSP = Medicare Shared Savings Program.

Table 3.D.vi. Regression results on the correlation between practices' yearly PBIP scores and PBIP risk-adjustment factors, weighted by number of beneficiaries, from 2017 to 2019

	Track 1			Track 2		
	Total PBIP	Quality PBIP	Utilization PBIP	Total PBIP	Quality PBIP	Utilization PBIP
Year[a]						
2018	***0.131*****	***0.149*****	***0.117*****	***0.102*****	***0.141*****	***0.0650*****
	(0.0150)	(0.0161)	(0.0219)	(0.00924)	(0.00943)	(0.0145)
2019	***0.156*****	***0.158*****	***0.158*****	***0.131*****	***0.128*****	***0.136*****
	(0.0209)	(0.0207)	(0.0320)	(0.0134)	(0.0132)	(0.0207)
Beneficiary characteristics in PBIP methodology						
Age						
Under 65	***-0.763*****	***-0.650*****	***-1.035*****	***-0.635*****	***-0.407*****	***-1.071*****
	(0.229)	(0.178)	(0.360)	(0.133)	(0.114)	(0.216)
75 to 84	***-0.410****	-0.278	-0.367	***-0.557*****	0.118	***-1.219*****
	(0.206)	(0.278)	(0.327)	(0.171)	(0.185)	(0.285)
85 or older	***0.838*****	-0.0283	***1.048****	***0.529*****	***-0.293****	***1.199*****
	(0.294)	(0.234)	(0.515)	(0.199)	(0.135)	(0.330)
Male	-0.0364	***-0.150****	0.128	***0.181****	-0.112	***0.466*****
	(0.0920)	(0.0873)	(0.165)	(0.0897)	(0.0821)	(0.150)
HCC score	***-0.276****	-0.0627	***-0.475****	***-0.292*****	0.0754	***-0.483*****
	(0.153)	(0.0941)	(0.247)	(0.0973)	(0.0476)	(0.166)
Chronic conditions						
Metastatic cancer and acute leukemia	***4.031*****	n.a.	***4.793****	***2.289****	n.a.	2.394
	(1.494)	n.a.	(2.358)	(1.331)	n.a.	(2.190)
Diabetes with chronic complications	-0.0342	n.a.	0.107	***0.471*****	n.a.	***0.572****
	(0.177)	n.a.	(0.288)	(0.171)	n.a.	(0.285)
Protein-calorie malnutrition	***-5.788*****	n.a.	***-11.02*****	-1.070	n.a.	***-3.582****
	(1.150)	n.a.	(2.007)	(0.920)	n.a.	(1.665)
Morbid obesity	-0.129	n.a.	-0.424	***-0.704****	n.a.	***-1.299*****
	(0.360)	n.a.	(0.585)	(0.276)	n.a.	(0.460)
Other significant endocrine and metabolic disorders	0.730	n.a.	***1.655****	***1.542*****	n.a.	***2.807*****
	(0.599)	n.a.	(0.764)	(0.359)	n.a.	(0.597)
Congestive heart failure	0.307	n.a.	***1.494****	-0.303	n.a.	0.0355
	(0.411)	n.a.	(0.696)	(0.325)	n.a.	(0.550)
Specified heart arrhythmias	***-0.798****	n.a.	***-2.338*****	-0.0567	n.a.	***-0.916****
	(0.334)	n.a.	(0.610)	(0.305)	n.a.	(0.469)
Atherosclerosis of extremity with ulceration or gangrene	2.871	n.a.	***8.805****	0.140	n.a.	0.0975
	(2.189)	n.a.	(3.555)	(1.755)	n.a.	(3.001)

Table 3.D.vi *(continued)*

	Track 1			Track 2		
	Total PBIP	Quality PBIP	Utilization PBIP	Total PBIP	Quality PBIP	Utilization PBIP
Chronic obstructive pulmonary disease	***0.503****	n.a.	***0.836*****	-0.0839	n.a.	-0.122
	(0.210)	n.a.	(0.311)	(0.204)	n.a.	(0.348)
Traumatic amputations and complications	3.767	n.a.	-0.591	-3.937	n.a.	-2.139
	(3.518)	n.a.	(5.691)	(3.135)	n.a.	(5.242)
Major organ transplant status or replacement status	-1.933	n.a.	***-12.53****	-1.267	n.a.	-3.108
	(3.003)	n.a.	(5.287)	(2.292)	n.a.	(3.946)
Rheumatoid arthritis and inflammatory connective tissue disease or disorders of immunity	0.339	n.a.	0.631	***-0.651****	n.a.	***-1.449*****
	(0.223)	n.a.	(0.407)	(0.278)	n.a.	(0.462)
Severe hematological disorders or coagulation defects and other specified hematological disorders	0.467	n.a.	0.661	***0.781****	n.a.	***1.620****
	(0.508)	n.a.	(0.843)	(0.425)	n.a.	(0.662)
Drug/alcohol psychosis or drug/alcohol dependence	0.607	n.a.	***1.989****	0.474	n.a.	***1.522*****
	(0.476)	n.a.	(0.775)	(0.335)	n.a.	(0.462)
Schizophrenia or major depressive, bipolar, and paranoid disorders	0.267	n.a.	0.0865	***0.370****	n.a.	0.316
	(0.270)	n.a.	(0.455)	(0.163)	n.a.	(0.269)
Quadriplegia or paraplegia	***3.712****	n.a.	***6.731****	2.152	n.a.	4.187
	(2.109)	n.a.	(3.494)	(1.600)	n.a.	(2.571)
Coma, brain compression/anoxic damage, or respirator dependence/tracheostomy status	1.467	n.a.	1.262	1.548	n.a.	2.649
	(2.389)	n.a.	(3.914)	(1.795)	n.a.	(3.077)
Acute myocardial infarction, unstable angina and other acute ischemic heart disease, or angina pectoris	-0.269	n.a.	***-1.718****	-0.0383	n.a.	-0.167
	(0.401)	n.a.	(0.669)	(0.357)	n.a.	(0.577)
Cerebral hemorrhage or ischemic or unspecified stroke	0.246	n.a.	-0.00162	-0.154	n.a.	-1.168
	(0.761)	n.a.	(1.334)	(0.633)	n.a.	(1.092)
Vascular disease with complications or vascular disease	0.176	n.a.	0.154	***0.483*****	n.a.	***0.687*****
	(0.202)	n.a.	(0.333)	(0.143)	n.a.	(0.255)

Table 3.D.vi *(continued)*

	Track 1			Track 2		
	Total PBIP	Quality PBIP	Utilization PBIP	Total PBIP	Quality PBIP	Utilization PBIP
Pressure ulcer of skin with necrosis through to muscle, tendon, or bone, or pressure ulcer of skin with full thickness skin loss	***-3.935****	n.a.	-4.913	-0.854	n.a.	-2.119
	(2.111)	n.a.	(4.076)	(1.646)	n.a.	(2.833)
Alzheimer's disease or dementia	***-1.069****	n.a.	-0.874	***-0.828****	n.a.	***-1.079****
	(0.348)	n.a.	(0.621)	(0.234)	n.a.	(0.415)
County percentage of adults age 25 and older with 4-year college education	0.0509	0.00275	n.a.	0.0489	0.0865	n.a.
	(0.0775)	(0.0802)	n.a.	(0.0738)	(0.0782)	n.a.
Constant	0.981***	1.035***	1.067***	0.934***	0.752***	1.156***
	(0.101)	(0.0993)	(0.149)	(0.0772)	(0.0790)	(0.120)
N	1,741	1,741	1,741	2,578	2,578	2,578
R^2	0.299	0.152	0.263	0.262	0.111	0.268

Sources: Mathematica's analysis of PBIP performance data from 2017 through 2019 and Medicare Enrollment Database and claims from January 2014 through December 2019.

Note: This table shows the results of six regressions, one for each type of PBIP score by track. In each regression, we controlled for the year of PBIP score and PBIP risk adjustment factors. For the utilization measures, the PBIP methodology controls for age, gender, and HCC categories—we used HCC scores and 22 chronic conditions as proxies. For the CAHPS measures under the quality component, the PBIP methodology controls for age, gender, education level, and self-reported physical health status—we used the HCC score as a proxy. Practices were weighted by the number of attributed beneficiaries. Each PBIP score ranges from 0 to 1, representing the proportion of the total PBIP amount practices retained in each program year. The analysis included only non-SSP practices because SSP practices were not eligible to receive PBIPs. ***Yellow shading* with bold, italicized text** signifies that the underlying coefficient was statistically significant at the 10 percent level using a two-sided test.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

[a] The reference year is 2017.

CAHPS = Consumer Assessment of Healthcare Providers and Systems; HCC = hierarchical condition category; n.a. = not applicable because the risk factor was not included in the analysis of the PBIP score; PBIP = Performance-based Incentive Payment; SSP = Medicare Shared Savings Program.

Table 3.D.vii. Regression results on the correlation between practices' yearly PBIP scores and all risk-adjustment factors, weighted by number of beneficiaries, from 2017 to 2019

	Track 1			Track 2		
	Total PBIP	Quality PBIP	Utilization PBIP	Total PBIP	Quality PBIP	Utilization PBIP
Year[a]						
2018	0.116***	0.120***	0.113***	0.0601***	0.110***	0.0103
	(0.0162)	(0.0179)	(0.0236)	(0.0110)	(0.0124)	(0.0170)
2019	0.122***	0.0888***	0.155***	0.0388**	0.0593***	0.0182
	(0.0258)	(0.0278)	(0.0390)	(0.0195)	(0.0228)	(0.0283)
Beneficiary characteristics included in PBIP methodology						
Age						
Under 65	-0.183	0.341	-0.708	0.852***	0.762***	0.942***
	(0.319)	(0.301)	(0.516)	(0.237)	(0.259)	(0.355)
75 to 84	-0.304	-0.264	-0.345	-0.226	0.293	-0.745***
	(0.211)	(0.230)	(0.354)	(0.177)	(0.192)	(0.277)
85 or older	0.737**	0.564**	0.910*	0.269	-0.270	0.809***
	(0.286)	(0.262)	(0.505)	(0.181)	(0.199)	(0.297)
Male	-0.0255	-0.181**	0.130	0.117	-0.0812	0.315**
	(0.0903)	(0.0889)	(0.160)	(0.0881)	(0.0797)	(0.143)
HCC scores	-0.383**	0.165	-0.932***	-0.290**	0.0814	-0.662***
	(0.187)	(0.185)	(0.305)	(0.134)	(0.153)	(0.205)
Chronic conditions						
Metastatic cancer and acute leukemia	4.029***	2.338	5.720**	2.558*	1.778	3.339
	(1.452)	(1.583)	(2.336)	(1.354)	(1.830)	(2.099)
Diabetes with chronic complications	0.00399	-0.0251	0.0330	0.271	0.376**	0.166
	(0.178)	(0.205)	(0.290)	(0.181)	(0.162)	(0.301)
Protein-calorie malnutrition	-5.748***	-1.029	-10.47***	-1.435	0.574	-3.443**
	(1.163)	(1.420)	(1.958)	(0.901)	(0.979)	(1.562)
Morbid obesity	0.0392	0.0260	0.0523	-0.464*	-0.194	-0.733*
	(0.349)	(0.358)	(0.579)	(0.271)	(0.264)	(0.443)
Other significant endocrine and metabolic disorders	0.690	-0.156	1.536**	1.409***	0.207	2.611***
	(0.591)	(0.719)	(0.748)	(0.358)	(0.315)	(0.598)
Congestive heart failure	0.450	-0.875**	1.775***	-0.241	-0.777**	0.295
	(0.413)	(0.418)	(0.682)	(0.327)	(0.314)	(0.538)
Specified heart arrhythmias	-0.493	0.412	-1.399**	0.258	0.720**	-0.204
	(0.354)	(0.355)	(0.653)	(0.304)	(0.320)	(0.456)
Atherosclerosis of extremity with ulceration or gangrene	2.520	-4.041*	9.081**	0.771	0.0352	1.507
	(2.198)	(2.206)	(3.544)	(1.745)	(1.722)	(2.916)
Chronic obstructive pulmonary disease	0.740***	0.0438	1.435***	0.331	-0.0897	0.751**
	(0.228)	(0.223)	(0.372)	(0.210)	(0.201)	(0.369)

Table 3.D.vii *(continued)*

	Track 1			Track 2		
	Total PBIP	Quality PBIP	Utilization PBIP	Total PBIP	Quality PBIP	Utilization PBIP
Traumatic amputations and complications	3.581	***7.081****	0.0818	-4.102	***-6.433****	-1.771
	(3.495)	(3.606)	(5.650)	(2.992)	(2.851)	(4.908)
Major organ transplant status or replacement status	-0.976	***8.121*****	***-10.07****	0.596	1.147	0.0450
	(3.031)	(2.769)	(5.201)	(2.263)	(2.242)	(3.904)
Rheumatoid arthritis and inflammatory connective tissue disease or disorders of immunity	***0.477****	-0.0612	***1.015*****	-0.0603	0.142	-0.263
	(0.231)	(0.328)	(0.385)	(0.270)	(0.293)	(0.443)
Severe hematological disorders or coagulation defects and other specified hematological disorders	0.365	-0.102	0.832	0.161	-0.173	0.496
	(0.507)	(0.548)	(0.828)	(0.434)	(0.415)	(0.671)
Drug/alcohol psychosis or drug/alcohol dependence	0.740	-0.723	***2.203*****	***0.653****	-0.454	***1.760*****
	(0.458)	(0.465)	(0.724)	(0.311)	(0.473)	(0.431)
Schizophrenia or major depressive, bipolar, and paranoid disorders	0.355	0.322	0.389	***0.271****	***0.320****	0.221
	(0.277)	(0.273)	(0.470)	(0.163)	(0.169)	(0.265)
Quadriplegia or paraplegia	***4.058****	0.439	***7.678****	2.137	0.364	3.910
	(2.189)	(2.150)	(3.589)	(1.639)	(1.706)	(2.477)
Coma, brain compression/anoxic damage, or respirator dependence/tracheostomy status	1.935	1.557	2.312	1.835	0.328	3.342
	(2.364)	(2.382)	(3.879)	(1.777)	(1.775)	(2.971)
Acute myocardial infarction, unstable angina and other acute ischemic heart disease, or angina pectoris	-0.230	***1.072****	***-1.533****	-0.000430	0.127	-0.128
	(0.409)	(0.474)	(0.639)	(0.349)	(0.350)	(0.565)
Cerebral hemorrhage or ischemic or unspecified stroke	0.114	0.476	-0.248	-0.524	***1.017****	***-2.066****
	(0.719)	(0.741)	(1.219)	(0.519)	(0.466)	(0.882)
Vascular disease with complications or vascular disease	0.113	-0.0411	0.268	***0.655*****	0.179	***1.131*****
	(0.215)	(0.198)	(0.342)	(0.157)	(0.162)	(0.282)
Pressure ulcer of skin with necrosis through to muscle, tendon, or bone or pressure ulcer of skin with full thickness skin loss	***-3.650****	***-3.880****	-3.420	0.502	-0.384	1.389
	(2.204)	(2.268)	(4.088)	(1.706)	(1.588)	(2.797)
Alzheimer's disease or dementia	***-0.890****	***-1.038*****	-0.742	***-0.756*****	-0.331	***-1.180*****
	(0.355)	(0.319)	(0.621)	(0.239)	(0.284)	(0.396)

Table 3.D.vii *(continued)*

	Track 1			Track 2		
	Total PBIP	Quality PBIP	Utilization PBIP	Total PBIP	Quality PBIP	Utilization PBIP
County percentage of adults age 25 and older with 4-year college education	-0.0864	-0.0820	-0.0907	-0.0986	-0.0779	-0.119
	(0.108)	(0.113)	(0.174)	(0.100)	(0.137)	(0.180)
Additional beneficiary characteristics						
Race						
Black	0.0468	-0.0234	0.117	-0.0734	-0.0290	-0.118
	(0.0852)	(0.0935)	(0.123)	(0.0728)	(0.0712)	(0.114)
All other	-0.00156	***-0.165****	***0.162****	***0.177*****	-0.0882	***0.442*****
	(0.0650)	(0.0571)	(0.0904)	(0.0514)	(0.0603)	(0.0848)
Original reason for entitlement						
Disability	***-0.840*****	***-0.682*****	***-0.997****	***-1.612*****	***-0.901*****	***-2.323*****
	(0.255)	(0.250)	(0.423)	(0.218)	(0.208)	(0.344)
ESRD combined[b]	0.549	-1.521	2.619	-2.174	-2.199	-2.149
	(2.058)	(2.263)	(2.967)	(1.477)	(1.451)	(2.386)
Dualy eligible for Medicaid	***0.337****	-0.133	***0.806*****	***0.438*****	0.0293	***0.847*****
	(0.144)	(0.165)	(0.269)	(0.164)	(0.152)	(0.242)
County median household income[c]	0.00112	0.000677	0.00157	0.000274	4.47e-06	0.000544
	(0.000788)	(0.000802)	(0.00122)	(0.000609)	(0.000740)	(0.00105)
Constant	0.978***	0.776***	1.180***	0.869***	0.630***	1.108***
	(0.113)	(0.112)	(0.191)	(0.0847)	(0.0961)	(0.140)
N	1,741	1,741	1,741	2,578	2,578	2,578
R^2	0.310	0.239	0.280	0.310	0.168	0.323

Sources: Mathematica's analysis of PBIP performance data from 2017 through 2019 and Medicare Enrollment Database and claims from January 2014 through December 2019.

Note: This table shows the results of six regressions, one for each type of PBIP score by track. In each regression, we controlled for the year of PBIP score, PBIP risk adjustment factors (age, gender, HCC score, HCCs, education), and additional risk adjustment factors (race, original reason for Medicare entitlement, dual eligibility status, and county median household income). Practices were weighted by the number of attributed beneficiaries. Each PBIP score ranges from 0 to 1, representing the proportion of the total PBIP amount practices retained in each program year. The analysis included only non-SSP practices because SSP practices were not eligible to receive PBIPs. ***Yellow shading* with bold, italicized text** signifies that the underlying coefficient was statistically significant at the 10 percent level using a two-sided test.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

[a] The reference year is 2017.

[b] We combined the original entitlement reasons of "ESRD and "both disability and ESRD."

[c] Income is measured in thousands of dollars.

CPCP = Comprehensive Primary Care Payment; ESRD = end-stage renal disease; HCC = hierarchical condition category; PBIP = Performance-based Incentive Payment; SSP = Medicare Shared Savings Program.

Table 3.D.viii. Regression results on the correlation between practices' average PBIP scores (over 2017 through 2019) and baseline characteristics, weighted by number of beneficiaries

	Track 1			Track 2		
	Total PBIP	Quality PBIP	Utilization PBIP	Total PBIP	Quality PBIP	Utilization PBIP
Number of PCPs[a]						
3 to 5	0.0322	0.0214	0.0430	-0.0154	***-0.0352****	0.00442
	(0.0213)	(0.0219)	(0.0288)	(0.0148)	(0.0147)	(0.0236)
6 or more	0.0264	***0.0508****	0.00198	-0.000781	***-0.0417*****	0.0402
	(0.0229)	(0.0232)	(0.0337)	(0.0164)	(0.0157)	(0.0275)
Owned by hospital or health system[b]	***-0.0537*****	0.0238	***-0.131*****	***-0.111*****	***-0.0529*****	***-0.169*****
	(0.0174)	(0.0169)	(0.0275)	(0.0131)	(0.0128)	(0.0205)
Multispecialty practice[c]	0.00538	-0.0165	0.0273	***-0.0390****	-0.0155	***-0.0626****
	(0.0232)	(0.0223)	(0.0377)	(0.0174)	(0.0180)	(0.0268)
Participation in prior primary care transformation activities[d]						
CPC Classic	0.0354	-0.0325	***0.103****	0.00388	***-0.0318****	***0.0396****
	(0.0248)	(0.0255)	(0.0453)	(0.0142)	(0.0152)	(0.0215)
MAPCP	0.0334	***0.0810****	-0.0143	0.0240	***0.0507****	-0.00275
	(0.0357)	(0.0340)	(0.0598)	(0.0225)	(0.0213)	(0.0352)
Medical home[e]	0.00564	-0.0166	0.0279	***0.0279****	***0.0396*****	0.0162
	(0.0184)	(0.0177)	(0.0281)	(0.0125)	(0.0138)	(0.0197)
TCPI	0.00216	***0.0526*****	-0.0482	***-0.0379****	0.0125	***-0.0883*****
	(0.0208)	(0.0186)	(0.0389)	(0.0171)	(0.0137)	(0.0278)
Meaningful EHR use, attested in 2011 or 2012[f]	***0.0604*****	***0.0486****	***0.0722****	***0.0882*****	***0.0922*****	***0.0842****
	(0.0222)	(0.0204)	(0.0333)	(0.0217)	(0.0187)	(0.0357)
Urbanicity[g]						
Rural	0.0135	***-0.0390****	***0.0660****	0.00832	-0.0211	0.0378
	(0.0233)	(0.0236)	(0.0372)	(0.0274)	(0.0279)	(0.0410)
Suburban	0.0172	0.00513	0.0292	0.0243	0.00779	0.0409
	(0.0240)	(0.0225)	(0.0362)	(0.0208)	(0.0214)	(0.0319)
HRR price index[h]	***0.787*****	0.149	***1.425*****	***0.708*****	-0.0531	***1.469*****
	(0.114)	(0.110)	(0.176)	(0.0759)	(0.0791)	(0.118)
Constant	-0.243**	0.584***	-1.070***	-0.102	0.846***	-1.050***
	(0.121)	(0.118)	(0.187)	(0.0822)	(0.0837)	(0.128)
N[i]	730	730	730	1,033	1,033	1,033
R^2	0.160	0.072	0.249	0.262	0.086	0.318

Sources: Mathematica's analysis of PBIP performance data from 2017 through 2019 and Medicare claims from January 2014 through December 2019.

Note: This table shows the results of six regressions, one for each type of PBIP score by track. We calculated the average of PBIP scores across the three program years. In each regression, we controlled for practice characteristics defined at the start of CPC+. Practices were weighted by the number of

Table 3.D.viii *(continued)*

attributed beneficiaries. Each PBIP score ranges from 0 to 1, representing the proportion of the total PBIP amount practices retained in each program year. The analysis included only non-SSP practices because SSP practices were not eligible to receive PBIPs. ***Yellow shading with bold, italicized text*** signifies that the underlying coefficient was statistically significant at the 10 percent level using a two-sided test.

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

[a] The reference group is practices with a PCP count of 1 or 2.

[b] The reference group is independently owned practices.

[c] We defined multispecialty as having at least one practitioner, according to SK&A, with a specialty other than general practice, internal medicine, family medicine, or geriatrics. The reference group is primary care-only practices.

[d] The reference group is practices that did not participate in each of these prior primary care transformation activities.

[e] We defined experience in a medical home program if the practice was recognized as a medical home by NCQA, TJC, AAAHC, URAC, or a state medical-home recognition program.

[f] We defined meaningful EHR use as practice with at least one practitioner who attested to meaningful use of EHR in 2011 or 2012. The reference group is practices that did not attest to meaningful EHR use in 2011 or 2012.

[g] The urbanicity of a practice's county (rural, urban, suburban) was derived from the 2013 (latest year available) rural-urban continuum codes (https://www.ers.usda.gov/data-products/rural-urban-continuum-codes/documentation/) available in the ARFs. The reference group is practices in urban regions.

[h] We used CMS's Medicare Geographic Variation data from 2015 for HRR price index.

[i] The number of observations included in each regression reflects the total number of non-SSP practices that ever received a PBIP in any program year.

AAAHC = Accreditation Association for Ambulatory Health Care; ARF = Area Resource File; APM = Alternative Payment Model; CPC = Comprehensive Primary Care; CPCP = Comprehensive Primary Care Payment; EHR = electronic health record; HCC = hierarchical condition category; HRR = hospital referral region; MAPCP = Multi-Payer Advanced Primary Care Practice; NCQA = National Committee for Quality Assurance; PA = physician assistant; PBIP = Performance-based Incentive Payment; PCP = primary care practitioner; SSP = Medicare Shared Savings Program; TCPI = Transforming Clinical Practice Initiative; TJC = The Joint Commission; URAC = Utilization Review Accreditation Commission.

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CHAPTER 4 APPENDIX

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4.A. Care delivery requirement data reported to CMS by practices in regions that started in 2017

This Appendix contains tables showing practices' self-reported approaches to delivering care based on the data they reported to CMS using the CPC+ Practice Portal. CMS required active CPC+ practices to submit responses about care delivery requirements and related practice activities online through the CPC+ Practice Portal quarterly during Program Years (PYs) 1 and 2, and twice a year starting in PY 3. These data are used to track practices' progress on the CPC+ care delivery functions, judge compliance, and inform learning activities.

Sample size. Table 4.A.1 summarizes the number of practices in the regions that began CPC+ in 2017 (overall and by track and Medicare Shared Savings Program [SSP] status) and were active in CPC+ at the end of each program year. In this Appendix, we present CPC+ Practice Portal data from Quarter 4 of 2019 for practices that started CPC+ in 2017; the data reflect the experiences of practices at the end of PY 3.

Table 4.A.1. Participation in CPC+ for 2017 Starters, by track and SSP status

		Track 1			Track 2		
	Overall	Total	SSP	Non-SSP	Total	SSP	Non-SSP
Baseline (January 1, 2017)	2,905	1,385	738	647	1,520	616	904
End of Program Year 1 (December 31, 2017)	2,786	1,310	689	621	1,476	587	889
End of Program Year 2 (December 31, 2018)	2,716	1,271	724	547	1,445	622	823
End of Program Year 3 (December 31, 2019) [a]	2,675	1,229	639	590	1,446	571	875

Source: Mathematica's analysis of 2017 CPC+ practice tracking data provided by CMS.

Note: Participation status in an SSP reflects status at the beginning of the year. One Track 2 practice did not submit Portal data in 2019, and thus is not included in the appendix data.

[a] In PY 3, 70 practices were added to the CMS practice rosters due to a combination of an application mistake (multiple practices originally applied to CPC+ as one practice) and practice splits resulting in formation of additional practices.

SSP = Medicare Shared Savings Program.

Although CPC+ requirements are based on track and starting year, every practice must answer the same CPC+ Practice Portal questions. However, some questions include skip patterns. Therefore, it is important to note denominators when interpreting the percentage of practices with a particular response.

Presentation of tables. We generally present the wording and organization of the questions and responses exactly as they appear in the CPC+ Practice Portal, recognizing that these factors ould influence interpretation and practices' responses. To facilitate comparisons to the Care Delivery Reporting Guide, we have numbered our appendix tables using the same scheme. Acronyms CMS used in the question stem or response options are defined in the acronyms list. Questions for which Mathematica did additional data manipulation (for example, combining items, applying thresholds, or conducting other data cleaning steps) are indicated in the notes section.

Data for PYs 1 and 2 for practices that started CPC+ in 2017 are available in the CPC+ first and second annual report appendices (Peikes et al. 2019; Anglin et al. 2020) and are not repeated here.

Comparisons over time. Readers should use caution in comparing these findings over time, for two reasons. First, the wording and response options for many CPC+ Practice Portal questions changed over time, complicating the interpretation of such comparisons. Second, the sample changed over time. In this year's Appendix, we report responses to CPC+ Practice Portal questions based on the 2,675 CPC+ practices that were active at the end of PY 3; in last year's Appendix, we reported responses to CPC+ Practice Portal questions based on the 2,716 practices that were active at the end of PY 2.

Table 4.A.1.1. Access and continuity: Empanelment, Program Year 3 (2017 Starters)

	Overall	Track 1			Track 2		
		Total	SSP	Non-SSP	Total	SSP	Non-SSP
What is your active patient lookback period?							
Less than one year	1%	1%	<1%	2%	<1%	<1%	1%
1–2 years	79%	84%	85%	83%	75%	68%	79%
More than two years	20%	14%	14%	15%	24%	31%	20%
N	2,674	1,229	639	590	1,445	571	874
Percentage of patients empaneled							
Median	100%	100%	100%	100%	100%	100%	100%
N	2,674	1,229	639	590	1,445	571	874

Source: Mathematica's analysis of 2019 (Quarter 4) care delivery reporting data submitted by practices to CMS via the CPC+ Practice Portal.

SSP = Medicare Shared Savings Program.

Table 4.A.1.2. Access and continuity: 24/7 access, Program Year 3 (2017 Starters)

		Track 1			Track 2		
	Overall	Total	SSP	Non-SSP	Total	SSP	Non-SSP
Does a clinician or care team member from your practice site usually provide 24/7 coverage?							
No, we do not provide 24/7 coverage	<1%	<1%	<1%	0%	0%	0%	0%
Yes	81%	81%	81%	82%	80%	78%	82%
No, we have a centralized call-center for our health system (after-hours coverage for all practices in the system)	15%	13%	13%	13%	17%	20%	14%
No, we have a formal coverage arrangement with another practice/organization	4%	5%	6%	5%	3%	2%	4%
N	2,674	1,229	639	590	1,445	571	874
Is 24/7 coverage provided with real-time access to your practice's EHR?							
No	<1%	<1%	0%	<1%	<1%	0%	<1%
Yes	100%	100%	100%	99%	100%	100%	100%
N	2,672	1,227	637	590	1,445	571	874

Source: Mathematica's analysis of 2019 (Quarter 4) care delivery reporting data submitted by practices to CMS via the CPC+ Practice Portal.

EHR = electronic health record; SSP = Medicare Shared Savings Program.

Table 4.A.1.3. Access and continuity: Continuity of care, Program Year 3 (2017 Starters)

		Track 1			Track 2		
	Overall	Total	SSP	Non-SSP	Total	SSP	Non-SSP
Do you track continuity of care (in terms of how often patients see the practitioner or care team to which they are empaneled) for your patients?							
Yes	99%	98%	99%	98%	99%	100%	98%
No	1%	2%	1%	2%	1%	<1%	2%
N	2,674	1,229	639	590	1,445	571	874
What system(s) do you primarily use to track continuity of care? (Select all that apply)							
EHR	92%	94%	95%	93%	91%	94%	88%
Electronic practice management systems (e.g., appointment scheduling system)	27%	27%	24%	29%	28%	22%	32%
Other	9%	8%	5%	11%	10%	8%	11%
N	2,635	1,208	630	578	1,427	569	858

Source: Mathematica's analysis of 2019 (Quarter 4) care delivery reporting data submitted by practices to CMS via the CPC+ Practice Portal.

EHR = electronic health record; SSP = Medicare Shared Savings Program.

Table 4.A.1.4. Access and continuity: Enhanced access and communication, Program Year 3 (2017 Starters)

	Overall	Track 1			Track 2		
		Total	SSP	Non-SSP	Total	SSP	Non-SSP
When patients need it, my practice is able to provide same- or next-day appointments							
Never	0%	0%	0%	0%	0%	0%	0%
Rarely	0%	0%	0%	0%	0%	0%	0%
Sometimes	1%	<1%	<1%	<1%	1%	<1%	2%
Often	19%	20%	22%	19%	19%	16%	20%
Always	80%	79%	78%	81%	80%	84%	77%
N	2,674	1,229	639	590	1,445	571	874
When patients need it, my practice is able to provide office visits on the weekend, evening, or early morning							
Never	8%	9%	7%	12%	6%	5%	7%
Rarely	4%	4%	4%	4%	4%	4%	3%
Sometimes	10%	12%	11%	14%	8%	8%	8%
Often	25%	24%	25%	24%	25%	23%	27%
Always	54%	50%	54%	46%	57%	60%	55%
N	2,674	1,229	639	590	1,445	571	874
When patients need it, my practice is able to provide email or portal advice on clinical issues							
Never	3%	4%	4%	4%	1%	2%	<1%
Rarely	2%	3%	2%	4%	2%	1%	2%
Sometimes	7%	10%	9%	11%	5%	3%	5%
Often	12%	11%	11%	10%	14%	15%	13%
Always	76%	72%	74%	71%	79%	80%	78%
N	2,674	1,229	639	590	1,445	571	874

Table 4.A.1.4 *(continued)*

	Overall	Track 1			Track 2		
		Total	SSP	Non-SSP	Total	SSP	Non-SSP
In the last two quarters, in which ways have you used the flexibility of CPC+ payments to deliver care in ways that you could not under FFS? (Select all that apply)							
None	8%	17%	16%	19%	<1%	0%	1%
Visits to hospitals, nursing facilities, or other locations by any staff as part of care management and coordination	31%	28%	26%	31%	33%	32%	33%
Visits in the home by designated staff for care management activities, home assessments, education, or self-management support	33%	22%	22%	22%	41%	44%	40%
Practice group visits for purposes of disease management, self-management, and other support	28%	21%	20%	23%	35%	29%	38%
Video-based conferencing for primary care visits (i.e., telehealth or telemedicine)	15%	11%	12%	10%	18%	20%	16%
Practitioner visit over an electronic exchange (i.e., phone or e-visit, portal, email)	55%	40%	39%	42%	67%	75%	62%
Patient outreach by community health worker, health coach, and/or caregiver support staff	62%	53%	55%	50%	70%	74%	67%
Other	20%	16%	15%	17%	23%	17%	27%
N	2,674	1,229	639	590	1,445	571	874
Are you delivering visits to hospitals, nursing facilities, or other locations by any staff as part of care management and coordination?							
None	69%	72%	74%	69%	67%	68%	67%
Potentially available to all patients	21%	19%	18%	21%	23%	24%	22%
Targeting high risk patients only	9%	9%	8%	9%	10%	8%	11%
N	2,674	1,229	639	590	1,445	571	874
Are you delivering visits in the home by designated staff for care management activities, home assessments, education, or self-management support?							
None	67%	78%	78%	78%	59%	56%	60%
Potentially available to all patients	11%	8%	9%	8%	14%	12%	16%
Targeting high-risk patients only	21%	14%	14%	14%	27%	32%	24%
N	2,674	1,229	639	590	1,445	571	874

Table 4.A.1.4 *(continued)*

	Overall	Track 1			Track 2		
		Total	SSP	Non-SSP	Total	SSP	Non-SSP
Are you delivering practice group visits for purposes of disease management, self-management, and other support?							
None	72%	79%	80%	77%	65%	71%	62%
Potentially available to all patients	19%	14%	11%	17%	24%	19%	27%
Targeting high-risk patients only	9%	8%	9%	6%	10%	10%	10%
N	2,674	1,229	639	590	1,445	571	874
Are you delivering video-based conferencing for primary care visits (i.e., telehealth or telemedicine)?							
None	85%	89%	88%	90%	82%	80%	84%
Potentially available to all patients	13%	9%	10%	8%	17%	19%	16%
Targeting high-risk patients only	1%	2%	2%	2%	<1%	<1%	<1%
N	2,674	1,229	639	590	1,445	571	874
Are you delivering practitioner visits over an electronic exchange (i.e., phone or e-visit, portal, email)?							
None	45%	60%	61%	58%	33%	25%	38%
Potentially available to all patients	51%	36%	35%	37%	64%	73%	58%
Targeting high-risk patients only	3%	4%	3%	4%	3%	2%	3%
N	2,674	1,229	639	590	1,445	571	874
Are you delivering patient outreach by community health worker, health coach, and/or caregiver support staff?							
None	38%	47%	45%	50%	30%	26%	33%
Potentially available to all patients	35%	30%	31%	29%	38%	39%	37%
Targeting high-risk patients only	27%	22%	23%	21%	31%	35%	30%
N	2,674	1,229	639	590	1,445	571	874
On a scale of one to five, rate the extent you have adjusted care team schedules, workload, and workflow to accommodate care that is unrestrained by fee-for-service.							
1 – Not considered	8%	10%	6%	14%	7%	8%	6%
2	6%	6%	8%	3%	5%	5%	6%
3 – Fully considered	27%	27%	25%	30%	27%	20%	32%
4	15%	14%	14%	13%	16%	15%	16%
5 – Fully implemented	44%	43%	47%	40%	45%	53%	40%
N	2,450	1,014	535	479	1,436	571	865

Table 4.A.1.4 *(continued)*

	Overall	Track 1			Track 2		
		Total	SSP	Non-SSP	Total	SSP	Non-SSP
On a scale of one to five, rate the extent you have determined new documentation approaches that are necessary and sufficient for clinical care, unconstrained by fee-for-service requirements.							
1 – Not considered	13%	13%	11%	16%	13%	3%	19%
2	8%	6%	9%	4%	10%	14%	7%
3 – Fully considered	25%	23%	21%	24%	27%	38%	20%
4	14%	16%	16%	16%	13%	11%	15%
5 – Fully implemented	39%	42%	43%	40%	37%	34%	39%
N	2,450	1,014	535	479	1,436	571	865
On a scale of one to five, rate the extent you have implemented integrated time spent on this care into compensation strategy beyond productivity metrics (e.g., bonuses based on quality and utilization; percentage of income based on non-RVU) to support care that is unconstrained by fee-for-service requirements.							
1 – Not considered	22%	24%	21%	28%	21%	22%	20%
2	8%	10%	11%	9%	7%	8%	7%
3 – Fully considered	27%	31%	32%	30%	25%	23%	26%
4	14%	10%	7%	13%	17%	20%	16%
5 – Fully implemented	28%	25%	29%	20%	30%	28%	31%
N	2,450	1,014	535	479	1,436	571	865
On a scale of one to five, rate the extent you have identified a set of metrics to assess and understand the impact to support care that is unconstrained by FFS billing.							
1 – Not considered	11%	14%	12%	16%	9%	4%	13%
2	12%	9%	11%	8%	13%	16%	11%
3 – Fully considered	29%	32%	31%	33%	26%	26%	26%
4	12%	13%	11%	14%	12%	13%	11%
5 – Fully implemented	36%	32%	35%	29%	39%	40%	39%
N	2,450	1,014	535	479	1,436	571	865

Source: Mathematica's analysis of 2019 (Quarter 4) care delivery reporting data submitted by practices to CMS via the CPC+ Practice Portal.

FFS = fee-for-service; RVU = relative value units; SSP = Medicare Shared Savings Program.

Table 4.A.2.1. Targeted care management: Risk stratification, Program Year 3 (2017 Starters)

		Track 1			Track 2		
	Overall	Total	SSP	Non-SSP	Total	SSP	Non-SSP
Do you risk stratify your empaneled patients?							
Yes	100%	100%	100%	100%	100%	100%	100%
No	<1%	0%	0%	0%	<1%	<1%	<1%
N	2,674	1,229	639	590	1,445	571	874
What factors are included in your data-driven algorithm for risk stratifying your patients? (Select all that apply)							
We do not use a data-driven algorithm as part of our risk stratification	1%	2%	1%	3%	<1%	<1%	<1%
Claims variables	32%	30%	32%	27%	34%	40%	30%
Clinical variables from the EHR	92%	91%	92%	89%	92%	92%	93%
Computed risk scores (e.g., CMS-HCC scores or risk scores from other payers)	42%	41%	44%	39%	42%	43%	42%
Other	17%	14%	11%	16%	21%	21%	20%
N	2,672	1,229	639	590	1,443	570	873
What factors do you consider when using care team/clinical intuition to stratify your patients? Do not include factors included in your data-driven algorithm. (Select all that apply)							
We do not use the care team's perception as part of our risk stratification	<1%	<1%	<1%	1%	<1%	0%	<1%
Social needs	94%	91%	96%	86%	96%	98%	94%
Behavioral health needs	91%	91%	92%	90%	91%	84%	95%
Clinical factors	97%	96%	96%	96%	98%	99%	97%
Other	9%	8%	10%	5%	11%	13%	10%
N	2,672	1,229	639	590	1,443	570	873

Table 4.A.2.1 *(continued)*

		Track 1			Track 2		
	Overall	Total	SSP	Non-SSP	Total	SSP	Non-SSP
What prompts reassessment of a patient's risk-stratification assignment?							
We do not reassess the risk stratification of our patients	0%	0%	0%	0%	0%	0%	0%
Only as needed, or we do not have a protocol in place	5%	6%	5%	6%	5%	6%	5%
Pre-specified clinical events (e.g., new diagnosis, hospitalization)	29%	29%	28%	30%	29%	29%	29%
Automatically updated when new information is in the health IT or EHR platform	28%	27%	37%	17%	30%	40%	23%
Schedule-driven protocol	28%	28%	23%	33%	29%	23%	33%
Other	9%	10%	8%	13%	7%	2%	11%
N	2,672	1,229	639	590	1,443	570	873
What prompts reassessment of a patient's risk-stratification assignment? - Schedule driven protocol							
Each patient visit	39%	40%	31%	47%	38%	36%	39%
Multiple times a year	26%	29%	31%	28%	23%	8%	30%
Annually	24%	24%	31%	18%	24%	22%	25%
Other	12%	7%	8%	7%	15%	34%	7%
N	760	340	144	196	420	132	288
Is risk stratification integrated within your EHR or health IT system?							
Yes	94%	92%	93%	90%	96%	96%	96%
No	6%	8%	7%	10%	4%	4%	4%
N	2,672	1,229	639	590	1,443	570	873

Source: Mathematica's analysis of 2019 (Quarter 4) care delivery reporting data submitted by practices to CMS via the CPC+ Practice Portal.

EHR = electronic health record; HCC = Hierarchical Condition Category; SSP = Medicare Shared Savings Program.

Table 4.A.2.2. Targeted care management: Identifying patients for care management, Program Year 3 (2017 Starters)

		Track 1			Track 2		
	Overall	Total	SSP	Non-SSP	Total	SSP	Non-SSP
Indicate how you identify patients for episodic care management. This refers to short-term, goal-directed care management for patients who are not already in longitudinal care management as a result of their risk status. (Select all that apply)							
We do not identify patients for episodic care management	0%	0%	0%	0%	0%	0%	0%
Practitioner or care team referral	85%	82%	86%	79%	88%	94%	84%
Hospital admission or discharge	98%	98%	98%	98%	99%	98%	99%
ED visit	95%	95%	97%	93%	96%	97%	95%
Skilled Nursing Facility (SNF) admission or discharge	66%	65%	72%	57%	67%	80%	59%
New health condition (e.g., cancer diagnosis, accident, chronic condition)	76%	74%	77%	71%	78%	78%	77%
New clinical instability in a chronic condition, including change in medications	70%	67%	71%	63%	73%	74%	72%
Life event (e.g., death of spouse, financial loss)	56%	52%	58%	45%	60%	61%	60%
Initiation or stabilization on a high-risk medication (e.g., anticoagulants)	49%	49%	53%	45%	49%	52%	47%
Other	9%	8%	11%	6%	10%	13%	8%
N	2,674	1,229	639	590	1,445	571	874

Source: Mathematica's analysis of 2019 (Quarter 4) care delivery reporting data submitted by practices to CMS via the CPC+ Practice Portal.

ED = emergency department; SSP = Medicare Shared Savings Program.

Table 4.A.2.3. Targeted care management: Care management staffing and activities, Program Year 3 (2017 Starters)

		Track 1			Track 2		
	Overall	Total	SSP	Non-SSP	Total	SSP	Non-SSP
What type of clinician and staff at your practice is/are primarily responsible for assessing and reassessing patient risk status?							
None	<1%	<1%	<1%	0%	0%	0%	0%
Practitioner (i.e., MD, DO, NP, PA)	61%	56%	53%	60%	64%	63%	65%
Care manager/ clinical staff (e.g., RN, LPN, social worker)	30%	35%	41%	29%	25%	28%	23%
Other clinical staff (e.g., MA/CMA, CNA)	3%	4%	<1%	7%	3%	3%	3%
Non-clinical staff (e.g., admin, front desk)	<1%	<1%	<1%	2%	<1%	<1%	<1%
Other	6%	4%	4%	3%	8%	6%	10%
N	2,674	1,229	639	590	1,445	571	874
What type of clinician and staff at your practice is/are primarily responsible for monitoring and management of care transitions (hospital, ED discharges)?							
None	0%	0%	0%	0%	0%	0%	0%
Practitioner (i.e., MD, DO, NP, PA)	13%	12%	11%	14%	13%	13%	14%
Care manager/ clinical staff (e.g., RN, LPN, social worker)	68%	67%	72%	61%	68%	70%	67%
Other clinical staff (e.g., MA/CMA, CNA)	14%	16%	11%	20%	12%	15%	11%
Non-clinical staff (e.g., admin, front desk)	2%	2%	2%	2%	1%	1%	1%
Other	4%	4%	4%	4%	5%	1%	7%
N	2,674	1,229	639	590	1,445	571	874
What type of clinician and staff at your practice is/are primarily responsible for medication reconciliation during transitions of care (hospital, ED discharges)							
None	<1%	<1%	<1%	<1%	<1%	<1%	<1%
Practitioner (i.e., MD, DO, NP, PA)	35%	39%	43%	35%	31%	32%	31%
Care manager/ clinical staff (e.g., RN, LPN, social worker)	46%	42%	43%	41%	49%	52%	47%
Other clinical staff (e.g., MA/CMA, CNA)	12%	14%	10%	20%	10%	6%	14%
Non-clinical staff (e.g., admin, front desk)	<1%	<1%	0%	<1%	<1%	0%	<1%
Other	7%	4%	5%	3%	9%	10%	9%
N	2,674	1,229	639	590	1,445	571	874

Table 4.A.2.3 *(continued)*

	Overall	Track 1			Track 2		
		Total	SSP	Non-SSP	Total	SSP	Non-SSP
What type of clinician and staff at your practice is/are primarily responsible for developing and monitoring care plans?							
None	<1%	1%	<1%	2%	<1%	<1%	<1%
Practitioner (i.e., MD, DO, NP, PA)	32%	34%	38%	29%	30%	32%	28%
Care manager/ clinical staff (e.g., RN, LPN, social worker)	64%	61%	59%	64%	65%	64%	66%
Other clinical staff (e.g., MA/CMA, CNA)	2%	1%	<1%	2%	2%	<1%	3%
Non-clinical staff (e.g., admin, front desk)	<1%	<1%	0%	<1%	<1%	<1%	0%
Other	2%	2%	2%	3%	3%	2%	3%
N	2,674	1,229	639	590	1,445	571	874
What type of clinician and staff at your practice is/are primarily responsible for providing condition-specific patient education and self-management support (e.g., motivational interviewing, 5 As, teach back, reflective listening)?							
None	<1%	<1%	0%	<1%	<1%	0%	<1%
Practitioner (i.e., MD, DO, NP, PA)	28%	30%	25%	36%	26%	27%	25%
Care manager/ clinical staff (e.g., RN, LPN, social worker)	59%	58%	67%	48%	59%	57%	61%
Other clinical staff (e.g., MA/CMA, CNA)	7%	8%	5%	11%	6%	9%	5%
Non-clinical staff (e.g., admin, front desk)	<1%	<1%	0%	<1%	0%	0%	0%
Other	6%	3%	3%	4%	8%	7%	9%
N	2,674	1,229	639	590	1,445	571	874
What type of clinician and staff at your practice is/are primarily responsible for coordinating and communicating with specialty care?							
None	<1%	<1%	<1%	<1%	<1%	<1%	<1%
Practitioner (i.e., MD, DO, NP, PA)	30%	34%	33%	34%	27%	28%	27%
Care manager/ clinical staff (e.g., RN, LPN, social worker)	22%	23%	25%	21%	22%	22%	22%
Other clinical staff (e.g., MA/CMA, CNA)	27%	27%	25%	29%	26%	29%	24%
Non-clinical staff (e.g., admin, front desk)	11%	11%	11%	11%	10%	6%	13%
Other	10%	5%	6%	5%	14%	15%	14%
N	2,674	1,229	639	590	1,445	571	874

Table 4.A.2.3 *(continued)*

	Overall	Track 1			Track 2		
		Total	SSP	Non-SSP	Total	SSP	Non-SSP
What type of clinician and staff at your practice is/are primarily responsible for navigating patients to community and social services?							
None	<1%	<1%	0%	<1%	0%	0%	0%
Practitioner (i.e., MD, DO, NP, PA)	6%	6%	5%	7%	5%	8%	4%
Care manager/ clinical staff (e.g., RN, LPN, social worker)	69%	69%	74%	63%	69%	66%	71%
Other clinical staff (e.g., MA/CMA, CNA)	12%	15%	10%	19%	10%	6%	13%
Non-clinical staff (e.g., admin, front desk)	4%	5%	6%	4%	3%	6%	<1%
Other	9%	5%	4%	6%	12%	14%	12%
N	2,674	1,229	639	590	1,445	571	874
Among patients under longitudinal care management, how many have a care plan?							
None	<1%	2%	2%	2%	<1%	0%	<1%
Some	26%	28%	25%	32%	24%	11%	32%
Most	32%	33%	29%	38%	31%	36%	28%
All	41%	37%	45%	29%	45%	53%	40%
N	2,674	1,229	639	590	1,445	571	874
Do you document and store care plans?							
No	<1%	<1%	<1%	2%	<1%	0%	<1%
Yes, care plans are integrated with the EHR or other health IT	93%	88%	93%	82%	97%	98%	96%
Yes, care plans are documented and stored, but are not integrated with the EHR or other health IT	7%	11%	7%	16%	3%	2%	4%
N	2,653	1,209	628	581	1,444	571	873

Source: Mathematica's analysis of 2019 (Quarter 4) care delivery reporting data submitted by practices to CMS via the CPC+ Practice Portal.

EHR = electronic health record; SSP = Medicare Shared Savings Program.

Table 4.A.2.4. Targeted care management: Longitudinal care management, Program Year 3 (2017 Starters)

	Overall	Track 1			Track 2		
		Total	SSP	Non-SSP	Total	SSP	Non-SSP
Tier 1 (Highest risk)							
Median percentage of empaneled patients in risk tier	2.5	2.8	3.2	2.3	2.3	2.7	2.1
Median percentage of patients in risk tier receiving longitudinal care management	34.9	33.0	30.0	36.8	36.9	37.5	36.4
N	2,611	1,192	621	571	1,419	558	861
Tier 2							
Median percentage of empaneled patients in risk tier	10.0	11.0	11.4	10.3	9.6	9.9	9.3
Median percentage of patients in risk tier receiving longitudinal care management	9.5	8.2	7.8	8.9	10.3	10.1	10.4
N	2,699	1,226	638	588	1443	571	872
Tier 3							
Median percentage of empaneled patients in risk tier	41.7	41.4	45.7	37.3	41.9	59.5	35.0
Median percentage of patients in risk tier receiving longitudinal care management	1.3	1.1	1.0	1.5	1.5	1.3	1.6
N	2,613	1,220	637	583	1,393	539	854
Tier 4+							
Median percentage of empaneled patients in risk tier	59.1	59.5	57.1	62.1	59.0	55.0	59.5
Median percentage of patients in risk tier receiving longitudinal care management	0.2	0.2	0.0	0.3	0.3	0.1	0.3
N	1,572	685	333	352	887	306	581

Source: Mathematica's analysis of 2019 (Quarter 4) care delivery reporting data submitted by practices to CMS via the CPC+ Practice Portal.

Note: Practices are only included in each calculation if they have at least one patient in that risk tier. A small number of practices indicated they had no patients in a particular risk tier; they are excluded here, since it is not possible to calculate the percentage of patients in that risk tier receiving longitudinal care management.

SSP = Medicare Shared Savings Program.

Table 4.A.2.4.1. Targeted care management: Identifying hospitals and emergency departments your patients use, Program Year 3 (2017 Starters)

		Track 1			Track 2		
	Overall	Total	SSP	Non-SSP	Total	SSP	Non-SSP
Percentage of hospital discharges with follow-up within 72 hours or 2 business days							
Median	89%	90%	89%	91%	88%	85%	90%
N	2,672	1,228	639	589	1,444	570	874
Percentage of ED discharges with follow-up within one week							
Median	90%	90%	89%	91%	89%	84%	92%
N	2,668	1,227	639	588	1,441	567	874

Source: Mathematica's analysis of 2018 practice-reported care delivery data submitted to CMS.

Note: Mathematica calculated hospital and ED follow-up rates as the practice's overall number of follow-ups divided by the practice's overall number of discharges for up to three target hospitals and EDs, respectively.

ED = emergency department; SSP = Medicare Shared Savings Program.

Table 4.A.3.1. Comprehensiveness and coordination: Coordinated referral managements, Program Year 3 (2017 Starters)

		Track 1			Track 2		
	Overall	Total	SSP	Non-SSP	Total	SSP	Non-SSP
Over the past two quarters, we have ensured coordinated referral management with the following high-frequency referral and/or high-cost specialty care (select all that apply)							
We do not ensure coordinated referral management with high-frequency referral and/or high-cost specialty care.	<1%	2%	1%	2%	<1%	<1%	<1%
Cardiology	70%	69%	69%	69%	72%	76%	69%
Gastroenterology	54%	50%	46%	54%	58%	62%	56%
Endocrinology	44%	41%	43%	39%	47%	62%	37%
Ophthalmology	43%	45%	44%	45%	42%	43%	41%
Orthopedic surgery	41%	39%	38%	40%	43%	46%	41%
Surgery	39%	37%	41%	33%	40%	50%	33%
Obstetrics/gynecology	38%	35%	35%	35%	40%	44%	37%
Oncology/hematology	34%	35%	39%	31%	33%	41%	28%
Other	59%	57%	52%	63%	61%	61%	61%
N	2,674	1,229	639	590	1,445	571	874
Tool(s) used to ensure coordinated referral management with cardiology							
Collaborative agreement	76%	71%	72%	71%	80%	83%	78%
E-consult arrangement	16%	15%	16%	15%	16%	20%	14%
Other	16%	21%	21%	22%	12%	4%	18%
N	1,885	848	443	405	1,037	434	603
Tool(s) used to ensure coordinated referral management with endocrinology							
Collaborative agreement	69%	65%	62%	68%	73%	83%	62%
E-consult arrangement	25%	25%	25%	27%	24%	21%	27%
Other	20%	22%	24%	20%	18%	10%	27%
N	1,182	502	272	230	680	355	325
Tool(s) used to ensure coordinated referral management with gastroenterology							
Collaborative agreement	70%	69%	68%	69%	71%	74%	69%
E-consult arrangement	19%	18%	19%	17%	20%	21%	19%
Other	20%	22%	20%	24%	19%	12%	24%
N	1,452	612	294	318	840	352	488

Table 4.A.3.1 ***(continued)***

		Track 1			Track 2		
	Overall	Total	SSP	Non-SSP	Total	SSP	Non-SSP
Tool(s) used to ensure coordinated referral management with obstetrics/gynecology							
Collaborative agreement	65%	66%	61%	72%	65%	70%	60%
E-consult arrangement	22%	22%	26%	17%	22%	22%	22%
Other	21%	24%	22%	25%	19%	11%	25%
N	1,005	427	223	204	578	253	325
Tool(s) used to ensure coordinated referral management with oncology/hematology							
Collaborative agreement	66%	57%	60%	51%	75%	90%	61%
E-consult arrangement	21%	24%	24%	23%	19%	9%	28%
Other	23%	30%	26%	35%	17%	6%	28%
N	913	430	247	183	483	236	247
Tool(s) used to ensure coordinated referral management with ophthalmology							
Collaborative agreement	76%	76%	83%	67%	76%	90%	67%
E-consult arrangement	14%	14%	13%	15%	13%	3%	20%
Other	20%	18%	12%	24%	22%	16%	27%
N	1,152	547	284	263	605	243	362
Tool(s) used to ensure coordinated referral management with orthopedic surgery							
Collaborative agreement	70%	63%	61%	64%	75%	82%	70%
E-consult arrangement	18%	17%	17%	17%	18%	16%	19%
Other	24%	33%	34%	32%	17%	6%	25%
N	1,099	478	243	235	621	261	360
Tool(s) used to ensure coordinated referral management with surgery							
Collaborative agreement	62%	58%	58%	59%	66%	78%	53%
E-consult arrangement	22%	24%	25%	23%	19%	11%	27%
Other	28%	30%	28%	34%	25%	16%	35%
N	1,032	455	259	196	577	288	289

Source: Mathematica's analysis of 2019 (Quarter 4) care delivery reporting data submitted by practices to CMS via the CPC+ Practice Portal.
SSP = Medicare Shared Savings Program.

Table 4.A.3.3. Comprehensiveness and coordination: Comprehensive medication management, Program Year 3 (2017 Starters)

		Track 1			Track 2		
	Overall	Total	SSP	Non-SSP	Total	SSP	Non-SSP
Which of the following steps has your practice achieved to implement comprehensive medication management (CMM)? (Select all that apply)							
We have not taken any of these steps yet	17%	36%	38%	34%	1%	<1%	2%
Established a plan for identifying patients with CMM needs	70%	48%	48%	48%	89%	88%	89%
Identified and/or hired personnel for CMM	61%	35%	37%	33%	82%	86%	80%
Trained staff as necessary	65%	42%	37%	48%	85%	88%	82%
Developed workflows and processes	66%	41%	38%	45%	88%	90%	86%
Used measures to monitor and refine CMM	31%	17%	13%	21%	43%	48%	39%
N	2,674	1,229	639	590	1,445	571	874
Count of the above steps your practice achieved to implement comprehensive medication management (CMM)?							
0	17%	36%	38%	34%	1%	<1%	2%
1	11%	15%	16%	15%	7%	4%	8%
2	10%	12%	13%	10%	9%	13%	6%
3	10%	11%	8%	14%	10%	4%	14%
4	27%	17%	17%	17%	35%	31%	38%
5	25%	9%	8%	10%	38%	47%	33%
N	17%	36%	38%	34%	1%	<1%	2%
In the last two quarters, how many patients who were under care management and/or in transitions of care received comprehensive medication management at your practice?							
None	4%	10%	18%	2%	<1%	<1%	1%
Some	65%	55%	47%	64%	71%	71%	71%
Most	23%	24%	25%	24%	23%	24%	22%
All	7%	10%	10%	11%	6%	5%	6%
N	2,208	781	394	387	1,427	567	860

Table 4.A.3.3 *(continued)*

	Overall	Track 1			Track 2		
		Total	SSP	Non-SSP	Total	SSP	Non-SSP
How does your practice deliver comprehensive medication management?							
Coordination with an external pharmacist, program, or service not located at our practice	21%	16%	20%	11%	24%	27%	22%
Co-management with a pharmacist, program, or service located at our practice	40%	28%	23%	33%	46%	42%	49%
Primary care practitioners from our practice primarily deliver comprehensive medication management	39%	57%	57%	56%	30%	32%	29%
N	2,208	781	394	387	1,427	567	860

Source: Mathematica's analysis of 2019 (Quarter 4) care delivery reporting data submitted by practices to CMS via the CPC+ Practice Portal.

Note: Mathematica constructed the count variable as a sum of the number of steps taken to implement comprehensive medication management.

SSP = Medicare Shared Savings Program.

Table 4.A.3.4. Comprehensiveness and coordination: Behavioral health integration, Program Year 3 (2017 Starters)

	Overall	Track 1			Track 2		
		Total	SSP	Non-SSP	Total	SSP	Non-SSP
What is your practice's strategy for addressing behavioral health needs? If you have or planned to integrate one or two of the behavioral health models listed below, please select the option(s) that apply. (Select all that apply)							
We are not integrating behavioral health needs at our practice	1%	2%	2%	1%	<1%	0%	<1%
Behavioral health integration with Care Management for Mental Illness	44%	56%	55%	57%	34%	29%	37%
Behavioral health integration with the Primary Care Behaviorist model	60%	48%	47%	49%	71%	75%	68%
N	2,674	1,229	639	590	1,445	571	874
Care Management for Mental Illness (Option 1) – Which of the following steps has your practice achieved to integrate behavioral health?							
We have not taken any of these steps yet	<1%	<1%	<1%	0%	0%	0%	0%
Established a plan for identifying patients with behavioral health needs	91%	89%	90%	88%	95%	93%	96%
Identified and/or hired personnel	75%	72%	78%	66%	78%	84%	76%
Trained staff as necessary	78%	75%	78%	73%	83%	87%	81%
Developed workflows and processes	85%	80%	85%	76%	93%	93%	93%
Used measures to monitor and refine care management for patients with mental health disorders	36%	33%	34%	32%	40%	47%	36%
N	1,176	689	352	337	487	163	324
Care Management for Mental Illness (Option 1) – How many of the above steps has your practice achieved to integrate behavioral health?							
0	<1%	<1%	<1%	0%	0%	0%	0%
1	6%	9%	8%	10%	2%	<1%	3%
2	11%	13%	8%	19%	7%	10%	5%
3	20%	18%	18%	18%	23%	15%	27%
4	36%	36%	41%	31%	36%	33%	38%
5	27%	23%	24%	21%	32%	42%	27%
N	1,176	689	352	337	487	163	324

Table 4.A.3.4 *(continued)*

	Overall	Track 1			Track 2		
		Total	SSP	Non-SSP	Total	SSP	Non-SSP
Care Management for Mental Illness (Option 1) – In the last two quarters, of your patients with identified behavioral health needs, estimate how many received behavioral health care management at your practice.							
None	3%	4%	3%	6%	2%	4%	<1%
Some	74%	73%	72%	73%	75%	67%	79%
Most	21%	20%	21%	20%	21%	26%	19%
All	2%	3%	4%	2%	2%	2%	2%
N	1,176	689	352	337	487	163	324
Primary Care Behaviorist model (Option 2) – Which of the following steps has your practice achieved to integrate behavioral health?							
We have not taken any of these steps yet	<1%	<1%	<1%	<1%	<1%	0%	<1%
Established a plan for identifying patients with behavioral health needs	93%	92%	96%	88%	94%	94%	95%
Identified and/or hired personnel	88%	82%	83%	80%	92%	90%	93%
Trained staff as necessary	81%	74%	70%	77%	85%	89%	83%
Developed workflows and processes	88%	83%	82%	85%	91%	87%	93%
Used measures to monitor and refine Primary Care Behaviorist model	43%	32%	31%	32%	50%	62%	41%
N	1,613	593	301	292	1,020	428	592
Primary Care Behaviorist model (Option 2) – How many of the above steps has your practice achieved to integrate behavioral health?							
0	<1%	<1%	<1%	<1%	<1%	0%	<1%
1	6%	7%	5%	9%	5%	7%	3%
2	6%	12%	13%	11%	3%	1%	4%
3	15%	17%	18%	16%	13%	13%	14%
4	35%	38%	38%	38%	33%	23%	40%
5	39%	26%	25%	27%	46%	56%	38%
N	1,613	593	301	292	1,020	428	592
Primary Care Behaviorist model (Option 2) – In the last two quarters, of your patients with identified behavioral health needs, estimate how many were seen by a primary care behaviorist at your practice.							
None	7%	12%	12%	11%	5%	7%	3%
Some	61%	64%	67%	62%	58%	53%	62%
Most	30%	22%	20%	25%	34%	39%	31%
All	2%	2%	2%	2%	3%	1%	4%
N	1,613	593	301	292	1,020	428	592

Table 4.A.3.4 *(continued)*

	Overall	Track 1			Track 2		
		Total	SSP	Non-SSP	Total	SSP	Non-SSP
What mental health conditions are you targeting with your behavioral health strategy?							
Depressive disorders	91%	89%	91%	86%	92%	92%	92%
Anxiety disorders	80%	76%	79%	74%	83%	85%	82%
Co-existing mental health and physical chronic conditions	60%	57%	67%	46%	62%	68%	58%
High-risk behaviors (e.g., tobacco use, obesity, medication adherence)	58%	59%	61%	56%	58%	67%	53%
Substance use disorders: Type	43%	33%	28%	39%	51%	64%	43%
Chronic pain	36%	30%	29%	32%	42%	47%	38%
Insomnia	31%	26%	24%	28%	36%	51%	26%
Alzheimer's disease and related dementias	28%	24%	24%	24%	31%	34%	28%
Other	8%	9%	6%	13%	7%	8%	7%
We do not target specific mental health conditions	3%	4%	4%	3%	2%	3%	2%
N	2,644	1,207	624	583	1,437	571	866
What mental health conditions are you targeting with your behavioral health strategy? - Substance use disorders: Type							
Opioid	87%	86%	94%	79%	87%	88%	87%
Alcohol	85%	86%	80%	89%	85%	76%	93%
Tobacco	78%	78%	73%	82%	78%	73%	82%
Other	3%	2%	3%	2%	3%	<1%	5%
N	1,137	401	173	228	736	365	371

Source: Mathematica's analysis of 2019 (Quarter 4) care delivery reporting data submitted by practices to CMS via the CPC+ Practice Portal.

Note: Mathematica constructed the count variables as a sum of the number of steps taken to implement behavioral health integration.

SSP = Medicare Shared Savings Program.

Table 4.A.3.5. Comprehensiveness and coordination: Linkages with social services, Program Year 3 (2017 Starters)

		Track 1			Track 2		
	Overall	Total	SSP	Non-SSP	Total	SSP	Non-SSP
Do you routinely screen your patients for health-related social needs?							
We do not screen patients for health-related social needs	6%	14%	12%	16%	<1%	0%	<1%
We screen a targeted subpopulation of patients for health-related social needs	51%	46%	45%	47%	55%	53%	56%
We universally screen all patients for health-related social needs	43%	40%	44%	36%	45%	47%	43%
N	2,674	1,229	639	590	1,445	571	874
What type of screening tool(s) do you use or adapt to capture health-related social needs in your patient population? (Select all that apply)							
We do not use any screening tools	2%	4%	5%	3%	<1%	<1%	<1%
Standardized screening tool (e.g., screening tools published by HealthLeads, IOM/NAM, Accountable Health Communities)	41%	36%	34%	39%	45%	47%	43%
Tool developed by practice or system	57%	56%	58%	54%	57%	63%	53%
Other	16%	19%	21%	17%	14%	11%	16%
N	2,503	1,060	565	495	1,443	571	872
Are screening tools or questions integrated with your EHR or health IT system?							
Yes	88%	84%	86%	81%	91%	91%	91%
No	12%	16%	14%	19%	9%	9%	9%
N	2,461	1,021	539	482	1,440	570	870

Table 4.A.3.5 *(continued)*

	Overall	Track 1			Track 2		
		Total	SSP	Non-SSP	Total	SSP	Non-SSP
What are the health-related social needs your practice has prioritized to address in your patient population? (Select all that apply)							
We have not prioritized any social needs to address in our patient population	8%	17%	14%	21%	<1%	<1%	<1%
Transportation	80%	72%	73%	72%	86%	82%	89%
Food insecurity	74%	64%	67%	61%	83%	90%	78%
Safety	68%	58%	58%	57%	76%	78%	75%
Housing instability	59%	50%	50%	51%	66%	71%	64%
Financial resource strain	59%	52%	58%	45%	66%	71%	62%
Utility needs	57%	51%	52%	50%	63%	69%	59%
Social isolation	49%	44%	50%	37%	54%	63%	48%
Employment	28%	28%	31%	24%	29%	30%	28%
Other	12%	9%	10%	7%	15%	14%	15%
N	2,674	1,229	639	590	1,445	571	874
If a health-related social need: Do you have an established, ongoing relationship with social resources to address food insecurity?							
Yes	90%	86%	85%	88%	92%	96%	89%
No	10%	14%	15%	12%	8%	4%	11%
N	1,983	789	430	359	1,194	513	681
If a health-related social need: Do you have an established, ongoing relationship with social resources to address housing instability?							
Yes	87%	83%	84%	83%	89%	91%	88%
No	13%	17%	16%	17%	11%	9%	12%
N	1,580	620	318	302	960	403	557
If a health-related social need: Do you have an established, ongoing relationship with social resources to address utility needs?							
Yes	89%	88%	86%	89%	89%	93%	87%
No	11%	12%	14%	11%	11%	7%	13%
N	1,532	625	330	295	907	394	513
If a health-related social need: Do you have an established, ongoing relationship with social resources to address financial needs?							
Yes	85%	81%	79%	83%	88%	90%	86%
No	15%	19%	21%	17%	12%	10%	14%
N	1,582	634	368	266	948	405	543

Table 4.A.3.5 *(continued)*

	Overall	Track 1			Track 2		
		Total	SSP	Non-SSP	Total	SSP	Non-SSP
If a health-related social need: Do you have an established, ongoing relationship with social resources to address transportation?							
Yes	90%	87%	83%	90%	93%	96%	91%
No	10%	13%	17%	10%	7%	4%	9%
N	2,135	890	464	426	1,245	471	774
If a health-related social need: Do you have an established, ongoing relationship with social resources to address employment needs?							
Yes	85%	79%	83%	73%	90%	94%	88%
No	15%	21%	17%	27%	10%	6%	12%
N	754	338	197	141	416	172	244
If a health-related social need: Do you have an established, ongoing relationship with social resources to address social isolation?							
Yes	88%	87%	88%	84%	88%	88%	89%
No	12%	13%	12%	16%	12%	12%	11%
N	1,317	538	320	218	779	361	418
If a health-related social need: Do you have an established, ongoing relationship with social resources to address safety?							
Yes	91%	88%	90%	86%	92%	97%	89%
No	9%	12%	10%	14%	8%	3%	11%
N	1,807	708	373	335	1,099	443	656
Do you have an inventory of social service resources integrated with your EHR or health IT system?							
No, we do not maintain an inventory of social services resources	2%	4%	3%	6%	<1%	1%	<1%
No, we have an inventory of social service resources, but it is not integrated with our EHR or health IT system	68%	72%	72%	72%	64%	71%	59%
Yes, we have an inventory integrated with our EHR or health IT system	30%	24%	25%	22%	36%	28%	41%
N	2,674	1,229	639	590	1,445	571	874

Source: Mathematica's analysis of 2019 (Quarter 4) care delivery reporting data submitted by practices to CMS via the CPC+ Practice Portal.

EHR = electronic health record; SSP = Medicare Shared Savings Program.quation

Table 4.A.3.6. Comprehensiveness and coordination: Comprehensiveness, Program Year 3 (2017 Starters)

		Track 1			Track 2		
	Overall	Total	SSP	Non-SSP	Total	SSP	Non-SSP
As part of your practice's work to increase comprehensiveness, what is/are the complex need(s) your practice is developing capabilities to address? (Select all that apply)							
We are not developing capabilities to increase comprehensiveness	4%	7%	8%	6%	<1%	<1%	1%
End of life or palliative care	63%	55%	63%	47%	70%	80%	63%
Chronic pain	41%	43%	41%	44%	39%	39%	38%
Substance use disorders	38%	37%	34%	39%	39%	46%	35%
Co-existing chronic conditions	61%	60%	59%	61%	62%	73%	55%
High-acuity chronic conditions, please specify	48%	46%	46%	45%	50%	51%	50%
Alzheimer's disease and related dementias	28%	25%	29%	21%	31%	39%	25%
Frailty	18%	20%	21%	18%	17%	20%	15%
Other	15%	16%	18%	13%	14%	11%	16%
N	2,674	1,229	639	590	1,445	571	874

Source: Mathematica's analysis of 2019 (Quarter 4) care delivery reporting data submitted by practices to CMS via the CPC+ Practice Portal.

SSP = Medicare Shared Savings Program.

Table 4.A.4.1. Patient and caregiver engagement: Engaging patients and caregivers in your practice, Program Year 3 (2017 Starters)

		Track 1			Track 2		
	Overall	Total	SSP	Non-SSP	Total	SSP	Non-SSP
Tell us how frequently your practice engages patients and caregivers in care and improvement activities							
Never	<1%	0%	0%	0%	<1%	0%	<1%
Rarely	2%	2%	2%	3%	2%	1%	2%
Sometimes	41%	40%	40%	39%	43%	46%	41%
Often	43%	46%	44%	49%	41%	41%	41%
Always	13%	12%	14%	9%	15%	13%	16%
N	2,674	1,229	639	590	1,445	571	874
Which of the following steps has your practice achieved to implement and integrate the PFAC? (Select all that apply)							
We have not taken any of these steps	<1%	<1%	<1%	<1%	<1%	0%	<1%
Identified staff participants	97%	97%	97%	97%	98%	98%	97%
Recruited patient participants	98%	97%	98%	97%	98%	99%	97%
Defined mission and vision of PFAC	94%	94%	95%	92%	95%	94%	95%
Determined structure of the PFAC (e.g., number of patients or family advisors, frequency of meetings, term lengths, and other meeting logistics)	96%	95%	95%	94%	97%	98%	97%
Incorporated PFAC recommendations into practice	91%	87%	86%	88%	94%	95%	94%
Communicated PFAC recommendations to patients and staff	86%	81%	84%	78%	91%	91%	91%
Developed a sustainability plan for the PFAC	68%	66%	69%	64%	69%	72%	67%
N	2,674	1,229	639	590	1,445	571	874
Identify the number of meetings held by your practice's PFAC in the last two quarters							
Median	2	1	2	2	1	2	2
N	2,674	1,229	639	590	1,445	571	874

Source: Mathematica's analysis of 2019 (Quarter 4) care delivery reporting data submitted by practices to CMS via the CPC+ Practice Portal.

PFAC = Patient and Family Advisory Council; SSP = Medicare Shared Savings Program.

Table 4.A.4.2. Patient and caregiver engagement: Advance care planning, Program Year 3 (2017 Starters)

	Overall	Track 1			Track 2		
		Total	SSP	Non-SSP	Total	SSP	Non-SSP
Which of the following steps has your practice achieved to implement advance care planning (ACP)? (Select all that apply)							
We have not taken any of these steps yet	5%	10%	6%	14%	<1%	0%	<1%
Established a plan for identifying patients with ACP needs	81%	71%	77%	65%	89%	88%	90%
Identified personnel for ACP	75%	63%	70%	56%	85%	88%	83%
Trained staff as necessary	70%	58%	64%	51%	80%	79%	81%
Developed workflows and processes	68%	55%	64%	46%	79%	85%	75%
N	2,674	1,229	639	590	1,445	571	874
How many of the above steps has your practice achieved to implement advance care planning (ACP)?							
0	5%	10%	6%	14%	<1%	0%	<1%
1	14%	21%	17%	25%	9%	6%	10%
2	14%	17%	15%	18%	12%	16%	9%
3	17%	18%	20%	15%	16%	9%	20%
4	50%	35%	42%	27%	64%	69%	60%
N	5%	10%	6%	14%	<1%	0%	<1%
How does your practice identify patients for advance care planning? (Select all that apply)							
We do not systematically identify patients for advance care planning	1%	3%	3%	3%	<1%	0%	<1%
High-risk status (using the practice's two-step risk stratification methodology)	47%	44%	49%	38%	50%	54%	48%
Patients with serious illness and/or based on age (e.g., cancer diagnosis, end-stage kidney disease, heart failure, COPD)	75%	70%	70%	70%	79%	80%	78%
Clinician or care team referral/identification	75%	74%	76%	72%	75%	82%	71%
Other	30%	30%	35%	25%	30%	31%	30%
N	2,548	1,109	599	510	1,439	571	868

Table 4.A.4.2 *(continued)*

	Overall	Track 1			Track 2		
		Total	SSP	Non-SSP	Total	SSP	Non-SSP
What system(s) do you use to document and store advance care planning conversations and decisions? (Select all that apply)							
We do not document and store advance care planning conversations and decisions	<1%	<1%	1%	0%	<1%	0%	<1%
EHR or other health IT	99%	99%	98%	100%	99%	100%	99%
A local or regional Health Information Exchange	4%	3%	2%	5%	4%	2%	6%
Patient portal/patient health record	16%	20%	24%	16%	13%	12%	13%
Other	2%	2%	2%	3%	2%	2%	2%
N	2,548	1,109	599	510	1,439	571	868

Source: Mathematica's analysis of 2019 (Quarter 4) care delivery reporting data submitted by practices to CMS via the CPC+ Practice Portal.

Note: Mathematica constructed the count variables as a sum of the number of steps taken to implement advanced care planning.

EHR = electronic health record; SSP = Medicare Shared Savings Program.

Table 4.A.5.1. Planned care and population health: Team-based care, Program Year 3 (2017 Starters)

		Track 1			Track 2		
	Overall	Total	SSP	Non-SSP	Total	SSP	Non-SSP
How often do care teams at your practice have structured huddles focused on patient care?							
Never	<1%	1%	2%	<1%	<1%	<1%	<1%
Only as needed or ad hoc	13%	19%	21%	18%	7%	6%	8%
At least daily	51%	48%	51%	45%	53%	49%	56%
At least weekly	29%	22%	17%	28%	34%	42%	30%
At least every 2 weeks	2%	2%	1%	3%	3%	1%	4%
At least monthly	5%	7%	8%	7%	3%	2%	3%
N	2,674	1,229	639	590	1,445	571	874
How often do care teams at your practice have scheduled care team meetings to discuss high-risk patients and planned care?							
Never	<1%	1%	2%	<1%	<1%	<1%	<1%
Only as needed or ad hoc	27%	35%	31%	39%	21%	15%	25%
At least daily	13%	14%	18%	10%	12%	18%	8%
At least weekly	34%	27%	23%	31%	40%	43%	39%
At least every 2 weeks	6%	5%	4%	6%	7%	3%	9%
At least monthly	19%	18%	21%	15%	20%	21%	19%
N	2,674	1,229	639	590	1,445	571	874
How often do care teams at your practice meet and review quality improvement data (e.g., data on quality, cost, utilization, and patient experience of care)?							
Never	<1%	<1%	<1%	0%	<1%	0%	<1%
Only as needed or ad hoc	4%	6%	4%	9%	2%	1%	3%
At least weekly	24%	15%	10%	21%	31%	24%	36%
At least monthly	55%	58%	72%	44%	53%	62%	46%
At least quarterly	15%	17%	14%	21%	13%	12%	13%
At least annually	2%	3%	<1%	6%	1%	<1%	1%
N	2,674	1,229	639	590	1,445	571	874

Source: Mathematica's analysis of 2019 (Quarter 4) care delivery reporting data submitted by practices to CMS via the CPC+ Practice Portal.

SSP = Medicare Shared Savings Program.

Table 4.A.5.2. Planned care and population health: Use of data to plan care, Program Year 3 (2017 Starters)

		Track 1			Track 2		
	Overall	Total	SSP	Non-SSP	Total	SSP	Non-SSP
Tell us what types of data on quality, utilization, patient experience, and other measures your practice regularly uses to improve delivery of care and achieve your CPC+ aims.							
Electronic clinical quality measures (eCQMs)	98%	97%	99%	95%	99%	98%	99%
Patient experience data (e.g., CAHPS or other surveys)	93%	92%	92%	91%	94%	94%	94%
Claims data feedback from CMS (CPC+ data feedback tool)	90%	88%	89%	86%	93%	97%	89%
Claims data feedback from other payers	80%	79%	83%	73%	81%	87%	77%
Performance-Based Incentive Payments report (PBIP)	61%	53%	36%	72%	67%	36%	87%
ACO/IPA/System analytics	57%	57%	81%	32%	56%	80%	40%
Multi-payer data from Health Information Exchange (HIE), all payer claims databases (APCD), or other data aggregator	39%	36%	39%	33%	41%	40%	41%
Patient Reported Outcome Measures (PROMS)	28%	30%	36%	24%	26%	26%	26%
We do not use data in quality improvement work at our practice	<1%	<1%	<1%	0%	0%	0%	0%
N	2,674	1,229	639	590	1,445	571	874
How helpful are electronic clinical quality measures (eCQMs) in quality improvement work at your practice? (Rate from 1-5, with 5 being the most helpful and 1 being not helpful at all)							
1 – Not helpful at all	5%	2%	2%	2%	7%	10%	5%
2	3%	3%	3%	2%	3%	4%	2%
3	12%	13%	13%	12%	11%	15%	8%
4	25%	27%	27%	27%	23%	22%	24%
5 – Most helpful	56%	56%	55%	57%	56%	49%	61%
N	2,621	1,192	631	561	1,429	562	867

Table 4.A.5.2 *(continued)*

	Overall	Track 1			Track 2		
		Total	SSP	Non-SSP	Total	SSP	Non-SSP
How helpful is claims data feedback from CMS (CPC+ data feedback tool) in quality improvement work at your practice? (Rate from 1-5, with 5 being the most helpful and 1 being not helpful at all)							
1 – Not helpful at all	4%	4%	3%	4%	4%	2%	6%
2	19%	13%	16%	10%	23%	29%	19%
3	32%	38%	35%	40%	27%	27%	27%
4	27%	25%	24%	26%	28%	27%	29%
5 – Most helpful	19%	21%	22%	20%	17%	15%	18%
N	2,413	1,076	567	509	1,337	556	781
How helpful is claims data feedback from other payers in quality improvement work at your practice? (Rate from 1-5, with 5 being the most helpful and 1 being not helpful at all)							
1 – Not helpful at all	3%	5%	4%	6%	2%	<1%	3%
2	12%	11%	6%	17%	13%	11%	15%
3	36%	39%	42%	35%	34%	28%	39%
4	29%	25%	27%	24%	32%	39%	26%
5 – Most helpful	19%	20%	21%	19%	19%	22%	16%
N	2,133	965	532	433	1,168	494	674
How helpful is multi-payer data from Health Information Exchange (HIE), all payer claims databases (APCD), or other data aggregator in quality improvement work at your practice? (Rate from 1-5, with 5 being the most helpful and 1 being not helpful at all)							
1 – Not helpful at all	12%	13%	12%	14%	11%	1%	17%
2	13%	13%	14%	12%	14%	5%	20%
3	24%	21%	25%	16%	26%	34%	20%
4	23%	29%	29%	29%	19%	8%	25%
5 – Most helpful	28%	24%	20%	28%	31%	52%	17%
N	1,034	445	251	194	589	231	358
How helpful are Patient Reported Outcome Measures (PROMS) in quality improvement work at your practice? (Rate from 1-5, with 5 being the most helpful and 1 being not helpful at all)							
1 – Not helpful at all	5%	6%	5%	8%	4%	4%	4%
2	11%	7%	7%	8%	15%	31%	5%
3	28%	35%	38%	31%	21%	19%	23%
4	29%	24%	21%	28%	35%	7%	54%
5 – Most helpful	26%	28%	29%	26%	25%	40%	15%
N	752	374	230	144	378	150	228

Table 4.A.5.2 *(continued)*

	Overall	Track 1			Track 2		
		Total	SSP	Non-SSP	Total	SSP	Non-SSP
How helpful is patient experience data (e.g., CAHPS or other surveys) in quality improvement work at your practice? (Rate from 1-5, with 5 being the most helpful and 1 being not helpful at all)							
1 – Not helpful at all	2%	2%	3%	2%	2%	<1%	2%
2	5%	5%	4%	7%	5%	4%	5%
3	22%	24%	26%	22%	21%	16%	24%
4	34%	32%	29%	36%	35%	32%	37%
5 – Most helpful	37%	36%	38%	34%	38%	47%	32%
N	2,487	1,126	591	535	1,361	537	824
How helpful is Performance-Based Incentive Report (PBIP) in quality improvement work at your practice? (Rate from 1-5, with 5 being the most helpful and 1 being not helpful at all)							
1 – Not helpful at all	7%	7%	14%	3%	8%	22%	4%
2	13%	11%	15%	9%	15%	17%	15%
3	30%	29%	17%	36%	30%	22%	33%
4	29%	31%	37%	28%	27%	31%	26%
5 – Most helpful	21%	22%	17%	25%	20%	8%	23%
N	1,622	655	233	422	967	206	761
How helpful are ACO/IPA/System analytics in quality improvement work at your practice? (Rate from 1-5, with 5 being the most helpful and 1 being not helpful at all)							
1 – Not helpful at all	6%	6%	4%	12%	6%	4%	8%
2	7%	5%	5%	4%	9%	8%	10%
3	20%	24%	23%	26%	16%	14%	19%
4	31%	30%	32%	24%	33%	39%	24%
5 – Most helpful	36%	35%	36%	34%	37%	34%	40%
N	1,513	706	520	186	807	454	353

Source: Mathematica's analysis of 2019 (Quarter 4) care delivery reporting data submitted by practices to CMS via the CPC+ Practice Portal.

SSP = Medicare Shared Savings Program.

Table 4.A.5.3. Planned care and population health: Continuous quality improvement, Program Year 3 (2017 Starters)

Question	Overall	Track 1			Track 2		
		Total	SSP	Non-SSP	Total	SSP	Non-SSP
Identify the CPC+ measures on which your practice focused its quality improvement efforts during the past two quarters. (Select all that apply)							
We have not focused quality improvement efforts on any of the CPC+ measures below	<1%	0%	0%	0%	<1%	0%	<1%
Required eCQMs							
Diabetes: Hemoglobin HbA1c Poor Control (>9%)	96%	94%	91%	97%	98%	98%	97%
Controlling High Blood Pressure	95%	94%	93%	95%	96%	97%	95%
Other eCQMs							
Colorectal Cancer Screening	82%	82%	86%	77%	82%	88%	77%
Breast Cancer Screening	79%	78%	81%	74%	80%	87%	76%
Diabetes: Eye Exam	70%	67%	70%	64%	72%	85%	63%
Falls: Screening for Future Falls Risk	59%	60%	64%	56%	59%	64%	56%
Depression Utilization of the PHQ-9 Tool	55%	60%	58%	61%	51%	51%	50%
Preventive Care and Screening: Tobacco Use Screening and Cessation Intervention	54%	53%	52%	55%	54%	63%	49%
Cervical Cancer Screening	54%	50%	49%	52%	57%	64%	52%
Preventive Care and Screening: Influenza Immunization	53%	52%	52%	52%	53%	60%	49%
Diabetes: Medical Attention for Nephropathy	50%	49%	46%	52%	50%	54%	48%
Preventive Care and Screening: Screening for Depression and Follow-Up Plan	50%	52%	51%	53%	49%	47%	50%
Pneumococcal Vaccination Status for Older Adults	50%	50%	49%	51%	49%	56%	44%
Closing the Referral Loop: Receipt of Specialist Report	33%	36%	35%	37%	30%	32%	29%
Statin Therapy for the Prevention and Treatment of Cardiovascular Disease	31%	34%	37%	30%	29%	35%	25%
Dementia: Cognitive Assessment	24%	25%	21%	28%	24%	15%	30%
Use of High-Risk Medications in the Elderly	18%	20%	19%	21%	16%	12%	19%
Ischemic Vascular Disease (IVD): Use of Aspirin or Another Antiplatelet	16%	17%	19%	15%	15%	15%	15%
Initiation and Engagement of Alcohol and Other Drug Dependence Treatment	10%	12%	10%	15%	9%	10%	8%

Table 4.A.5.3 *(continued)*

Question	Overall	Track 1			Track 2		
		Total	SSP	Non-SSP	Total	SSP	Non-SSP
Other eCQMs	4%	6%	8%	3%	2%	4%	1%
Utilization and cost							
ED	92%	92%	91%	92%	92%	92%	93%
Inpatient	85%	86%	88%	85%	85%	89%	82%
Post-acute care	24%	21%	27%	15%	27%	40%	19%
Specialty care	23%	25%	33%	15%	21%	26%	18%
Imaging/labs	20%	21%	27%	13%	20%	25%	16%
Observation stays	16%	16%	16%	16%	15%	13%	17%
Other utilization and cost	7%	7%	8%	5%	8%	14%	3%
Patient experience (CAHPS domains)							
Getting timely appointments, care, and information	80%	76%	78%	73%	83%	87%	80%
How well practitioners communicate with patients	56%	54%	60%	47%	58%	60%	56%
Overall practitioner ratings	55%	57%	60%	53%	54%	60%	50%
Practitioners support patients in taking care of own health	39%	37%	39%	36%	41%	42%	40%
Attention to care from other practitioners	25%	25%	26%	23%	26%	27%	25%
Other patient experience (CAHPS domains)	8%	6%	6%	7%	9%	8%	9%
N	2,674	1,229	639	590	1,445	571	874

Source: Mathematica's analysis of 2019 (Quarter 4) care delivery reporting data submitted by practices to CMS via the CPC+ Practice Portal.

ED = emergency department; eCQM = electronic clinical quality measure; SSP = Medicare Shared Savings Program.

Table 4.A.5.4. Planned care and population health: Culture of improvement at your practice, Program Year 3 (2017 Starters)

		Track 1			Track 2		
	Overall	Total	SSP	Non-SSP	Total	SSP	Non-SSP
Over the last two quarters, who in your practice primarily generated improvement ideas and opportunities?							
Clinical and administrative leadership	88%	86%	90%	82%	89%	87%	91%
Care teams and clinical staff	74%	73%	75%	71%	75%	80%	72%
Designated quality improvement team	58%	56%	64%	49%	60%	63%	58%
Non-clinical staff	44%	45%	48%	41%	44%	41%	46%
Patients/caregivers	44%	46%	46%	45%	42%	39%	44%
Did not occur	<1%	<1%	0%	<1%	<1%	0%	<1%
N	2,674	1,229	639	590	1,445	571	874
Over the last two quarters, who in your practice implemented improvement projects or tests of change?							
Clinical and administrative leadership	77%	76%	78%	75%	77%	72%	80%
Care teams and clinical staff	78%	75%	75%	76%	81%	82%	80%
Designated quality improvement team	56%	53%	59%	47%	58%	62%	55%
Non-clinical staff	45%	42%	40%	44%	47%	53%	43%
Patients/ caregivers	10%	10%	10%	11%	11%	7%	13%
Did not occur	2%	2%	3%	2%	<1%	<1%	1%
N	2,674	1,229	639	590	1,445	571	874
Over the last two quarters, who in your practice had access to practice-level results?							
Clinical and administrative leadership	94%	92%	93%	91%	96%	95%	96%
Care teams and clinical staff	84%	81%	80%	82%	87%	92%	84%
Designated quality improvement team	66%	60%	67%	53%	70%	81%	64%
Non-clinical staff	57%	52%	54%	50%	61%	68%	57%
Patients/ caregivers	16%	17%	15%	19%	15%	16%	14%
Did not occur	<1%	<1%	1%	<1%	<1%	0%	<1%
N	2,674	1,229	639	590	1,445	571	874

Table 4.A.5.4 *(continued)*

	Overall	Track 1			Track 2		
		Total	SSP	Non-SSP	Total	SSP	Non-SSP
Over the last two quarters, who in your practice had access to results identified to the applicable practitioner or care team?							
Clinical and administrative leadership	93%	90%	92%	89%	95%	95%	95%
Care teams and clinical staff	79%	77%	77%	76%	81%	86%	77%
Designated quality improvement team	61%	56%	62%	49%	66%	78%	57%
Non-clinical staff	45%	42%	44%	39%	47%	54%	43%
Patients/ caregivers	7%	9%	8%	10%	5%	6%	5%
Did not occur	1%	2%	3%	1%	<1%	<1%	<1%
N	2,674	1,229	639	590	1,445	571	874

Source: Mathematica's analysis of 2019 (Quarter 4) care delivery reporting data submitted by practices to CMS via the CPC+ Practice Portal.

SSP = Medicare Shared Savings Program.

4.B. In-depth patient study

This Appendix describes findings from in-depth interviews with high risk patients to understand their experiences and perceptions of care management. The appendix is organized into introduction (Section 1), methods (Section 2), results (Section 3), discussion and conclusion (Section 4), interview protocol (Section 5), and segmentation screening tool summary (Section 6).

4.B.1. Introduction

Treating chronic illnesses, such as diabetes, hypertension, asthma, and depression, accounts for a very large share of total U.S. health care spending, perhaps as much as 90% (CDC 2020). The prevalence and cost of treating chronic conditions are prompting policymakers and health care providers to seek care delivery modes that can simultaneously improve health and decrease costs.

Some research indicates that care management holds promise for improving quality of care and health outcomes for chronic conditions and reducing costs (Berkowitz et al. 2018; Hsu et al. 2017; Ciccone et al. 2010; DeJesus et al. 2018; Freund et al. 2016). Care management involves providing more intensive support and care coordination to patients and working with them to manage their medical conditions more effectively (CMS 2018). The care manager, typically a nurse, is an important part of this approach (Bodenheimer and Berry-Millet 2009). Care managers provide patients with self-management support by helping them access illness-specific educational resources, set attainable health goals, and build the confidence and skills necessary to effectively self-manage chronic disease. Care managers also help patients access behavioral health and social support services. Most care management services take place between office visits and during care transitions, thus facilitating patients' ability to manage chronic conditions outside of regular appointments (O'Malley et al. 2017; CMS 2018).

Although care management has potential benefits, questions remain about how patients perceive care management. Understanding patient perceptions is pivotal to ensuring care management can successfully engage patients to manage chronic conditions (O'Malley et al. 2017). However, limited literature explores patients' perceptions of care management. Research by Battersby et al. (2010) and Coulter et al. (2015) indicates that patients generally regard collaborative goal setting as helpful, often resulting in increased self-efficacy. Tinetti et al. (2019) and Hillebregt et al. (2017) found that patients feel best able to engage in collaborative goal setting and other key aspects of care management when they have adequate time with their care team to discuss health conditions and develop care plans. Also, several studies have found that patients who participated in care management for behavioral health experienced benefits, including reductions in symptoms and development of new coping skills (Balasubramanian et al. 2017; Battersby et al. 2010; Coulter et al. 2015; Unützer et al. 2002; Chen et al. 2006).

CPC+ is the largest primary care payment and delivery reform model tested in the U.S. The goals of CPC+ are to increase access to—and improve the quality and efficiency of—primary care, by supporting practices in transforming care with the support of enhanced payments, data feedback, learning support, and health IT support (Peikes et al. 2019). Care management is a key focus of CPC+. As part of ongoing care management in CPC+, CMS highlights practices' critical role in

helping patients with self-management support, including setting health goals. The CPC+ model also encourages practices to help patients to address their more common behavioral health needs and health-related social needs (CMS 2018).

This research on patients' experience of care management in CPC+ helps fill the gaps in research on patients' perceptions of care management and complements data collected for the CPC+ evaluation on practices' perspectives (Peikes et al. 2019; Anglin et al. 2020). Specifically, we interviewed patients from a subset of CPC+ deep-dive practices to investigate several research questions:

1. What were patients' experiences with setting health goals with staff at their practices, and what were patients' perceptions of how well their health goals reflected their values and care preferences?
2. What care management services did patients receive for behavioral health needs?
3. What barriers and facilitators did patients experience related to engaging with the care manager and in care management services to which they were referred?
4. How do patients' experiences differ by their levels of motivation and skills?

4.B.2. Methods

A. Recruitment

We sent email requests to care managers at 28 practices that were part of our deep-dive practice sample, ranging in size and location, asking each to compile a list of the next 15 English-speaking patients with whom they would be in contact. We asked the care managers to provide patient contact information, and information regarding recent hospitalizations and participation in ongoing care management, self-management support, or both. We sent care managers who provided the information an incentive payment of $100. We received patient lists from 14 practices in 10 CPC+ regions; we recruited patients from 12 lists, 1-2 per region.

We recruited patients on a rolling basis, aiming for four patients per region and a diversity of patient and practice characteristics (see Table 4.B.1). We explained the purpose of the interviews and told patients that participation was voluntary and would not affect their insurance coverage or health care, and comments would not be shared with their primary care practice. We offered patients $50 to participate in the interview. For patients who agreed to participate, we sent information about the purpose of the interview before the interview.

Table 4.B.1. Patient recruitment

Group	Number of patients
Total patients on care manager lists	189
Patients attempted to reach by phone (up to 2 attempts)	146
Patients who did not answer phone or return voicemail messages	75
Patients who declined For health reasons (6) For unknown or other reasons (17)	23

Table 4.B.1 ***(continued)***

Group	Number of patients
Patients who did not show up for scheduled interview	6
Interviews aborted (patients unable to respond to questions)	2
Interviews completed	40

Because our research examined a public benefit, the New England Institutional Review Board (NEIRB # WO 1-2641-1) exempted the study. We protected privacy, confidentiality, and anonymity of respondents, including de-identifying interview transcripts before analysis. We also adhered to Declaration of Helsinki (U.S. Department of Health and Human Services 1979) and Belmont Report (World Medical Association 2013) principles when obtaining informed consent.

We met the standards of the Uniform Requirements (International Committee of Medical Journal Editors 2019) in conducting our research and reporting our findings and the SQRQ (O'Brien et al. 2014) and COREQ (Tong et al. 2014) standards for reporting qualitative research. We also met criteria established by *Patient Education and Counseling* regarding designing, conducting, analyzing, and reporting qualitative research (Finset 2008; Salmon 2013; Salmon and Young 2018).

B. Interviews

We conducted telephone interviews with 40 patients from October through December 2019. Each interview lasted approximately one hour. We recorded and transcribed all interviews.

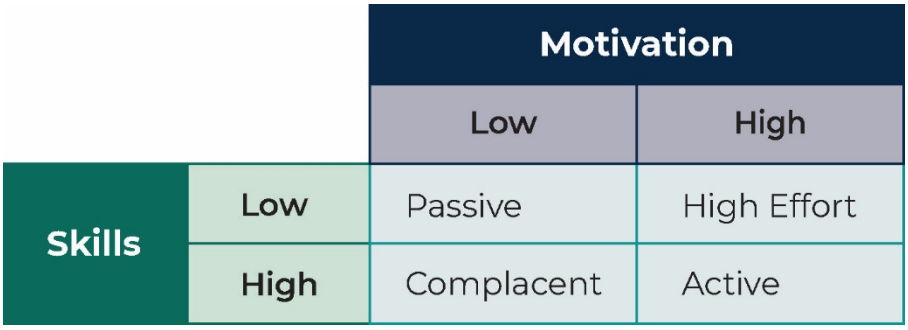
C. Interview topics

We developed a semi-structured interview protocol with questions regarding types of care management services patients were participating in, their perceptions and experiences with care management and goal setting, and the extent to which their goals aligned with their values and care preferences. We pilot tested the protocol with four patients in September 2019 and revised questions for clarity and flow. The final protocol is included in Section 4.B.5.

Key factors relevant for understanding patients' perceptions and experiences with care management are patients' own motivation and decision-making skills. To assess respondents' motivation and skills, we included questions from a revised version of the Segmentation Screening Tool (SST) (Williams and Heller 2007) in our interview protocol. The original version was developed for Medicare beneficiaries; the revised version is appropriate for a broader adult population. We placed patients into segments based on their responses to two questions, one to assess motivation and one to assess skills. Section 4.B.6 describes the SST.

Figure 4.B.1 presents the patient segments generated by the SST by motivation and skill levels. Active patients are skilled and motivated; Passive patients are unskilled and unmotivated; High Effort patients are motivated but unskilled; Complacent patients are skilled but unmotivated.

Figure 4.B.1. Health care decision-making patient segments



D. Coding and analysis

Using the protocol, we created a codebook to capture key themes (Miles et al. 2014; Ryan and Bernard 2003). Interviewers met weekly to discuss emerging themes, refine the codebook, and assess interrater agreement. Five interviewers coded the transcripts using NVivo12 (QSR International; Burlington, Massachusetts). We analyzed coded data to identify subthemes across respondents and tallied the number of patients reporting each subtheme, using quantifiers as shown in Table 4.B.2. We compared these themes across skill and motivation segments.

Table 4.B.2. Quantifiers for analysis

Quantifier	Number of respondents with full sample (40 patients)	Number of respondents with less than full sample
Couple	2	2
Few	3–4	up to 10%
Several	5–16	>10% and ≤ 40%
Approximately half	17–23	41% to 58%
Many	24–30	> 58% and ≤ 75%
Most	31–40	>75%

4.B.3. Results

A. Respondent characteristics

Thirty-two percent of respondents had been hospitalized in the six months prior to the interview. More than half of respondents were enrolled in Medicare fee-for-service, and approximately three-quarters were female (see Table 4.B.3).

Table 4.B.3. Patient characteristics

Characteristic	Frequency (percent)
Total	40 (100)
Hospitalized within six months before interview	13 (32)
Female	31 (78)
Insurance coverage (not mutually exclusive)	
Medicare fee-for-service	24 (60)
Medicare Advantage	6 (15)
Commercial	11 (28)
Medicaid	3 (8)
Length of time with practice (years)	
>10	15 (38)
>5–10	13 (32)
>2–5	8 (20)
1–2	2 (5)
<1	2 (5)
Patients' skill and motivation segments	
Active	7 (18)
Complacent	10 (25)
High effort	11 (28)
Passive	12 (30)
Regions	
Arkansas	4 (10)
Colorado	5 (12)
Greater Philadelphia Region	4 (10)
Hawaii	2 (5)
Kansas	4 (10)
Montana	4 (10)
New Jersey	4 (10)
Ohio & Northern Kentucky	3 (8)
Rhode Island	4 (10)
Tennessee	6 (15)
Practice characteristics	
Independent physician owned	2 (17)
Owned by a hospital or health system	10 (83)

Source: CPC+ in-depth patient interviews conducted with 40 patients of 2017 Starter CPC+ practices October through December 2019 (PY 3).

B. Experiences with goal setting

All patients shared with interviewers at least one specific health goal, and many reported multiple goals. The most common goals were losing weight, increasing exercise, managing diabetes, and increasing or maintaining mobility. Most patients reported that they discussed goals and specific steps for achieving their goals with their primary care practitioner (PCP) or care manager. These steps generally included frequent follow-up calls with the care manager to help patients manage daily aspects of their health (such as monitoring blood sugar levels and dietary

changes) or refer them to activities or interventions (such as physical therapy or home exercises to improve strength or mobility, or using equipment such as a walker to help with mobility). Several patients explained that conversations about goals resulted in referrals to specialists, such as cardiologists, kidney specialists, behavioral health providers, or nutritionists.

While most patients said they discussed goals with practice staff, several patients reported that despite having set a specific health goal, they have not discussed their goal with their PCP or care manager. Reasons for not discussing goals included: they felt that progress toward goals was their sole responsibility and therefore not something to discuss with the care team, they had a different care manager from a health plan or a specialty clinic supporting their progress toward their goals (and thus did not feel the need to mention goals to the primary care practice staff), and it did not occur to them to discuss goals with the care manager or PCP.

Most patients reported that their goals reflect what is important to them, and most explained that they developed their goals based on their own priorities for their health and quality of life. For example, one patient explained that he understands that his goals are connected to staying alive and having a good quality of life:

"I'll end up dying if I don't take insulin at all. So, I just keep my health well, and if I keep eating healthy and working out and taking my insulin, I'll be fine. That's what I'm doing right now."

A few patients explained that they developed goals in response to something the PCP or care manager said to them. For example, one patient described choosing the goal of maintaining even blood sugar levels because the PCP and care manager emphasized it as important.

Most patients reported satisfaction with the process of setting goals with practice staff. However, a few patients reported that they would have liked discussions of goals to have resulted in a different outcome, such as receiving a different medication or more practical help following through on the doctor's recommendations.

C. Experiences with care management for behavioral health needs

Over half of the patients interviewed reported that they were receiving or had received some form of care management for behavioral health needs from their primary care practice—through their care manager, PCP, or a counselor. Several patients explained that the practice actively monitored their behavioral health, checking in regularly at appointments and during phone conversations. One patient expressed that having a PCP check in on the status of their behavioral health is helpful:

"Now that I let them know I'm kind of slightly depressed, they've been a big help. They always ask me, when I'm in there, how things are going…they have me fill out a questionnaire every time I'm in there about what my mental health state is at. That's probably kind of helpful."

Other care management services included practical advice and/or resources on how to manage their behavioral health.

Approximately half of patients receiving behavioral health support reported they were referred by their practice to group therapy or a behavioral health provider, either within the practice or at an external location. Many found services such as support groups or assistance from a referred behavioral health provider to be helpful.

A few patients indicated that they did not experience benefits from the behavioral health services they received. These patients reported difficulty engaging in group therapy or sessions with a behavioral health provider to which they were referred. One patient stated that they only visited their counselor once or twice but found that medication was generally more useful for them in coping with their behavioral health challenges. One patient expressed that group therapy was not particularly useful, and pointed out that they did not feel they had the capacity to listen to or get involved with the problems of other participants.

Of the patients who reported that they do not receive behavioral health services from their practice, the majority felt that they are emotionally stable and do not need behavioral health services. Only a few patients expressed that they needed behavioral health support but have not received it from their practice. They reported feeling that speaking to a counselor or therapist would be helpful but had not expressed the need to their practice.

D. Barriers and facilitators to engaging in care management

D.1. Barriers

Overall, patients identified no barriers to working with the care manager directly, and three main barriers to engaging in care management services they are referred to: (1) financial or transportation challenges, which prevented patients from following through on care managers' referrals to specialty care and support services; (2) patients' time constraints, which prevented them from engaging in recommended supports; and (3) patients' reluctance to engage in care management services.

Financial or transportation challenges to the care manager's referrals: Several patients described financial challenges to getting care their care manager recommended related to achieving their health goals, which hindered their ability to follow through with referrals and recommended care. Most of these patients described struggling to afford co-pays. As a result, they would decline or cancel referrals to specialists that the care manager or PCP recommended. One patient described cancelling appointments with a nutritionist and a psychologist because of being unable to afford the copay; at the time of the interview, the patient had neither rescheduled the appointments nor informed the care manager of the cancellations. This patient explained the care manager was not aware of the patient's financial struggles. A few patients reported that a lack of reliable transportation was a barrier to accessing care or services that they had been referred to, including specialty care or support services.

Time constraints: Several patients described time constraints as a barrier, with most saying it was their time, not the care team's time, that prevented them from engaging in care management services. Time constraints limited these patients' ability to attend diabetes support groups, for example, because of conflicts with work or other commitments. Only one patient mentioned feeling rushed by their PCP or care manager during office visits.

Reluctance: A few patients said their own reluctance to participate was a barrier to engaging in care management services. Patients described a few reasons for their reluctance. In some cases, patients described a lack of motivation to change their health behaviors. In response to a question about the challenges of working with the care manager, one patient explained,

"Only myself because you get resistant having to monitor what you eat and everything. I'm trying… You know I'm just so stubborn, and I just didn't want to. And I'd seen what happens too because diabetes does run in my family."

A few other patients struggled to adjust to the idea of needing assistance via the services referred by the care manager. One patient described thinking of himself as "powerful" and being uncomfortable with the idea of needing help. Similarly, another patient explained that the suggestion to work with the care manager was unsettling, as it forced them to face personal limitations, such as not being "invincible."

D.2. Facilitators

Patients identified three main facilitators to engaging with the care manager (and none to engaging in referred services): (1) accessibility of the care manager, which included having a direct line to reach them and hearing from the care manager back quickly; (2) personality of the care manager, which helped patients feel comfortable; and (3) the care manager's active listening skills, including practical and emotional support.

Accessibility: Many patients said their care manager is easy to reach and quickly resolves issues. Several of these patients indicated their care manager gave them their direct line or cell phone number to facilitate access. Half of the patients who identified facilitators said that their care manager replies quickly when they have a question or concern, often within a few hours or the same day. Patients identified other access-related facilitators, such as being able to get a same-day appointment with the PCP or reach the care manager outside of office hours.

Personality: Several patients identified care manager characteristics that put them at ease and facilitated their engagement with the care manager. For example, patients used the following descriptors: "excellent," "extremely helpful," "encouraging," "resourceful," "consistently pleasant," "very sweet," "friendly," and "showed compassion."

Active listening: Many patients described their care managers as active listeners; that is, they give patients their full attention, respond to patients' questions, and offer emotional support to help patients feel comfortable and confident with problem-solving. About half of patients said the care manager and/or PCP takes the time to listen to them when they have questions and provide some emotional support. Many patients described the care manager as a sounding board or someone who shared a different perspective to help them problem-solve. Several of these patients mentioned how helpful it is to have their care manager regularly check in to ensure they are continuing to manage their health. One said of their care manager's regular check in calls:

"…the weekly calls are very helpful. … I think you have to feel that somebody cares, or at least I do, in order to care for myself."

E. Segmentation analysis

Our analysis of patients' motivation and health care decision-making skills identified several differences across the segments, primarily with regard to motivation, but a few with regard to skills. Understanding these differences across segments can inform how primary care practices tailor their approach to engaging patients in care management. The following findings represent differences in proportions across the segments of at least 20 percentage points for assessments of "more likely" and "less likely."

- Patients in the passive segment (lower motivation and skills) were more likely than those in the active segment (higher motivation and skills) to note that they did not have any preconceived hopes when beginning work with their care manager compared to active and high effort patients; perceptions of patients in the complacent and high effort segments fell between those extremes.
- Patients in the complacent segment (lower motivation) were least likely—and those in the high effort segment (higher motivation) most likely—to call their practice with a question or concern rather than wait for an appointment or phone conversation with their care manager.
- Patients in the active segment (higher skills and motivation) were more likely than those in the passive segment (lower skills and motivation) to initially perceive care management services as helpful; perceptions of patients in the complacent and high effort segments fell between those extremes.
- Patients in the high effort segment (higher motivation) were most likely to have discussed with their care manager steps they can take toward achieving their goals; it's possible that patients in the active segment (higher motivation, but also higher skills) did not require input from their care manager regarding taking steps to achieve goals.
- Patients in the passive and high effort segments (lower skills) were more likely—and those in the active and complacent segments (higher skills) were least likely—to report barriers to engaging with their care manager.

4.B.4. Discussion and conclusion

A. Discussion

Our findings regarding the experiences and perceptions of patients who receive care management offer insight into steps practices can take to engage patients more successfully once they are working with a care manager. Considering that we interviewed selected patients in a subset of practices participating in one initiative, our findings cannot be generalized to all CPC+ practices or all patients receiving care management in primary care practices nationally. Another limitation of the study is that, while many patients reported positive experiences overall in interviews, those who had negative experiences may not have been willing to participate in interviews. In a related vein, although we encouraged care managers to provide contact information for patients along a continuum of engagement, ranging from patients the care manager was contacting for the first time to offer care management services (no engagement) to patients receiving care management services (full engagement), nearly all patients on the lists they provided and all patients whom we interviewed had some level of engagement. Therefore,

another limitation of the study is that our findings regarding barriers and facilitators to engagement may not be applicable to patients who had not engaged at all.

A.1. Goal setting

Our findings contribute some new insights into patients' experiences with goal setting. For example, while we did not find any previous studies reporting patients' perceptions of how their individual values and preferences are reflected in health goals developed with care managers, most patients in our study reported that the goals they set with practice staff reflected their values and preferences for care. Most patients in our study also felt that providers understood what is important to them in the goal-setting process.

A.2. Care management for behavioral health needs

More than half of the patients we interviewed were receiving behavioral health services from their practices, and many found the services, such as support groups or assistance received from a referred behavioral health provider, to be helpful. Our findings are consistent with past literature, which shows benefits of behavioral health services in primary care settings, such as development of new skills to address adverse situations and reductions in depressive symptoms (Balasubramanian et al. 2017; Unützer et al. 2002; and Chen et al. 2006).

A.3. Barriers and facilitators to engaging in care management

Our findings regarding barriers to engagement in care management differ from those of many previous studies. For example, the patients we interviewed said it was their own time constraints—not providers'—that limited their ability to follow through on care management recommendations, which differs from some past research (Hillebregt et al. 2017; Hoskins et al. 2016; Bodenheimer and Handley 2009; McKee et al. 2010; MacGregor et al. 2006). We also found that some patients were reluctant to work with the care managers because they equated it with an unwelcome implication of needing assistance. There is little literature identifying this particular issue as a barrier, but it nevertheless has important implications for care management engagement strategies, specifically the importance of normalizing care management and considering different approaches to how the care manager's role is described to the patient, such as describing the role as a partner and collaborator.

The facilitators patients identified (their care manager's accessibility, personality, and active listening) expand upon some findings in previous studies. Regarding accessibility, patients noted that they appreciated having easy access to care managers, which helped them bypass obstacles that prevent direct contact with the care team. This finding is consistent with a meta-analysis by Battersby et al. (2010), which noted the positive health effects of streamlined and frequent communication between patient and care manager. Many patients we interviewed also said that the care management process is easier and more comfortable when providers take time to listen and understand, findings that are consistent with past research by Hillebregt et al. (2017) and Tinetti et al. (2019).

B. Conclusion

Continued investigation of patients' experiences and engagement with care management is critical. As practices develop, expand, and improve care management activities, patients' perspectives on care management should inform the development of care delivery approaches. The more practices understand the specific needs of patients, and the types of adjustments they can make to serve patients better, the greater the potential for care management to improve care and reduce costs.

More research is needed to understand whether our finding that patients' goals reflect their values and preferences for care holds true for a more generalizable population of practices and high-risk patients in primary care. Also, future research on specific strategies to engage less-motivated patients, especially in taking action steps toward achieving health goals, could be helpful for practices. Given our finding that a few patients with behavioral health needs did not express those needs to practices, research to understand barriers patients face in expressing behavioral health needs to PCPs would also be helpful.

C. Practice implications

Our findings regarding experiences and perceptions of care management among high-risk patients in CPC+ practices suggest several considerations for practices seeking to improve care management services. In particular, our findings suggest ways that CPC+ practices and their staff can improve goal setting, behavioral health screening, screening for transportation and financial needs, and active listening with their patients, to better align with model requirements and aims.

CPC+ practices could consider finding ways to encourage patients to share goals and seek out patients who may need additional support and guidance regarding specific action steps they can take to achieve their goals. According to the PY 3 CPC+ Practice Survey (Chapter 4 in Peikes et al. 2021), 53 percent of practices reported using staff who were trained in assessing patient readiness and motivating health behavior change to set specific goals for self-management with most patients with chronic conditions, compared to 49 percent in PY 2 and 34 percent in PY 1. While this increase is encouraging, findings from these in-depth patient interviews suggest that practices may need to do more to help such patients, including conducting more frequent follow-up and tailoring of support to align with patients' level of skill and motivation to identify, set, and achieve goals (Prochaska and DiClemente 1983).

Practices may need to conduct more screening for behavioral health needs or to probe more deeply and allow patients more opportunity to voice behavioral health care needs. This suggestion is also consistent with a finding from the PY 3 CPC+ Physician Survey (Chapter 4 in Peikes et al. 2021); around three-quarters of physicians in CPC+ and comparison practices reported that "*most or all"* of their adult patients are screened annually with a formal screening tool for depression. Fewer physicians, however, reported "most or all" of their patients are screened annually for substance use (around one-quarter) and anxiety (around one-quarter). Practices referring patients to behavioral health services could follow up with patients to ask whether the recommended services have been helpful and identify alternative options if not. Practices could also consider providing patients with a range of options to meet their individual needs and engage patients in a conversation about the types of behavioral health services or supports the patient would prefer before making a referral.

Practices could consider screening more actively for transportation and financial barriers and providing more referrals to support services so that patients can access the services to which they are referred. This need is consistent with the need identified by CPC+ practices in their reports to CMS that transportation was the most highly prioritized social support by practices (Chapter 4 in Peikes et al. 2021). This includes finding external resources, such as social service partners, that could help cover patients' out-of-pocket costs for prescriptions, specialty appointments, or special equipment such as walkers and wheelchairs (CMS 2018).

Practices could consider emphasizing the value of active listening and staff accessibility to patients. In addition, when hiring new staff, practices could continue to intentionally recruit care managers with caring personalities and skills in active listening.

4.B.5. Interview protocol

A. Welcome and overview of discussion

Hello. Thank you for taking the time to speak with us today.

Today we'd like to ask you some questions about the care you get from your **primary care doctor's office**.[38] I am going to start by giving you a little bit of background, then we'll move to the questions.

The Centers for Medicare & Medicaid Services (CMS) contracted with our organization, Mathematica, to talk with patients who receive health care at practices trying to improve primary care. The focus of our discussion is on patients' experiences receiving health care from their primary care practices, not on your health. We are not evaluating your primary care practice, your doctor, or your care manager– we are really interested in understanding your experiences receiving care.

We will keep the information you share with us confidential and will not share your answers with anyone at your doctor's office or with CMS.

Your participation is voluntary, and you can skip any question you prefer not to answer. Participating in this discussion will not affect the health care you receive or your health insurance coverage. This discussion should take about 60 minutes, and we will mail you a check for $50 to thank you for your time if you complete the discussion. **Can you please confirm the address we have for you so we can make sure the check gets to you?**

We'd like to record our discussion to help us with our notes. We will not share the recording with anyone outside of our team, and we will erase it at the end of our study. Are you okay with us recording our call? *[If the patient is okay with recording the call, start the recording.]* Do you have any questions before we begin?

[38] None of the deep dive practices were NP led practices. So we use a term most patients typically use, "your doctor's office," and focus on the primary care aspect.

B. Specific guidance for each protocol question

1. Is *[PRACTICE NAME]* the name you use for your primary care doctor's office, or is there another name that makes more sense?

If there's another name:

What is the name that you use for your primary care doctor's office?

2. How long have you been a patient at *[PRACTICE NAME]*?

Potential Probes:

More than 1 year?

More than 5 years?

3. Is there a person at the practice who helps you learn about managing your health conditions, for example, someone who follows up with you after you are sent home from the hospital, or helps you get services you need to manage your health? Sometimes this person is referred to as a care manager.

If response is doctor, go to → a

If no, confirm by going to → a

If yes, the patient receives care management services, go to → 3ai.

3a. Is there a person other than your doctor who also helps you manage your health? Sometimes this person is a nurse, social worker, or health coach from primary care practice name who calls you or otherwise helps between visits.

If patient reports NOT receiving care management services:

I just want to confirm that there's no one in your doctor's office, such as a nurse, social worker or health coach…

Are you familiar with [*CARE MANAGER*]?

If answer is still no services, go to → Q.4

i. [*For each person identified*]: What is his/her name?

ii. What kinds of things do you talk about with *[PERSON]* and what does [*she/he*] do for you?

3b. Does *[PERSON]* work regularly with you to manage your medical care or any of your ongoing health conditions?

- ***If the patient names multiple people, go to → c***
- ***If the patient names someone other than the care manager on the Mathematica list, go to → d***
- ***If the patient names the care manager on the Mathematica list, go to → Q.4***

3c. Of these people, who do you feel is most often involved in helping you manage your health conditions?

- ***If the patient names someone other than the care manager on the Mathematica list, go to → d***

- ***If the patient names the care manager on the Mathematica list, go to → Q.4***

3d. Do you ever work with [*CARE MANAGER*] to manage your care?

How do you feel about your ability to manage your health? How about your medical care?

How confident are you that you can identify when it is necessary for you to get medical care? Would you say that you are:

- very confident
- confident
- somewhat confident
- not at all confident

How often do you bring a list of questions you want to cover with you to your doctor visits? Would you say:

- always
- usually
- sometimes
- never

And our last multiple-choice question: How often do you bring a list of your prescribed medicines with you to your doctor visits? Would you say:

- always
- usually
- sometimes
- never
- that this is not applicable, because you do not take any prescription medicine

Tell me about how you first began working with [*CARE MANAGER*] to manage your health and your medical care?

If the respondent provides a complete response, go to → b

If respondent does not have an answer or feels stumped, go to → a

If patient did not get care management services:

Tell me about how *Dr.* and the staff at [*PRACTICE NAME*] work with you to manage your health and medical care. (*Probe as needed*)

Then go to → a

8a. How did [*CARE MANAGER/DR. OR PRACTICE STAFF*] first approach you about managing your health and your medical care?

Potential Probes, as needed:

When did you first begin working with [*CARE MANAGER*] to manage your health?

Was it related to a new diagnosis?

Was it related to a hospital or ER visit?

Who at primary care practice name first talked to you about working with you between visits to manage your health?

How did [*CARE MANAGER*] first contact you?

If patient continues to say they did not receive care management services, go to→ e

8b. How did you hope working with *[CARE MANAGER]* would help you?

8c. What, if anything, made it easy to begin working with *[CARE MANAGER]* to manage your health?

8d. What, if anything, made taking the first steps in working with *[CARE MANAGER]* difficult?
Potential probes:
I hear you saying that it's hard [*use the respondent's words, such as it was hard to get the first appointment with her*]. Have you talked with [*CARE MANAGER*] about how you might make this less challenging?

How has [*CARE MANAGER*] tried to help you to identify ways the make this less challenging?

8e. How well do you feel that [*CARE MANAGER/DR. OR PRACTICE STAFF*] understands what is important to you in managing your health?
i, What makes you say that?

If patient does not get care management, go to→ Q.9 a

Tell me a little bit about what it's been like working with [*CARE MANAGER*] over the last year.

9a. How regularly, if at all, do you meet with [*CARE MANAGER/DR. OR PRACTICE STAFF*] in-person? Where do you meet?

9b. How often, if at all, do you talk with [*CARE MANAGER/DR. OR PRACTICE STAFF*] by phone?
Potential Probes:
How else do you usually communicate–text, email, health portal, tele-health?

What's your preferred way to communicate?

9c. What kinds of topics do you talk about with [*CARE MANAGER*]?
i. Do you talk about how to decide when to seek medical care?
ii. How about understanding how to manage your health condition, such as specific action steps you can take throughout the day?

Potential Probes:
(If patient does not get care management, many of these items may not be relevant.)
Discussing your symptoms? [*Save this question for people who seem open so that you are not having to pry into symptoms for people who seem less willing to share that level of detail.*]

Who to contact in case of questions?

Who at primary care practice name do you contact in case of a health emergency?

Your ability to reach primary care practice name or physician if you need to?

What your medication does for you and/or understanding side effects?

Does [*CARE MANAGER*] share test results and talk about what they mean?

[*If patient has discussed their chronic condition***]** Does [*CARE MANAGER/DR. OR PRACTICE STAFF]* encourage you to explain to [*him/her*] what you've learned about [*patient's condition*] and how to manage it? Can you tell me about a time when you did this with the [*CARE MANAGER*]?

[*If patient has discussed their chronic condition***]** Does [*CARE MANAGER/DR. OR PRACTICE STAFF*] connect you with any programs for [*patient's condition*], such as a diabetes support group? What is the program name? Can you tell us a bit about it?

9d. Which kinds of supports or activities provided by [*CARE MANAGER/DR. OR PRACTICE STAFF*] do you find most helpful for managing your overall health? What is helpful about them? (*Probe for examples)*

i. What, if anything, makes it easy to participate in these activities?
ii. What, if anything, makes it challenging to participate in these activities?

For patients who do not get care management, go to → Q. 10

9e. Which support or activities are not helpful in managing your health? Can you tell me more about why they are not helpful?

You may skip this question if short on time.

9f. Can you describe something you've learned about managing your health or medical care that you didn't know before working with [*CARE MANAGER*]?

What are your current goals related to your health?

If patient describes goals, go to → i

If no goals, go to → Q.11

i. Have you discussed those goals with staff at *[PRACTICE NAME]*?

If yes, go to → a

If no:

What makes it hard to talk about goals with your [*CARE MANAGER/DR. OR PRACTICE STAFF]?* What would make it easier?

Then go to → Q. 11

As soon the patient mentions a concrete goal, ask about that goal in the words the patient used. Try not to use the word "goal" anymore.

10a. Do you remember first discussing [*goal*] with your doctor or care manager?

Walk through all of the questions below:

i, What was it like to discuss [goal] with your doctor or care manager?
ii. Can you tell me how you chose [*goal*] as something you wanted to work on? Was that something you came up with yourself? Tell me more about why this is important to you?
iii. Have you and [*CARE MANAGER/DR. OR PRACTICE STAFF*] talked about steps you can take to achieve [*goal*]?

Can you tell me about the progress you've made towards meeting [*goal*]?

How easy or difficult has it been to make progress?

What made it easy? What helps?

What made it hard?

I hear you saying that it's hard [*use the respondent's words, such as exercise alone*]. Have you talked with [*CARE MANAGER/DR. OR PRACTICE STAFF*] about how you might make this less challenging?

How has [*CARE MANAGER/DR. OR PRACTICE STAFF*] tried to help you to come up with ways to make [*this goal*] less challenging?

iv. How has the *[CARE MANAGER/DR. OR PRACTICE STAFF*] helped you meet your goals?

10b. How often do you discuss or update your health goals with *[CARE MANAGER]* or other staff at [*PRACTICE NAME*]?

i. What prompted you to update your goals?

10c. How well do you feel the goals you set with *[CARE MANAGER]* or other staff at [*PRACTICE NAME]* reflect the things that are important to you?

i. What makes you say that?

10d. What would you have liked *[CARE MANAGER]* to have done differently in working with you to set goals for managing your health?

Now I'm going to shift topics a bit to ask you about working with [*CARE MANAGER*]. Can you give me an example of a time when you reached out to [*CARE MANAGER*] with a question or concern? What happened?

Potential Probes:

Is there a time you were worried about a symptom or test result?

With a question about your medication?

Help on upcoming events, such as a trip, that might make it challenging to stick to your goals?

[If the patient has mentioned a time they reached out, probe on it here.]

If the patient has not reached out to the care manager

It sounds like you haven't reached out to [*CARE MANAGER*] with a question or concern. Can you tell me more about some reasons why you haven't reached out to [*CARE MANAGER/DR. OR PRACTICE STAFF*]?

Then go to → Q.12

11a. How easy or difficult was it for you to get in contact with [*CARE MANAGER*] when you needed to?

Potential Probes:

What made it easy?

What made it hard?

I hear you saying that it's hard [*use the respondent's words, such as have a continuously working phone*]. Have you talked with [*PERSON/CARE MANAGER*] about how you might make this less challenging?

How has [*CARE MANAGER/DR. OR PRACTICE STAFF*] tried to help you to identify ways the make this less challenging?

11b. How, if at all, was [*CARE MANAGER*], able to help you with your question or concern when you contacted [*her/him*]?

11c. How well did you feel that care manager listened to you and understood your concerns?
i. Why do you feel that way?

11d. How well do you feel your doctor or other members of your care team at [*PRACTICE NAME*] listened to and understood your concerns?
i. What makes you say that?

If the patient said they were hospitalized

You mentioned earlier that you were hospitalized – We want to ask you about what happened after the last time you were discharged. What was your experience with primary care practice name following your hospital stay?

If the patient did not say they were hospitalized

Did you stay overnight in the hospital at any time in the last 6 months? I want to ask you about what happened after the last time you were discharged. What was your experience with primary care practice name following your hospital stay?

If the patient was not hospitalized overnight in the last 6 months, go to → Q.13

12a. Did [*CARE MANAGER*] or someone else from primary care practice name contact you during your stay or after you left the hospital? [*If it was someone else from the practice, continue asking the following questions using that person's name.]*

12b. What support did they offer?
Potential Probes:
How did the care team member offer to help? Work with you?

Provide some additional help while you were in the hospital or right after you got out?

12c. What, if anything, was helpful about talking with [*PERSON*]?
i. What was not helpful about it?

12d. How easy or difficult was it to work with [*PERSON*] after your hospital stay?
Potential Probes:
What made it easy?

What made it hard?

I hear you saying that it's hard [*use the respondent's words, such as get motivated to do your exercises*]. Have you talked with [*PERSON/CARE MANAGER*] about how you might make this less challenging?

How has [*CARE MANAGER/DR. OR PRACTICE STAFF*] tried to help you to identify ways the make this less challenging?

12e. What could [*PRACTICE NAME/CARE MANAGER*] have done better to help you manage your health concerns after your hospital stay?

How, if at all, do your doctor, [*CARE MANAGER*], or other staff at [*PRACTICE NAME*] work with you to help manage your emotional or mental health? ***If patient says that they don't get care management for emotional or mental health, go to → e*** ***If patient says that they don't have emotional or mental health needs, go to → Q.14***
13a. Is there someone specific at primary care practice name who helps you with your emotional or mental health? What is [*his/her*] name? ***If yes, go to → b*** ***If no, go to → e***
13b. How did [*she/he*] reach out to you and offer help?
13c. Which kinds of support or activities provided by [*PERSON*] do you find most helpful for managing your emotional and mental health? What is helpful about them? i. What, if anything, makes it easy to participate in these activities? ii. What, if anything, makes it challenging to participate in these activities?
13d. Which support or activities are not helpful in managing your mental and emotional health? Can you tell me more about why they are not helpful?
13e. What additional support for managing your emotional and mental health, such as connecting you to a counselor, learning materials, or community resources, would you find helpful? Why do you think this would be helpful? ***If patient said that they don't get care management for emotional or mental health, go to → Q.14***
You may skip this question if short on time. **13f.** Describe something you've learned about how to manage your emotional health or medical care for mental health that you didn't know before working with [*PERSON*].
How, if at all, do doctor and practice staff, [*CARE MANAGER*], or other staff at [*PRACTICE NAME*] work with you to help manage your day-to-day needs, such as food, transportation, or housing? (Probe for examples) ***If patient says that they don't get care management for social needs, go to → e*** ***If patient says that they don't have social needs, go to → Wrap-Up and closing***
14a. Is there someone specific at primary care practice name that usually helps you manage these needs? Who?
14b. How did [*she/he*] reach out to you and offer help?
14c. Which kinds of support or activities provided by [*PERSON*] do you find most helpful for managing your day-to-day needs? What is helpful about them? i. What, if anything, makes it easy to participate in these activities? ii What, if anything, makes it challenging to participate in these activities?
14d. Which support or activities are not helpful in managing your day-to-day needs? Can you tell me more about why they are not helpful?

14e. What additional support for managing your day-to-day needs, such as food, transportation, or housing, would you find helpful? Why do you think this would be helpful? ***If patient said that they don't get care management for social needs, go to → Wrap-Up and Closing***
You may skip this question if short on time. **14f.** Describe something you've learned about how to manage your day-to-day needs that you didn't know before working with [*PERSON*].
I will now ask my colleague *[INTERVIEWER NAME]* if there is anything you want to ask? Is there anything else about the services and supports you receive at [*PRACTICE NAME*] or from [*CARE MANAGER*] that we didn't ask about and that you would like to share?
Do you have any questions for us before we end the call?

4.B.6. Segmentation Screening Tool summary

This appendix describes the tool used to place the patient respondents into segments. We included the three items necessary to segment patients using both the original and revised versions of the tool in our interview protocol, confirmed that the revised version of the tool generally placed the patients into the same segments as the original tool, and then used the revised version for our qualitative analysis of the interviews.

The Original Segmentation Screening Tool (SST) (Williams and Heller 2007) was designed to identify audience segments of Medicare beneficiaries, for the development of targeted and tailored communication activities to promote informed health care decision making. The tool is two-dimensional; it assesses an individual's health care decision-making skills and motivation using two items.

The Original SST tool was developed using data from Medicare beneficiaries, who may be older and less healthy than the general adult population; those who do not take any prescription medications cannot be assigned to a segment using the original tool. In addition, since the tool was developed, electronic health records (EHRs) have become widespread; many patients are aware that EHRs track medications, and therefore bringing a list of one's medications to a doctor visit is not necessary.

The Revised SST was developed for a broader adult audience. It uses the same item to assess skills, but a different item to assess motivation; that replacement item was identified based on the original psychometric analyses (Williams and Heller 2007). Following are the skills item and both motivation items (original and revised).

SKILLS—How confident are you that you can identify when it is necessary for you to get medical care?

4 = very confident

3 = confident

2 = somewhat confident

1 = not at all confident

MOTIVATION (original)—How often do you bring a list of your prescribed medicines with you to your doctor visits?

4 = always

3 = usually

2 = sometimes

1 = never

0 = Not Applicable/I do not take any prescription medications

MOTIVATION (revised)—How often do you bring a list of questions you want to cover with you to your doctor visits?

4 = always

3 = usually

2 = sometimes

1 = never

Table 4.B.4 presents the algorithm for placing individuals into one of the four SST consumer segments.

Table 4.B.4. Algorithm to place individuals into SST segments

	Active	Passive	High Effort	Complacent
Skills	4	1, 2, or 3	1, 2, or 3	4
Motivation	3 or 4	1 or 2	3 or 4	1 or 2

Source: Wiliams and Heller 2007.

Active patients are skilled and motivated. **Passive** patients are unskilled and unmotivated. **High Effort** patients are motivated but unskilled; they will be similar to Active patients in ways pertinent to motivation and similar to Passive patients in ways pertinent to skills. **Complacent** patients are skilled but unmotivated; they will be similar to Passive patients in ways pertinent to motivation and similar to Active patients in ways pertinent to skills.

We were able to place all 40 patients in our sample into segments using both the original and revised SST; because this is a population with complex needs, everyone in the sample takes prescription medicines, and therefore no patient responded "not applicable" on the list of medicines question in the original version of the tool. Many patients spontaneously noted that EHRs track medications, so they don't bring a list of medicines to their doctor visits. Therefore, because Table 4.B.5 confirms that placement into segments was similar for the original and revised SST, we used the revised SST for our qualitative analysis of the interviews.

Table 4.B.5. Percentage of original SST segments (columns) in revised SST segments (rows)

	Original SST			
Revised SST	Active	Passive	High Effort	Complacent
Active	62	No data	No data	22
Passive	No data	60	46	No data
High Effort	No data	40	54	No data
Complacent	38	No data	No data	78

Source: CPC+ in-depth patient interviews conducted with 40 patients of 2017 Starter CPC+ practices October through December 2019 (PY 3).

Note: **Boldfaced** diagonal cells show percentage agreement between the two tools. No segment shifts were due to changes in skills (because both tools use the same skills item). Segment shifts from the original to the revised SST were due to both shifts to lower motivation and shifts to higher motivation.

4.C. Longitudinal care management of high-risk patients in CPC+

This Appendix examines the extent to which CPC+ practices implemented longitudinal care management in the second year of the model. It also describes challenges to and facilitators of longitudinal care management implementation. This Appendix first introduces the motivation for this study and the CPC+ requirements and guidance related to longitudinal care management (Section 1). Next, it explains the analytic methods (Section 2), and then describes the results (Section 3) and discusses their implications (Section 4).

4.C.1. Introduction

To improve quality and reduce costs, primary care redesign initiatives often include risk stratification to identify patients with different levels of need and targeted, proactive, relationship-based longitudinal care management (LCM) for patients with the highest needs. The Comprehensive Primary Care Plus (CPC+) model—a five-year, multipayer model sponsored by the Centers for Medicare & Medicaid Services (CMS)—is one major example of such initiatives. CPC+ aims to strengthen primary care by developing five primary care functions: access and continuity of care, care management, comprehensiveness and coordination of care, patient and caregiver engagement, and planned care and population health. These changes are hypothesized to improve health, lower costs, and enhance patients' and providers' experience. CPC+ practices joined one of two tracks: Track 2 practices must provide more enhanced services to patients with complex needs than Track 1 practices do, and Track 2 practices receive more financial support. At the start of CPC+, CMS collaborated with more than 70 commercial and state health insurance plans in 14 regions across the United States to provide more than 2,900 primary care practices with financial support. This financial support included enhanced payments (in addition to usual payments for services) for participating in CPC+ and for improving performance on cost, utilization, or quality measures; it also provided payments that move away from volume-based incentives for Track 2 practices. In 2018, practices received enhanced payments representing a median of 10 percent of Track 1 practices' total revenue and 15 percent of Track 2 practices' total revenue. CPC+ also provides regular data feedback, learning support, and health information technology support.

As part of care management, practices had to implement a two-step risk stratification process to identify patients for LCM: (1) use an algorithm based on defined diagnosis, claims, or other electronic data to assign a risk score to all empaneled patients and (2) use care team members' knowledge of the patient to adjust the risk score. Based on the results of the risk-stratification process, practices had to provide "targeted, proactive relationship-based (longitudinal) care management to all patients identified as at increased risk, and likely to benefit from intensive care management," including patients with some combination of multiple comorbidities, complex treatment regimens, frailty and functional impairment, behavioral and social risks, and serious mental illness (CMS 2018). CMS suggested "a typical population distribution has about 3-5 percent of the patient population at high risk, with no more than 10 percent of the population receiving care management services" (CMS 2018). LCM services include educating patients to manage their chronic conditions, working with patients during and between primary care visits, and monitoring care transitions such as after a hospitalization. Although CMS does not require care managers, it encourages practices to "use on-site, non-physician, practice-based, or

integrated shared care managers to proactively monitor and coordinate care for the highest risk cohort of patients, with assistance from other practice staff, as needed" (CMS 2018). To support LCM, CPC+ required that Track 2 practices (but not Track 1 practices) use care plans to document and track patients' needs and how the practice addresses them.

Potential benefits of LCM include improved quality of care and improved patient experiences (Berry-Millet and Bodenheimer 2009; Wilson et al. 2019; Ganguli et al. 2017). Evidence of LCM's effects on reducing hospitalizations, emergency department use, and cost savings is mixed. A recent multiyear study of a Pioneer accountable care organization found that participation in a care management program was associated with substantial reductions in hospitalization rates, emergency department visits, and Medicare spending (Hsu et al. 2017). Another recent study of accountable care organization patients in the Medicare Shared Savings Program found significant reductions in total Medicare fee-for-service spending for these patients but proportionately smaller reductions in hospitalizations—and some increases in hospitalizations—for ambulatory care-sensitive conditions (McWilliams et al. 2017).

Despite the potential benefits of LCM, research indicates that implementing risk stratification and LCM is challenging for primary care practices. Risk stratification is relatively new to primary care, and methods to identify high-risk patients are imperfect. Practices' trust in risk scores could be influenced by the availability of patient information to assign risk (including factors such as social support, patient motivation, and non-medical life changes) and care team members' buy-in to the value and accuracy of risk stratification (Garcia et al. 2019; Wagner et al. 2019). Even when high-risk patients are appropriately identified, barriers to implementing LCM include the fee-for-service payment system, which does not typically provide incentives to implement LCM; resistance to change within primary care practices; lack of staff, resources, and knowledge necessary to integrate LCM into primary care practices; and inadequate health information technology to support LCM (Hong et al. 2014).

Given the growing number of primary care practices attempting to implement risk stratification and LCM, CPC+ provides an opportunity to understand how practices in a model with robust financial and learning supports approach this work. This mixed-methods study describes the extent to which LCM reached high-risk patients in the second year of CPC+, discusses why implementing LCM was challenging, and identifies factors that helped practices overcome challenges.

4.C.2. Methods

The New England Institutional Review Board (IRB) granted this study an IRB exemption on the basis of the federal common rule (section 45 CFR 46.101[b][5]), because the purpose of the study was to evaluate a public benefit program.

A. Quantitative analysis

Data. After each quarter of CPC+, CMS requires all participating practices to answer a series of questions about how they perform activities related to various care delivery requirements. These are CPC+ requirements related to each of the five primary care functional areas, including care management (CMS 2020b). All CPC+ practices must answer the same care delivery requirement

questions. These data enable CMS to track the proportion of practices that report implementing various CPC+ activities; these data are self-reported, however, and provide less information on the intensity with which practices implement these activities. In this study, we report on care delivery requirement data that CPC+ practices submitted to CMS in quarter four 2018 (n = 2715), at the end of their second year of participation in CPC+.

Analytic approach. Across all 2,715 CPC+ practices, we calculated the median proportion of empaneled patients that practices reported assigning to each of their risk tiers. In Year 2 of CPC+, all practices were required to maintain empanelment of at least 95 percent of their patient population to a practitioner. For each risk tier grouping, we calculated the median proportion of patients that practices reported were receiving LCM.

B. Qualitative analysis

Data. In 2019, Mathematica conducted semistructured telephone interviews with a representative sample of CPC+ practices that started participating in 2017. The sample of practices selected for in-depth study were similar to all CPC+ practices in terms of track, participation in the Medicare Shared Savings Program for accountable care organizations, ownership status (independent or owned by a system, hospital, or large group practice), and size (measured by number of primary care practitioners—physicians, nurse practitioners, physician assistants—at the practice site). In all, we interviewed 59 practices; of these, we asked 23 practices in-depth questions about their approaches to risk stratification and care management. In each practice, one trained researcher interviewed three to four respondents, including at least one physician and one care manager (usually a registered nurse or nurse practitioner) for 30 to 60 minutes each. In some practices, we interviewed practice managers and medical assistants who were involved with risk stratification and LCM. In system-owned practices, we also interviewed system-level staff, such as CPC+ coordinators or centralized care managers We asked questions to capture what practices did to implement risk stratification and LCM and the challenges and facilitators to implementation. We recorded and transcribed all interviews.

Analytic approach. Using NVivo 12 software, a trained team of researchers coded interview transcripts. To organize data for analysis, we developed codes aligned with the care delivery requirements related to risk stratification and LCM. To code factors that practices described as barriers or facilitators to risk stratification and LCM, we adapted the Consolidated Framework for Implementation Research (Damschroder et al. 2009). Researchers used NVivo queries of coded data to create analytic summaries and populated matrices with the analytic summaries to identify patterns across practices of barriers and facilitators relating to risk stratification and LCM (Miles et al. 2014).

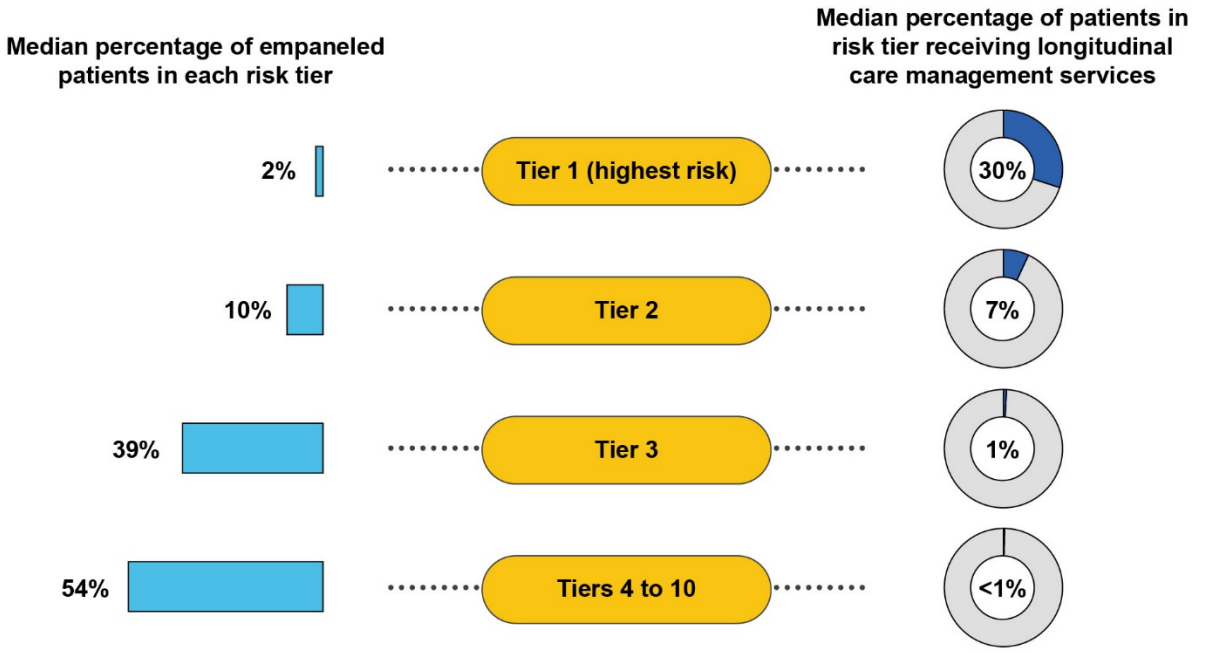
4.C.3. Results

Our results include a quantitative assessment of the extent to which LCM reached high-risk patients in the second year of CPC+. Qualitative findings—including practices' approaches to risk stratification and LCM implementation, perceived benefits of LCM, and implementation challenges and facilitators—follow and provide context for the quantitative results. The qualitative and quantitative samples fell roughly evenly between the two tracks and results were similar for Track 1 and 2 practices.

A. LCM penetration

In CPC+'s second year, only a small proportion of all high-risk patients received LCM for their chronic conditions. In care delivery requirements data, practices reported placing a median of 2.4 percent of empaneled patients in the highest risk tier. This is slightly lower than the 3 to 5 percent that CMS suggests CPC+ practices with a typical population distribution designate as high risk (CMS 2018). Furthermore, of the 2.4 percent in the highest risk tier, only a median of 30 percent of patients received LCM (Figure 4.C.1). Practices placed a median of 10 percent of patients in the second-highest risk tier; of these, a median of 7 percent received LCM. Only 1 percent or fewer of patients in the lower risk tiers received LCM. In addition, CPC+ practices selected for in-depth study noted that many patients who could benefit from LCM did not receive these services.

Figure 4.C.1. CPC+ Year 2 median percentages of empaneled patients in each risk tier and median percentages of patients in each risk tier receiving LCM



Source: Mathematica's analysis of 2018 Q4 care delivery reporting data submitted by practices to CMS via the CPC+ Practice Portal.

Note: For reporting purposes, CMS used the term "Tier 1" to refer to the highest risk tier, "Tier 2" for the second-highest, etc. Practices were only included in the risk tier calculations if they had at least one patient in a particular risk tier.

B. Use of risk stratification

In care delivery requirements data, most practices reported implementing a two-step risk stratification process, using a manual or an automated algorithm and clinical intuition to assign a risk score to each patient. Many practices selected for in-depth study, however, faced challenges implementing workflows to support two-step risk stratification. These challenges included a lack of buy-in among practitioners and staff regarding the value of risk scores to target certain patients, lack of confidence in how risk scores were assigned, and belief that risk scores did not help guide patients' care. In practices owned by health systems with centralized risk stratification, practitioners and staff perceived that risk scores were inaccurate or not updated to reflect patients' most current conditions. Practices also reported having insufficient or no EHR functionality to incorporate clinical intuition into risk stratification. For example, care team members could not update risk scores in their EHR to reflect a patient's most current clinical conditions and personal circumstances.

C. LCM provision

Although CPC+ does not dictate who provides LCM, most practices selected for in-depth study reported they had at least one part-time or full-time care manager (generally, a registered nurse or nurse practitioner) providing LCM to patients. In a few practices, the care manager was a social worker, medical assistant, or a care management team (such as a nurse–social worker team). Typically, care managers provided services in person and by phone. Topics of discussion included patients' conditions, recent changes in health status, medications, lifestyle and behavior choices, support systems, and behavioral health and social needs. Care managers communicated with primary care practitioners and staff (including behavioral health specialists and individuals providing comprehensive medication management services) to coordinate care for patients receiving LCM services. In some cases, care managers were embedded within practices; in other cases, (particularly in practices owned by health systems), care managers worked via phone from a centralized location at least part of the time and worked within practices at other times.

D. LCM benefits

Many practices selected for in-depth study described the benefits of LCM for patients, including improved patient engagement and self-management of disease processes, which helps patients avoid the emergency department and hospital. For example, one care manager reported that when her practice piloted LCM, the first patient to receive LCM had six hospitalizations in the previous year. In the patient's first year receiving LCM, the patient had zero hospitalizations through improved self-management of their chronic conditions. In another practice, the practice manager reported continuous improvements in diabetic patients' A1c levels since starting LCM and attributed these improvements to the care manager's intensive work with diabetic patients. A physician in a different practice appreciated the care manager's work with congestive heart failure patients. Frequent check-ins with these patients enabled the care manager to notify the practitioner when

> **"Our ultimate goal for doing the job is to give good patient care, which in my mind is better quality, longer lives, and better quality lives…We're making sure that medications are being taken…that weights are being taken on a daily basis…that people are doing better with their chronic disease, they're breathing better, their sugars are better…the better patient outcome is really why we do [LCM]."**
>
> ***Physician in CPC+ practice***

patients' weights rise; from the physician's perspective, this helps patients avoid the emergency department and hospital. Several practices also noted psychosocial benefits of LCM for patients, including feelings of gratitude, hope, and empowerment. Two practices specifically mentioned the benefits of LCM for elderly isolated patients, who especially appreciated the outreach and connection that LCM provides.

Several practices also reported the practice-level benefits of LCM. For example, care managers work through complex issues (medical and psychosocial) with patients, something practitioners might lack the time to do during office visits. A few practices reported that LCM resulted in care team members better understanding their roles and their teammates' roles, communicating better through the electronic health record (EHR), and being more prepared for appointments. Finally, two practices indicated that witnessing improvements in patients receiving LCM was gratifying to staff.

"When I open up a patient [chart], I can see immediately from their snapshot when [the care manager] has reached out, the day, time, and what was discussed…There's a transparency and accountability now that's new. That's one innovation I think is moving us towards better [LCM]."

Physician in CPC+ practice

E. LCM challenges

Findings from practices selected for in-depth study provided potential insight into why so few patients received LCM. Many noted that care managers had larger caseloads than they could manage. Practices also faced challenges hiring additional staff, particularly lack of funding for such hires and lack of available skilled care managers seeking employment. One practice noted that it is challenging to hire care managers with the knowledge, skills, and personality traits—such as patience, empathy, attention to detail, and a sense of "tough love" toward patients—that a good care manager needs. Even many practices that successfully hired care managers found integrating them effectively into care teams challenging. For example, a care manager in one practice noted that practitioners and other staff initially "didn't know what to do with [her]." Over time, clearly defining the care manager's duties and integrating her into care team meetings helped everyone understand her role and how to incorporate the care manager in the care of high-risk patients. In addition to staffing challenges, many practices selected for in-depth study had difficulty engaging patients in LCM because of what practices reported as psychosocial barriers, difficulty contacting patients, or patients' reluctance to change behaviors or lifestyle.

"It's a lot. Some days I'm just barely swimming above water... The biggest problem is that I'm spread too thin."

Care manager in CPC+ practice

Another challenge to implementing LCM was developing and using care plans. CPC+ required practitioners and care managers in more advanced (Track 2) CPC+ practices to develop and maintain care plans for patients receiving LCM. CMS defines a care plan as a mutually agreed upon and documented plan of care based on the patient's goals, needs, and self-management activities accessible to all team members caring for the patient. Care plans are structured, standardized, and commonly include treatment goals and interventions identified by the care

team, the patient's overall health goals, advance directives, key contact information for practices, and actions that the patient and the care team plan to take. Several care managers in the in-depth study described using such care plans, but several others conflated care plans with other forms of clinical documentation, such as after-visit summaries and progress or encounter notes. Nearly all practices selected for in-depth study reported challenges using EHRs to create, access, and update care plans. In particular, care managers described challenges related to creating custom care plan templates after discovering that their EHR-provided care plans were disease specific and not whole-person oriented. Others reported that they could store care plans in their EHRs, but they could not create or update care plans in them; care managers had to upload care plan files to the patient record every time they updated a patient's care plan.

F. LCM facilitators

Practices selected for in-depth study noted some facilitators to implementation. Many practices perceived the benefits of systematically identifying and prioritizing patients for LCM based on their care needs and their health care utilization. Several practices said that having care managers physically located in the practice enabled them to join care team huddles and helped other forms of communication (such as care managers touching base with practitioners after meeting with patients) throughout the day. Practices also reported that having care managers embedded in the practice facilitated warm hand-offs of patients from practitioners to care managers and helped patients establish trust with the care manager. Several practices described aspects of their health information technology systems that made providing LCM easier, including care managers' use of EHRs to review patients' histories and identify gaps in care, build registries to track outreach to patients and patients' progress toward health goals, and communicate with other members of the care team. Several practices using whole-person-centered care plans reported that they helped care managers quickly refresh their deep understanding of patients' condition s, reference and track patients' progress toward goals, tailor patient follow-ups, and share information with other members of the care team.

"[Risk stratification] really does allow us...to put the right resource at the right population of patients, impact their quality of life, impact their adherence, and keep them out of the hospital."

Physician in CPC+ practice

"[Having an onsite care manager is] a game changer. It can take some of the burden off of the physician for phone calls and follow-up...I think it's huge in our ability to care for patients [and] decrease avoidable ER visits and inpatient admissions."

Physician in CPC+ practice

4.C.4. Discussion

Even with substantial CPC+ financial and other supports to practices for risk stratification and LCM, less than a third of patients identified as being in the highest risk tier received LCM. CMS guidance to CPC+ practices indicated that typically, 3-5 percent of a population would be classified as high-risk, with no more than 10 percent of the total patient population receiving LCM. However, in the second year of CPC+, only 30 percent (median) of the 2.4 percent of patients (median) identified as high-risk received LCM. In addition, only 7 percent (median) of the 10 percent (median) of patients in the second-highest risk tier received LCM. While we cannot determine the exact percentage of patients in CPC+ who received LCM in 2018, it

appears that practices provided a very small percent of their patient population with these services. In addition, CPC+ practices selected for in-depth interviews noted that many patients who could benefit from LCM did not receive it.

CPC+ practices acknowledge many benefits of providing LCM to high-risk patients, but successfully implementing LCM depends on many interacting factors, including perception among practitioners and staff that risk stratification adds value, staff availability and expertise to provide LCM, EHR functionalities to support risk stratification and care plan development and use, and care teams' confidence in the accuracy of their risk stratification process to identify high-risk patients for LCM. For many practices, the challenges of implementing LCM hinder provision of these services to many patients who could benefit from them.

A recent systematic review underscored risk stratification's foundational importance as a precursor to LCM, finding that accurate risk stratification (that is, identifying patients most likely to benefit from LCM) was a key factor in producing positive outcomes of LCM, such as better health, functional status, self-management; and lower emergency department visits, hospital admissions (and length of stay), and emergency department and inpatient costs (Hudon et al. 2019). Our study's findings, however, suggest that some practitioners and staff lack trust in risk stratification processes and report that the process is not well supported by EHR functionalities. In addition, some practitioners and staff do not believe risk stratification has value or can help them better serve patients. Primary care practices juggling the competing demands of delivering high-quality patient care (and in many cases, also participating in transformation efforts such as CPC+) might require intensive support to effectively and efficiently implement risk stratification. Stronger evidence of the connection between effective risk stratification and desirable patient outcomes could help achieve buy-in from practitioners and staff who question the necessity and value of this process.

Another key factor shaping positive outcomes in LCM identified in the recent systematic review is providing "high-intensity intervention" (that is, small caseloads for care managers, initial in-person patient assessments, multidisciplinary team meetings to discuss patients, and development of care plans that include the perspectives of multiple types of providers) (Hudon et al. 2019). Although this could be the ideal way to deliver LCM, our findings suggest that practices might struggle to achieve this because they lack qualified staff to deliver LCM. For practices not participating in CPC+, which provides financial and other supports to implement LCM, the problem of adequate staffing to provide enhanced care management could be even more pronounced. For example, despite recommendations to expand the employment of nurses and other health professionals in primary care and care management (Blumenthal et al. 2016; Bodenheimer and Bauer 2016), nearly 40 percent of practices that participated in the 2018 national cross-sectional Survey of Primary Care and Geriatric Clinicians employed neither a social worker nor a registered nurse (N = 410 clinicians in 363 practices that provide care to older adults) (Donelan et al. 2019).

Care management staffing challenges in primary care might stem from many different sources. As practices in our in-depth study noted, despite an influx of CPC+ payments, funding limitations prevented hiring of more care managers. It is also difficult to hire effective care managers who have the skills and the personality traits that make them ideal for the job. Care management is part of nursing school curricula but often focuses on acute care settings and

transitions to community-based care rather than providing LCM in primary care settings (Donelan et al. 2019). Even when primary care practices hired a qualified, experienced care manager, they could face challenges integrating the care manager into care teams and workflows. Primary care practices seeking to integrate care managers into their teams might benefit from resources and training on topics such as effectively communicating within the team, delegating particular tasks from practitioners to care managers, practicing warm hand-offs of patients to care managers, and clearly delineating roles and responsibilities of the care manager and other care team members (O'Malley et al. 2015b; Johnson and Houy 2013).

While our mixed-methods approach allows us to triangulate quantitative and qualitative data on LCM uptake, our study has limitations. Practices self-reported data on the number of patients in each risk tier and, among them, the number receiving LCM. Because of the relatively low rates of LCM uptake reported, however, we suspect that self-reporting bias (social desirability bias to overreport) is not a problem. In addition, practices selected for in-depth study represent a small proportion of CPC+ practices, but the characteristics of this sample reflect the characteristics of CPC+ practices overall in terms of track; participation in the Medicare Shared Savings Program; whether they were independent or owned by a system, hospital, or large group practice; and size (as measured by number of billing practitioners at the practice site).Finally, the practices and patients in CPC+ might not generalize to practices nationwide or to other patient-centered medical home models.

In sum, CPC+ provides valuable lessons about implementing LCM. Despite CPC+ funding and other supports, the proportion of high-risk patients receiving LCM in participating practices remains low, and barriers to providing these services persist. To expand the reach of LCM, practices would benefit from additional care managers, training for staff to overcome barriers to engage patients in care management, and increased practitioner and staff buy-in to the concept and value of risk stratification. Further investigation into whether and how current volume-based payment incentives contribute to these barriers is necessary.

CHAPTER 5 APPENDIX

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5.A. Beneficiary Survey

This Appendix describes the CPC+ Beneficiary Survey used to assess patients' experience among Medicare fee-for-service (FFS) beneficiaries in practices that began participating in CPC+ in 2017 and their comparison practices. It details survey fielding (Section 1), sampling methods (Section 2), survey content and measures (Section 3), analytic methods (Section 4), and data tables (Section 5). Section 6 contains the PY 3 survey instrument.

5.A.1. Survey fielding

A. Timing of survey administration

Mathematica administered the first wave of the CPC+ Beneficiary Survey during Program Year (PY) 2,[39] from May through December 2018, 17 to 24 months after CPC+ began (Table 5.A.1). We fielded the survey to three samples of Medicare FFS beneficiaries: (1) beneficiaries in CPC+ practices,[40] (2) beneficiaries in a preliminary set of comparison practices, and (3) beneficiaries in the final set of comparison practices.[41]

We administered the second wave of the CPC+ Beneficiary Survey during PY 3 from February through May 2019, 26 to 29 months after CPC+ began, to two samples of Medicare FFS beneficiaries: (1) beneficiaries in CPC+ practices and (3) beneficiaries in the final set of comparison practices.

Table 5.A.1. CPC+ Beneficiary Survey administration dates

Sample group	Wave 1 (PY 2)	Wave 2 (PY 3)
CPC+ sample	May–August 2018	February–May 2019
Preliminary comparison sample	June–September 2018	n.a.
Final comparison sample	September–December 2018	February–May 2019

n.a. = not applicable; PY = Program Year.

B. Survey mode, length, incentive, fielding procedures, and fielding plan

We administered the CPC+ Beneficiary Survey as a paper survey by mail. We identified mailing addresses for sampled CPC+ and comparison beneficiaries from the Medicare Enrollment

[39] Sections of this annual report refer to the Wave 1 and Wave 2 surveys as the PY 2 and PY 3 surveys, respectively.

[40] American Institutes for Research (AIR), a separate contractor, administered the PY 2 survey to the CPC+ Medicare FFS beneficiary sample using the same instrument and fielding plan as Mathematica did for the comparison samples. Mathematica fielded the PY 3 survey to the CPC+ and comparison samples.

[41] We drew the first sample of comparison beneficiaries—surveyed in June through September 2018—from a preliminary set of comparison practices for the 2017 Starters. After the first fielding, we selected the final set of comparison practices for the 2017 Starters for the evaluation. Thus, we drew an additional sample of beneficiaries that came from the practices in the evaluation's final comparison group but were not in the preliminary set of comparison practices to ensure we surveyed beneficiaries from a sample drawn from all comparison practices. For more information about sampling, please refer to Section 5.A.2: Sampling methods.

Database. We sent all beneficiary mailing addresses through the National Change of Address database before mailing to ensure that addresses were current. The survey required 15 to 20 minutes to complete. We did not offer an incentive to complete the survey.

We followed the standard Clinician and Group—Consumer Assessment of Healthcare Providers and Systems (CAHPS) fielding procedures (Agency for Healthcare Research and Quality [AHRQ] 2016b). The recommended mail protocol for the CAHPS includes (1) setting up a toll-free number staffed by trained personnel, (2) sending a questionnaire mailing with a cover letter and postage-paid envelope, (3) sending a postcard reminder to nonrespondents 10 days after the initial questionnaire mailing, and (4) sending a second questionnaire with a reminder letter and a postage-paid envelope to nonrespondents three weeks after the initial mailing. We fielded the CPC+ Beneficiary Survey over a 13-week period, consistent with the CAHPS fielding procedures, which recommend a 10- to 14-week fielding period. Although we followed the CAHPS fielding procedures, we slightly modified the timing of the mailings (Table 5.A.2). Specifically, we accelerated the timing of the first postcard reminder to 7 rather than 10 days after the initial mailing, and we delayed the second questionnaire mailing by two weeks to provide more time for response.[42] We also added a step: we sent a third questionnaire four weeks after the second questionnaire, to increase the response rate and ensure we reached the goal of a 40 percent yield rate.[43]

Table 5.A.2. Fielding procedures for CPC+ Beneficiary Survey

Week of field period	Fielding activity	Modification from CAHPS procedures
Week 1	Initial questionnaire mailing	No modification
Week 2	Mail reminder postcard	Accelerated by three days
Week 6	Second questionnaire mailing	Delayed by two weeks
Week 9	Third questionnaire mailing	Added; mailed four weeks after second questionnaire
End of Week 13	Data collection ended	No modification

CAHPS = Consumer Assessment of Healthcare Providers and Systems.

5.A.2. Sampling and weighting methods

A. Sampling methods

Sample frames. We surveyed Medicare FFS beneficiaries from CPC+ and comparison practices. The sampling frames for the CPC+ and comparison practices consisted of Medicare FFS beneficiaries attributed to CPC+ or comparison practices using an algorithm applied to Medicare claims data. Medicare beneficiaries were attributed to the primary care practice from which they received their most recent visit for chronic care management or had received the largest share

[42] We delayed this second mailing because our sample was so large that it took two weeks to print and mail surveys. Therefore, to send a reminder mailing three weeks after the first mailing, we would have needed the mailing file of nonrespondents only one week after the first mailing, which would not provide sufficient time for us to receive completed surveys.

[43] Yield rate is equal to the number of completed surveys divided by the total sample.

(plurality) of selected primary care services over the prior two years. (See Appendix 5.B.2 for more information on patient attribution.)

For each of the PY 2 and PY 3 surveys, we selected a single sample of patients attributed to the CPC+ practices. For the PY 2 survey, we selected patients attributed to the comparison practices from two different sampling frames in two stages. We drew the first sample from the preliminary set of comparison practices identified before we selected the final comparison group. The second sample was drawn from the practices included in the final comparison group but that were not part of the preliminary group. To ensure that the sample of comparison patients ultimately drawn from the two combined samples was as similar as possible to the sample that would have been selected if we had the final set of comparison practices at the start, we took the following steps:

1. We combined the two samples of patients selected from each of the two sampling frames, and removed any patients drawn from preliminary comparison group practices that the final comparison group ultimately did not include.
2. We applied a weighting adjustment to the sample drawn from the preliminary comparison group to reflect the practice-level weights those practices have in the final comparison group.

For the PY 3 survey, we selected a single sample of patients attributed to the comparison practices using the final comparison group determined during the PY 2 sampling.

Sampling CPC+ beneficiaries. We sampled Medicare FFS beneficiaries from all CPC+ practices that were still open at the time of sampling, regardless of whether the practice was still participating in CPC+ at the time. For each survey wave, we sought to have 4,000 CPC+ respondents per track to meet precision targets. For the PY 2 survey, we assumed a yield rate of 40 percent and aimed to release surveys to 10,000 patients per track, so we could achieve 4,000 completes. However, we selected an augmented sample of 12,000 patients per track in anticipation of needing to de-duplicate our sample against the samples of two other large Medicare beneficiary surveys being fielded during the same approximate time frame, to avoid beneficiaries receiving requests to complete multiple surveys.[44] The additional 2,000 patients selected per track were to replace any patients in our main sample who had already been sampled for these other surveys. For the PY 3 survey, we assumed a slightly lower yield rate of 39.5 percent given our experience with the PY 2 survey and sent surveys to slightly more than 10,000 patients per track.

For each survey wave, to select the sample of beneficiaries, we first split the sample frame by track and then stratified the sample frame within track by (1) whether the beneficiary's practice participated in the Medicare Shared Savings Plan (SSP) in 2016 (at baseline), and (2) whether the patient was considered high risk for needing medical services. Beneficiaries were considered

[44] The two surveys we assessed for this sample overlap were the (1) CAHPS Survey for Accountable Care Organizations (ACOs), which accountable care organizations participating in the Medicare Shared Savings Program and Next Generation ACO Model use to meet their requirement to measure patient experience of care; and (2) the CPC+ Patient Experience of Care Survey, a CAHPS-based survey fielded as part of the CPC+ model to a sample of all patients that is used to calculate recoupments of performance-based incentive payments to CPC+ practices. AIR fielded the CPC+ Patient Experience of Care Survey in PY 1 and RTI in the subsequent years.

high risk if they had a hierarchical condition category (HCC) score (Pope et al. 2004) in the top quartile of the HCC score distribution within their track. If beneficiaries' HCC scores were missing, we considered them to be high risk if they had end-stage renal disease (ESRD). We stratified in this way for two reasons: (1) because the analysis is stratified by the practice's track and Medicare SSP status; and (2) to increase the likelihood that survey respondents could answer questions about care received after visiting the emergency department or an in-hospital stay, we oversampled high-risk patients, selecting half of the sample from the high-risk group. We selected all patients within each stratum with equal probability.

After selecting the larger sample of about 24,000 CPC+ patients (24,000 patients in PY 2 and 24,300 patients in PY 3; about 12,000 per track per PY),[45] in each PY we randomly chose about 20,000 beneficiaries (10,000 beneficiaries per track)[46] for the main sample release. We then randomly assigned the remaining 4,000 patients into replicates of size 5 within stratum, resulting in about 100 replicate samples per track. In each PY, we used the replicate samples to randomly replace patients selected in the main sample release who were also selected for one of the other two Centers for Medicare & Medicaid Services (CMS) surveys. We matched patients selected for the CPC+ survey with those already selected for the other two surveys; we removed any patients also selected for one of the other surveys from the main sample release, and we drew from the replicate samples to replace them. After this de-duplication and replacement, there were 20,001 total selected patients for the PY 2 survey, (10,006 in CPC+ Track 1 and 9,995 in CPC+ Track 2)[47] and 20,247 total selected patients for the PY 3 survey (10,172 in CPC+ Track 1 and 10,163 in CPC+ Track 2).[48]

Sampling comparison beneficiaries. The goal of the comparison patient sample was to select a sample of patients that looked as similar as possible to the CPC+ patient sample on a range of practice- and patient-level characteristics. Because the goal was to select a set of comparison practice patients that provided a good counterfactual to the CPC+ patients, rather than to select a set of comparison patients that represented all comparison patients, we could conduct the de-duplication process described earlier before sample selection, thereby removing the need to select any backup sample. As with the CPC+ patients, we selected separate samples by track and stratified by SSP participation and patient-level high-risk status, again selecting half of the sample from the high-risk group. However, because the goal was to draw a sample similar to the CPC+ patients, we selected patients with probability proportional to their practice matching weight. We assigned selection probabilities to patients in direct proportion to their practice's matching weight, so we drew larger numbers of patients from practices with larger matching weights. Because the matching weights aim to maximize the weighted balance of comparison

[45] For the PY 2 survey, we selected 12,000 CPC+ patients per track. For the PY 3 survey, we selected 12,204 patients from Track 1 practices and 12,206 patients from Track 2 practices.

[46] For the PY 2 survey, we selected 20,000 beneficiaries, 10,000 per track. For the PY 3 survey we selected 20,250 beneficiaries, 10,125 per track.

[47] The final de-duplicated counts per track were not exactly 10,000 due to small differences in the number of patients de-duplicated and the size of the replicate samples.

[48] The total number of selected patients was less than the sum of the two track sample counts due to the small overlap from merged practices (that is, CPC+ practices that were first separate practices, but then combined into a single practice).

practices with CPC+ practices across a range of baseline practice-level characteristics, this method improved the balance, or similarity, of the comparison patient sample with the CPC+ patient sample.[49] In the case of comparison practices matched to CPC+ practices in Tracks 1 and 2, patients in those practices were eligible for selection in both the Track 1 and Track 2 samples. To reconcile these two independent samples into a single sample of patients, we used the larger of the two track-specific samples for those practices.

For the PY 2 survey, we used this sampling approach to draw the two comparison samples, one from a preliminary group of comparison practices and one from a final group of comparison practices. A total of 26,907 comparison patients were selected, 15,248 from the preliminary group and 11,659 from the final group of comparison practices. For the PY 3 survey, we selected 16,331 patients from the single sample—final comparison group—of comparison practices.

B. Eligibility and weighting

Determining eligibility. After we received completed questionnaires, we used the following process to determine the eligibility status of all survey responses:

- We categorized a survey response as **eligible** if the respondent reported having received care from the selected primary care practice in the previous six months by having said yes to at least one of seven selected eligibility items:
  - Whether the patient reported receiving any care at all from the selected practice
  - Whether the patient reported receiving any of the following types of care: scheduled appointment, same-day appointment, home visit, video appointment, or group medical appointment
  - Whether the patient reported contacting the doctor's office for immediate care
  - Whether the patient reported making an appointment for a check-up or routine care
  - Whether the patient reported contacting the doctor's office with a health question during regular office hours
  - Whether the patient reported contacting the doctor's office with a health question outside of regular office hours (for example, evenings, weekends, or holidays)
  - Whether the patient reported using email, a patient portal, or text messaging to ask the doctor's office about a health question
- We categorized a survey response as **ineligible** if the respondent (1) did not say yes to any of the seven questions listed above and (2) reported *not* receiving care from the selected primary care practice in the preceding six months by saying no to at least one of the seven eligibility items. Survey responses were also considered ineligible if we received information during

[49] Practice matching weights were calculated during comparison group selection. The weights ranged from 0.10 to 10.0, with higher values indicating the practice had a larger weight in the Medicare claims-based impact analysis; hence, they are more important in the evaluation. Appendix 6.C in the second annual report (Ghosh et al. 2020) provides more information on comparison group selection and the construction of the matching weights.

the field period that the respondent was deceased or if all survey items were missing except for the demographic items at the end of the survey.

- We categorized survey responses as having **unknown eligibility** if we did not have sufficient evidence to determine whether the respondent had or had not received care from the selected practice in the preceding six months. Surveys that were completed in reference to someone other than the selected respondent[50] or completed in reference to care received from a different practice were also determined to have unknown eligibility.

Completed surveys. After determining eligibility, we reviewed the data to confirm completion status of the survey records. Based on the CAHPS guidelines, we considered a survey to be complete if it had answers for at least 19 of 38 key items and 1 of 36 reportable items (AHRQ 2016b). Key items are survey questions that all eligible respondents could have answered: that is, any eligible respondent would not have skipped the questions based on the survey logic. Key items include questions confirming eligibility for the survey, the screeners for the questions included in the composite measures, the question about patients' rating of the primary care doctors and staff, and demographic and other background items. Reportable items are questions included in the composite and rating measures. If a survey had responses to fewer than 19 of the key items and 1 of the reportable items (that is, the survey was not complete), or if we found the survey response to be ineligible or to have unknown eligibility, we excluded it from the analysis.

Calculating weights for CPC+ respondents. We assigned CPC+ patients sample weights equal to the inverse of their probability of selection within the sampling strata (that is, the practice's track and SSP status) and to account for the oversampling of high-risk patients.

To reduce the potential of bias resulting from survey noncompletion, we adjusted the weights to account for patterns among noncompleters (those with known and unknown eligibility). In both PYs, more than half of the total sample of patients did not return a survey, so we could not determine their eligibility. We adjusted for this nonresponse by estimating logistic regression models that predicted having a known eligibility status using a set of practice- and patient-level characteristics (Table 5.A.3). We selected practice- and patient-level characteristics to include in the regression models using a stepwise model selection procedure in SAS, where the *p*-value associated with a particular effect had to be less than or equal to 0.15 to enter the model and had to remain less than or equal to 0.20 to stay in each subsequent fitted model. The stepwise model selection process ensured that the characteristic had at least a moderately strong relationship with the probability of having a known eligibility. The weighting adjustments did not include characteristics not meeting either criterion. Because we estimated these models separately by track and PY, the set of characteristics that predicted known eligibility varied by track and PY. We then grouped patients with similar propensities for known eligibility status into classes and calculated adjustments within each class.

Very few beneficiaries returned a survey indicating they visited their primary care practice in the previous six months—and were therefore eligible—but did not answer enough survey items to be considered a complete response. As a result, we did not test the use of logistic modeling to adjust

[50] Surveys completed via proxy—that is, completed in reference to the selected respondent by someone else—could still be determined eligible.

the weights for noncompletion among eligible beneficiaries, as any regression estimates would likely be unstable and could result in extreme adjustments, given the small number of eligible noncompletes. Instead we used only weighting classes defined via a chi-square automatic interaction detection program, in which we can directly control minimum cell sizes to reduce the likelihood of extreme adjustments. We then post-stratified the weights to known population totals within strata.

Table 5.A.3. Characteristics used in adjusting for CPC+ Beneficiary Survey noncompletion

	PY 2		PY 3	
Characteristics	**Track 1**	**Track 2**	**Track 1**	**Track 2**
Patients' characteristics				
Patient age	X	X	X	X
Patient gender		X		
Patient race	X	X	X	X
Patient dual eligibility status	X	X		
Original reason for Medicare eligibility was old age	X	X		
Whether patient received long-term institutionalized care	X	X	X	
Indicators for patient county of residence	X	X		X
Indicators for patient state of residence	X	X		X
Patient considered at high-risk			X	X
Practice-level characteristics at baseline				
SSP status	X		X	
Health professionals shortage area—primary care		X		
Practice-level number of assigned beneficiaries	X	X		
County mean income		X		
CPC+ region	X	X		
Hospital ownership	X			
County-level Medicare Advantage		X		
Rural–urban categorization	X			X
Mean beneficiary medical spending, quarter 5			X	
Mean beneficiary medical spending, quarter 8				X
Mean beneficiary medical spending, full baseline year				X
Assigned beneficiary count			X	X
Outpatient ED visits				X

ED = emergency department; SSP = Medicare Shared Savings Plan.

Calculating weights for comparison respondents. As with the sampling, we used a different weighting approach for the comparison patients than we did for the CPC+ patients, as the goal of this sample was not to represent the population of comparison patients, but rather to serve as a valid counterfactual for the CPC+ respondents. Therefore, we calculated weights to align the CPC+ and comparison respondents on a range of practice- and patient-level characteristics, not simply to adjust for nonresponse among the comparison patient sample.

3. For the PY 2 survey, we calculated these weights in two stages. First, we applied an adjustment for the oversampling or undersampling of patients from practices that were part

of the preliminary comparison group. This adjustment applied only to patients selected from the preliminary comparison group practices.

4. Second, we created weighting adjustments that, to the greatest extent possible, produced respondents from the comparison practices who had similar practice- and patient-level characteristics as the respondents from the CPC+ practices. The practice-level characteristics were the high-priority variables used in selecting the final comparison group for the evaluation (see Appendix 6.C in the second annual report [Ghosh et al. 2020] for full list of these variables), and the patient-level characteristics included age, race, sex, and the indicator for whether the patient was considered high risk. We calculated these balancing weights differently by track. For Track 1, we used inverse propensity score weights to balance the comparison respondents with the CPC+ respondents. We estimated these propensity scores via the twang package in R, which uses boosted regression to flexibly model the probability of being a CPC+ respondent (Ridgeway et al. 2017). After applying the inverse propensity score adjustments, we post-stratified the adjusted weights to the CPC+ population totals within strata. For Track 2, we post-stratified the comparison respondents to the CPC+ population totals within strata. We did not use inverse propensity score adjustments, because these provided little improvement in balance and substantially increased the variation in the weights, thereby reducing power. After post-stratification, we trimmed the adjusted weights for both tracks so no individual had undue influence on the results (specifically, so no weight was greater than 300). This trimming affected 1.5 percent of the respondents in Track 1 and 18.1 percent of the respondents in Track 2. We confirmed that this level of trimming made little difference to the balance achieved by the weights.

For the PY 3 survey, we did not need to adjust the weights for over- or undersampling because we sampled only from the final set of comparison practices. As we did for the PY 2 survey, we calculated propensity score weights for Track 1 and post-stratified weights for Track 2. We trimmed the Track 1 weights to a maximum value of 300, which affected 0.6 percent of the respondents. We did not trim the weights for the Track 2 respondents because the maximum weight was about 316, not large enough to require trimming.

C. Sample sizes and response rates

In each PY, we invited about 20,000 of the roughly 1.8 million Medicare FFS beneficiaries attributed to CPC+ practices (about 10,000 per Track). Among the roughly 3.5 million Medicare FFS beneficiaries attributed to comparison practices, we invited about 27,000 beneficiaries to respond to the PY 2 survey and about 16,000 beneficiaries to respond to the PY 3 survey.[51]

Using survey responses, we then identified respondents who reported having received care from the practice at least once in the six months before the start of the survey to include in the analytic

[51] Comparison practices can be matched to CPC+ practices in both tracks. Therefore, we surveyed the beneficiaries in practices matched to CPC+ practices in both tracks once but counted them twice, once in Track 1 and once in Track 2. Of the 26,907 comparison beneficiaries in the PY 2 survey sample, we attributed 16,445 to comparison practices matched to both Track 1 and Track 2 CPC+ practices. Of the 16,331 comparison beneficiaries in the PY 3 survey sample, we attributed 7,622 to comparison practices matched to both Track 1 and Track 2 CPC+ practices.

sample. In each PY, we obtained response rates[52] of about 41 percent for CPC+ beneficiaries and about 43 percent for comparison beneficiaries.

For the Track 1 analysis, our analytic sample includes 7,845 beneficiaries (3,924 in PY 2 and 3,921 in PY 3) attributed to the CPC+ practices and 11,902 beneficiaries (7,320 in PY 2 and 4,582 in PY 3) attributed to the comparison practices. These beneficiaries represent about 80 percent of CPC+ practices and 48 percent (PY 2) and 42 percent (PY 3) of the comparison practices (Table 5.A.4).

For the Track 2 analysis, our analytic sample includes 7,886 beneficiaries (3,989 in PY 2 and 3,897 in PY 3) attributed to the CPC+ practices and 11,266 beneficiaries (7,056 in PY 2 and 4,210 in PY 3) attributed to the comparison practices. These beneficiaries represent about 79 percent of CPC+ practices and 54 percent (PY 2) and 47 percent (PY 3) of the comparison practices (Table 5.A.4).

Among practices with at least one respondent in the analytic sample, each CPC+ practice had a median of three respondents (Track 1) and two respondents (Track 2) in PYs 2 and 3, and each comparison practice, regardless of track, had a median of two respondents to the PY 2 survey and one respondent to the PY 3 survey. Table 5.A.4 details the survey sample and response rates by research group, track, and PY.

[52] The response rate is the number of eligible and complete survey responses divided by the number of eligible sample members. The eligible sample includes a proportion of the sample with unknown eligibility that we estimate are eligible based on the rate of eligibility among those with known eligibility. This approach follows the guidelines of the American Association for Public Opinion Research (AAPOR 2016). This differs from the yield rate, which is just the number of completed surveys divided by the total sample regardless of eligibility.

Table 5.A.4. Attributed Medicare FFS CPC+ Beneficiary Survey sample and response rates, by treatment status and track

	CPC+			Comparison		
	Track 1	Track 2	Total[a]	Track 1	Track 2	Total[a]
PY 2						
Number of beneficiaries[b]						
In sampling frame	811,775	986,220	1,797,995	2,582,796	2,205,969	3,580,360
Sent surveys	10,006	9,995	20,001	24,140	19,212	26,907
Returned surveys	4,633	4,647	9,280	10,435	8,232	11,516
Returned eligible survey response	3,935	3,999	7,934	8,973	7,065	9,879
Returned eligible and complete survey response	3,926	3,989	7,915	7,325	7,059	9,854
In analysis sample	3,926	3,989	7,915	7,325	7,059	9,854
In analysis sample per practice (minimum/median/maximum)[c]	1/3/31	1/2/26	1/2/31	1/2/95	1/2/95	1/2/95
Response rate (percentage, unweighted)[d]	41.2	41.9	41.5	42.9	42.8	42.6
Number of practices						
In sampling frame	1,373	1,515	2,888	5,209	3,754	6,874
With completed surveys	1,121	1,210	2,331	2,478	2,013	3,225
With completed surveys in our analysis sample (percentage)	1,121 (81.6)	1,210 (79.9)	2,331 (80.7)	2,478 (47.6)	2,013 (53.6)	3,225 (46.9)
PY 3						
Number of beneficiaries[b]						
In sampling frame	794,317	971,092	1,757,433	2,491,311	2,115,142	3,421,114
Sent surveys	10,172	10,163	20,247	12,443	11,510	16,331
Returned surveys	4,610	4,559	9,141	5,422	5,000	7,098
Returned eligible survey response	3,954	3,930	7,865	4,617	4,239	6,030
Returned eligible and complete survey response	3,921	3,897	7,794	4,582	4,210	5,974
In analysis sample	3,921	3,897	7,794	4,582	4,210	5,974
In analysis sample per practice (minimum/median/maximum)[c]	1/3/30	1/2/32	1/2/32	1/1/28	1/1/29	1/2/29
Response rate (percentage, unweighted)[d]	41.6	41.0	41.3	43.3	43.2	43.1
Number of practices						
In sampling frame	1,364	1,514	2,859	5,161	3,743	6,787
With completed surveys	1,092	1,189	2,273	2,165	1,750	2,755
With completed surveys in our analysis sample (percentage)	1,092 (80.1)	1,189 (78.5)	2,273 (79.5)	2,165 (41.9)	1,750 (46.8)	2,755 (40.6)

[a] The total represents the number of unique beneficiaries or practices. Some beneficiaries and practices appear in both Tracks 1 and 2.

[b] In all program years, comparison beneficiaries could be in practices matched to Track 1 and Track 2. In the PY 3 survey, as a result of CPC+ practices merging with one another, CPC+ beneficiaries could also be in practices in both tracks, therefore the counts in each track are not mutually exclusive and do not sum to the total. In the PY 3 survey, there were 7,976 patients attributed to 19 CPC+ practices in both tracks, and 1,185,339 patients attributed to 2,117 comparison practices matched to both tracks.

[c] Number of beneficiaries in analysis sample per practice reported for practices with at least one respondent in the analytic sample.

Table 5.A.4. ***(continued)***

[d] The response rate is the number of eligible and complete survey responses divided by the eligible sample. The eligible sample includes a proportion of the sample with unknown eligibility that we estimate are eligible following the guidelines of the American Association for Public Opinion Research (AAPOR 2016).

FFS = fee-for-service.

5.A.3. Survey content and measures

A. Survey content

The CPC+ Beneficiary Survey instrument primarily contains questions based on the core CAHPS survey version 3.0 (AHRQ 2015). Other items were based on the CAHPS versions 2.0 and 3.0 patient-centered medical home (PCMH) supplemental modules (AHRQ 2016a) and the CAHPS 2.0 Health Information Technology supplemental module (AHRQ 2012). The CAHPS survey gauges patients' experiences with the provider and the provider's office over the previous six months across five domains of primary care: (1) patients' ability to get timely appointments, care, and information; (2) providers' communication with patients; (3) providers' use of information to coordinate patients' care; (4) helpful, courteous, and respectful office staff; and (5) patients' overall rating of their primary care providers. In addition, the CPC+ survey includes questions on patients' demographics such as race, education, and physical and mental health status.

Although we based the survey design and many of the questions on the CAHPS survey, we also created new questions and modified existing survey items to better reflect innovative aspects of the CPC+ model, such as team-based care and alternative visit types. To develop our initial survey instrument, we considered the unique features of care under the CPC+ model and engaged experts on patients' experience within Mathematica, the CMS CPC+ program team, and the CAHPS consortium.[53] Then we conducted 34 cognitive pre-testing interviews across three rounds of testing. Four of these interviews included a full-survey administration test to determine administration time.

We made a few small changes to the PY 2 CPC+ Beneficiary Survey instrument for PY 3: we made minor wording changes to three items, major wording changes to two items, and removed one item from the instrument. We made these changes based on feedback from 39 cognitive pre-testing interviews across two rounds of testing.

B. Measures

To help summarize patients' experiences, we created composite summary measures. We first identified the 38 items included in both the PY 2 and PY 3 surveys and asked about patients' experiences and grouped them based on the care delivery functions described in the CPC+ implementation guide. We then conducted a confirmatory factor analysis (CFA) using responses to the PY 2 survey from patients in CPC+ practices to confirm that the questions fit well into the assigned domain. We conducted the CFA separately by track to ensure the composite measures had adequate reliability for both tracks. This resulted in 10 composite measures created from 36 questions that were theoretically and statistically correlated. Of the 38 questions, we excluded 2 from the composite measures because they were not statistically related to the other questions

[53] The CAHPS Consortium consists of AHRQ and other organizations that are responsible for conceiving, developing, testing, and refining CAHPS surveys and conducting research on the various uses of the CAHPS survey data. The survey instrument we developed was not reviewed or endorsed by AHRQ or the Consortium.

and did not map to a care delivery function. The resulting composite measures consisted of 1 to 11 questions. Reflecting the combination of limited survey items and questions needing to fit together both theoretically and statistically, four composite measures contain only 1 question. The remaining six composite measures are formed from the responses to multiple questions. We calculated the internal consistency reliability of each of these six composite measures, to assess how well its questions produced consistent results. Each of the six composite measures had adequate reliability with McDonald's omega values between 0.77 and 0.96 (Nunnally and Bernstein 1994; Lance et al. 2006). Table 5.A.5a lists the survey questions in each domain and Table 5.A.5b lists the survey questions, sources, and domains.

Table 5.A.5a. Experiences included in the CPC+ Beneficiary Survey composite measures[54]

Composite measure 1: Access (11 questions)
How often the patient:
Got care as soon as needed when contacting the doctor's office for care needed right away
Got care as soon as needed when making an appointment for check-up or routine care
Received timely answers to health questions when contacting the doctor's office during regular office hours
Received timely answers to health questions when contacting the doctor's office outside of regular office hours
Received timely answers to health questions asked of the doctor's office via email, patient portal, or text messaging
Had appointments that started within 15 minutes of the scheduled appointment time
Whether the patient received care from the primary care doctors and their staff in the following ways:
Via phone, email, text messaging, or patient portal
Had a same day appointment or walk-in visit
Had a video appointment
Attended a group medical appointment with patients with similar medical issues
Whether someone from this doctor's office provided the patient with information about how to access care during evenings, weekends, or holidays
Composite measure 2: Continuity within the primary care office (1 question)
How often the patient received care from his or her regular primary care doctor
Composite measure 3: Continuity outside of the primary care office (2 questions)
Whether the patient's doctor or someone from the doctor's office came to see the patient[a]
In the hospital
At another location (excluding the doctor's office or hospital) to provide health care
Composite measure 4: Care management (4 questions)
Whether someone from this doctor's office:
Asked about all of the patient's prescription medications
Asked the patient if there are things in life that make it hard for the patient to take care of his or her health
Provided timely follow-up care after an emergency department visit
Provided timely follow-up care after a hospital stay
Composite measure 5: Comprehensiveness (6 questions)
Whether someone in the provider's office:
Knew important information about the patient's medical history
Asked the patient if he or she had any problems with physical pain or discomfort
Asked the patient if he or she had experienced depression symptoms
Talked with the patient about things in his or her life that cause worry or stress
Asked the patient about non-medical problems such as housing insecurity, food insecurity, lack of reliable transportation, or trouble paying utility bills
Asked the patient if he or she had any problems with abuse or violence

[54] The two survey items that were not used in the composite measures are described in table note a.

Table 5.A.5a. ***(continued)***

Composite measure 6: Coordination (1 question)
How often people from this doctor's office were informed and up to date on specialist care (PY 3 survey)
How often people from this doctor's office coordinated well with specialists to care for the patient (PY 2 survey)
Composite measure 7: Patient and family caregiver engagement (7 questions)
How often the patient received his or her test results from this doctor's office
How often people from this doctor's office:
Explained medical things in a way that was easy to understand
Listened carefully to the patient
Showed respect for what the patient had to say
Spent enough time with the patient
Whether someone from this doctor's office asked the patient about his or her end-of-life care wishes
Whether the patient currently has an end-of-life care plan
Composite measure 8: Helpful, courteous, and respectful office staff (2 questions)
How often clerks and receptionists at this doctor's office:
Were helpful
Treated the patient with courtesy and respect
Composite measure 9: Teamwork (1 question)
How often people from this doctor's office coordinated well among themselves to care for the patient
Composite measure 10: Patients' rating of the primary care doctors and staff (1 question)
Patients' rating of care received from primary care doctors and staff from the doctor's office on a scale of 0 to 10, with 0 being the worst and 10 being the best

[a] The two questions in the continuity outside of the primary care office composite measure also measure aspects of care management, such as visits to skilled nursing facilities or hospitals to support transitional care. However, these questions were not statistically correlated with the questions in the care management composite measure and are therefore a separate composite measure.

Table 5.A.5b. CPC+ Beneficiary Survey questions

Question number (PY 3)	CPC+ question text	Source	Modified from original source	Modified from PY 2 to PY 3	Domain
n.a.	Intro text: This is a survey about health care you received from primary care doctors and their staff. The person you got care from at this doctor's office might be a physician (MD or DO), a nurse practitioner (NP), physician assistant (PA), or other staff that work with them. Primary care doctors treat preventive and wellness needs, common illnesses (such as a cold or the flu), and ongoing conditions (such as diabetes or high blood pressure). Primary care doctors do not do surgery and do not treat just one kind of health problem such as a heart condition.	Mathematica: CPC+	Yes	No	n.a.
Q01	In the last 6 months, did you get any kind of health care from the primary care doctor's office listed on the cover page? You may know this doctor's office by another name. [Y/N]	CAHPS v3.0	Yes	Yes[a]	n.a.
Q02	Patients can get health care in different ways. How did you get care in the last 6 months from this primary care doctor's office? (Mark one or more.) 1. Had a scheduled appointment at this doctor's office 2. Had a same-day appointment or walk-in visit at this doctor's office 3. Received help from this doctor's office to fill prescriptions, set up medical tests, or schedule appointments 4. Discussed your health with your doctor or someone from this doctor's office via phone, email, text messaging, or a patient portal 5. None of the above	Mathematica: CPC+	Yes	Yes[b]	Access[c]
Q03	Did you get any other kinds of care from this doctor's office in the last 6 months? (Mark one or more.) 1. Your doctor or someone from this doctor's office came to see you in the hospital 2. Your doctor or someone from this doctor's office came to see you at another location besides this doctor's office or the hospital to provide health care (such as at your home or a senior center) 3. Had a video appointment with your doctor or someone from this doctor's office 4. Attended a group medical appointment arranged by this doctor's office with other patients who have similar medical issues 5. None of the above			Yes[b]	Access, continuity outside of the primary care office[d]
Q04	In the last 6 months, did you contact this doctor's office to get care for an illness, injury, or condition that needed care right away? [Y/N]	CAHPS v3.0	Yes	No	n.a.
Q05	In the last 6 months, when you contacted this doctor's office for care you needed right away, how often did you get care as soon as you needed? [Never, Sometimes, Usually, Always]	CAHPS v3.0	Yes	No	Access

Table 5.A.5b. ***(continued)***

Question number (PY 3)	CPC+ question text	Source	Modified from original source	Modified from PY 2 to PY 3	Domain
Q06	In the last 6 months, did you make any appointments for a check-up or routine care with this doctor's office? [Y/N]	CAHPS v3.0	Yes	No	n.a.
Q07	In the last 6 months, when you made an appointment for a check-up or routine care with this doctor's office, how often did you get care as soon as you needed? [Never, Sometimes, Usually, Always]	CAHPS v3.0	Yes	No	Access
Q08	In the last 6 months, did you contact this doctor's office with a health question during regular office hours? [Y/N]	CAHPS v3.0	Yes	No	n.a.
Q09	In the last 6 months, when you contacted this doctor's office during regular office hours, how often did you get an answer to your health question that same day? [Never, Sometimes, Usually, Always]	CAHPS v3.0	Yes	No	Access
Q10	Has this doctor's office given you information about what to do if you need care during evenings, weekends, or holidays? [Y/N]	CAHPS v3.0 Supplemental PCMH	Yes	No	Access
Q11	In the last 6 months, did you contact this doctor's office with a health question outside of regular office hours, for example, on evenings, weekends, or holidays? [Y/N]	CAHPS v3.0	Yes	No	n.a.
Q12	In the last 6 months, when you contacted this doctor's office outside of regular office hours, how often did you get an answer to your health question as soon as you needed? [Never, Sometimes, Usually, Always]	CAHPS v3.0	Yes	No	Access
Q13	In the last 6 months, did you use email, a patient portal, or text messaging to contact this doctor's office with a health question? [Y/N]	CAHPS v2.0 Supplemental HIT	Yes	No	n.a.
Q14	In the last 6 months, when you used email, a patient portal, or text messaging to contact this doctor's office with a health question, how often did you get an answer to your health question as soon as you needed? [Never, Sometimes, Usually, Always]	CAHPS v2.0 Supplemental HIT	Yes	No	Access
Q15	In the last 6 months, how often did your appointment(s) with this doctor's office start within 15 minutes of your appointment time? [Never, Sometimes, Usually, Always, Not applicable, Did not have scheduled appointment(s) with this doctor's office in the last 6 months]	CAHPS v3.0	Yes	No	Access
Q16	In the last 6 months, did you take any prescription medicine? [Y/N]	CAHPS v3.0	No	No	n.a.
Q17	In the last 6 months, did your doctor or someone from this doctor's office ask you about all the prescription medicines you were taking? [Y/N]	CAHPS v3.0	Yes	No	Care management
Q18	In the last 6 months, did you have a blood test, x-ray, or other test that was ordered by your doctor or someone from this doctor's office? [Y/N]	CAHPS v3.0	Yes	No	n.a.
Q19	In the last 6 months, when you had a blood test, x-ray, or other test that was ordered by your doctor or someone from this doctor's office, how often did you get your test results? [Never, Sometimes, Usually, Always]	CAHPS v3.0	Yes	No	Patient and family caregiver engagement

Table 5.A.5b. ***(continued)***

Question number (PY 3)	CPC+ question text	Source	Modified from original source	Modified from PY 2 to PY 3	Domain
Q20	In the last 6 months, how often did people from this doctor's office, including your doctor, explain medical things in a way that was easy to understand? [Never, Sometimes, Usually, Always]	CAHPS v3.0	Yes	No	Patient and family caregiver engagement
Q21	In the last 6 months, how often did people from this doctor's office, including your doctor, listen carefully to you? [Never, Sometimes, Usually, Always]	CAHPS v3.0	Yes	No	Patient and family caregiver engagement
Q22	In the last 6 months, how often did people from this doctor's office, including your doctor, seem to know the important information about your medical history? [Never, Sometimes, Usually, Always]	CAHPS v3.0	Yes	No	Comprehen-siveness
Q23	In the last 6 months, how often did people from this doctor's office, including your doctor, show respect for what you had to say? [Never, Sometimes, Usually, Always]	CAHPS v3.0	Yes	No	Patient and family caregiver engagement
Q24	In the last 6 months, how often did people from this doctor's office, including your doctor, spend enough time with you? [Never, Sometimes, Usually, Always]	CAHPS v3.0	Yes	No	Patient and family caregiver engagement
PY 2 only (Q26)	In the last 6 months, did your doctor or someone from this doctor's office talk with you about how to be healthy enough to do the things you like to do? [Y/N]	CAHPS v3.0 Supplemental PCMH	Yes	Yes[e]	Patient and family caregiver engagement
Q25	In the last 6 months, did your doctor or someone from this doctor's office ask you if there are things that make it hard for you to take care of your health? [Y/N]	CAHPS v3.0 Supplemental PCMH	Yes	No	Care management
Q26	In the last 6 months, did your doctor or someone from this doctor's office ask you if you had any problems with physical pain or discomfort? [Y/N]	Mathematica: CPC+	Yes	No	Comprehen-siveness
Q27	In the last 6 months, did your doctor or someone from this doctor's office ask you if there was a period of time when you felt sad, empty, or depressed? [Y/N]	CAHPS v2.0 Supplemental PCMH	Yes	No	Comprehen-siveness
Q28	In the last 6 months, did your doctor or someone from this doctor's office talk with you about things in your life that worry you or cause you stress? [Y/N]	CAHPS v3.0 Supplemental PCMH	Yes	No	Comprehen-siveness
Q29	In the last 6 months, did your doctor or someone from this doctor's office ask you about any non-medical problems you might need help with? These might include things like problems paying for or finding a place to live, not having enough food, lack of reliable transportation, or trouble paying utility bills. [Y/N]	Mathematica: CPC+	Yes	No	Comprehen-siveness
Q30	In the last 6 months, did your doctor or someone from this doctor's office ask you if you have any problems with abuse or violence at home or in your neighborhood? [Y/N]	Mathematica: CPC+	Yes	No	Comprehen-siveness

Table 5.A.5b. ***(continued)***

Question number (PY 3)	CPC+ question text	Source	Modified from original source	Modified from PY 2 to PY 3	Domain
Q31	An advance care plan describes a patient's wishes for end-of-life care in case the patient becomes too sick to make his or her own decisions. In an advance care plan, patients can choose family members or friends to make medical decisions for them, including health care that patients may not want. Advance care plans are often recorded in a document such as an advance directive, a do not resuscitate (DNR) order, health care power of attorney, or a living will. Do you have any kind of advance care plan? [Yes, No, I don't know]	Mathematica: CPC+	Yes	No	Patient and family caregiver engagement
Q32	Has your doctor or someone from this doctor's office asked you about your end-of-life care wishes or creating an advance care plan? [Yes, No, I don't know]	Mathematica: CPC+	Yes	No	Patient and family caregiver engagement
Q33	Specialists are doctors like surgeons, heart doctors, eye doctors, skin doctors, and other doctors who specialize in one area of health care. In the last 6 months, did you get any health care from a specialist? [Y/N]	CAHPS v3.0 Supplemental PCMH	Yes	No	n.a.
Q34	Remember, when we say “this doctor's office,” we are referring to the primary care doctor's office listed on the cover page. [PY 2] In the last 6 months, how often did the primary care doctors and their staff from this doctor's office and your specialist(s) seem to work well together to care for you? [Never, Sometimes, Usually, Always] [PY 3] In the last 6 months, how often did the people from this doctor’s office, including your doctor, seem informed and up-to-date about the care you got from specialists? [Never, Sometimes, Usually, Always]	Mathematica: CPC+	Yes	Yes[f]	Coordination
Q35	The questions below ask about health care you got from the primary care doctors and their staff from the doctor's office listed on the cover page, after going to an emergency department or being in a hospital. In the last 6 months, have you gone to an emergency room or emergency department for care? Please do not include visits to an urgent care center. [Y/N]	Mathematica: CPC Classic	Yes	No	n.a.
Q36	Did your doctor or someone from this doctor's office contact you to discuss your health needs within one week after your most recent emergency room or emergency department visit? [Y/N]	Mathematica: CPC Classic	Yes	No	Care management
Q37	In the last 6 months, have you been a patient in a hospital overnight or longer? [Y/N]	Mathematica: CPC Classic	Yes	No	n.a.
Q38	Did your doctor or someone from this doctor's office contact you to discuss your health needs within 3 days after your most recent hospital stay? [Y/N]	Mathematica: CPC Classic	Yes	No	Care management
Q39	In the last 6 months, how often did the primary care doctors and their staff from this doctor's office work well together to care for you? [Never, Sometimes, Usually, Always]	Mathematica: CPC+	Yes	No	Teamwork

Table 5.A.5b. ***(continued)***

Question number (PY 3)	CPC+ question text	Source	Modified from original source	Modified from PY 2 to PY 3	Domain
Q40	In the last 6 months, when you got care from a primary care doctor from this doctor's office, how often was this doctor the person you think of as your regular doctor in this office? By doctor, we mean a doctor, nurse practitioner (NP), or physician assistant (PA). [Never, Sometimes, Usually, Always]	Mathematica: CPC+	Yes	Yes[g]	Continuity within the primary care office
Q41	In the last 6 months, how often were clerks and receptionists at this doctor's office as helpful as you thought they should be? [Never, Sometimes, Usually, Always]	CAHPS v3.0	Yes	No	Patient experience: Helpful courteous, and respectful office staff
Q42	In the last 6 months, how often did clerks and receptionists at this doctor's office treat you with courtesy and respect? [Never, Sometimes, Usually, Always]	CAHPS v3.0	Yes	No	Patient experience: Helpful courteous, and respectful office staff
Q43	Using any number from 0 to 10, where 0 is the worst care possible and 10 is the best care possible, what number would you use to rate the care you have received from the primary care doctors and their staff from this doctor's office? [0–10]	CAHPS v3.0	Yes	No	Patient experience: Patients' rating of the primary care doctors and staff
Q44	In general, how would you rate your overall health? [Excellent, Very good, Good, Fair, Poor]	CAHPS v3.0	No	No	n.a.
Q45	In general, how would you rate your overall mental or emotional health? [Excellent, Very good, Good, Fair, Poor]	CAHPS v3.0	No	No	n.a.
Q46	What is the highest grade or level of school that you have completed? - 8th grade or less - Some high school, but did not graduate - High school graduate or GED - Some college or 2-year degree - 4-year college graduate - Advanced degree (master's, professional, or doctoral degree)	CAHPS v3.0	No	Yes[h]	n.a.
Q47	Are you of Hispanic or Latino origin or descent? [Y/N]	CAHPS v3.0	No	No	n.a.

Table 5.A.5b. ***(continued)***

Question number (PY 3)	CPC+ question text	Source	Modified from original source	Modified from PY 2 to PY 3	Domain
Q48	What is your race? (Mark one or more.) - White - Black or African American - Asian - Native Hawaiian or Other Pacific Islander - American Indian or Alaskan Native - Other	CAHPS v3.0	No	No	n.a.

Note: n.a. = not applicable; the question is not included in a domain because it either does not measure 1 of the 10 domains or is a screener question that allows respondents to skip questions if the situation does not apply to them.

[a] Question 01: In the PY 2 survey instrument, the question stem was "In the last 6 months, did you get any kind of health care from the primary care doctors or their staff from the office listed on the cover page?"

[b] Questions 02 and 03: In the PY 2 survey instrument, these two questions were combined into one question and the question stem was "Patients can get health care in different ways. How did you get care in the last 6 months from primary care doctors and their staff who work at this doctor's office?" For the PY 3 survey, we added the fifth response option "None of the above."

[c] Question 02: Subitems 1 and 2 are not in any domain, and subitems 3 and 4 are in the access domain.

[d] Question 03: Subitems 1 and 2 are in the continuity outside of the primary care office, and subitems 3 and 4 are in the access domain.

[e] Question 26: Only the PY 2 survey asked this question.

[f] Question 34: The wording of this question changed from the PY 2 to PY 3 surveys as shown in the table.

[g] Question 40: In the PY 2 survey instrument, the question stem was "When you saw a primary care doctor from this office in the last 6 months, how often were these visits with your regular doctor? A primary care doctor might be a physician (MD or DP), nurse practitioner (NP), or physician assistant (PA)."

[h] Question 48: Between the PY 2 and PY 3 surveys, the sixth response option changed from "More than 4 year college degree" to "Advanced degree (master's, professional, or doctoral degree)."

CAHPS = Consumer Assessment of Healthcare Providers and Systems; CPC+ = Comprehensive Primary Care Plus; GED = general educational development; HIT = health information technology; PCMH = patient-centered medical home; Q = question; Y/N = yes/no.

5.A.4. Analytic methods

Analytic comparisons. For each of the 38 survey questions that measured patients' experience and the 10 composite measures created using a subset of the questions, we compared responses between patients in CPC+ practices and those in comparison practices to observe differences in patients' experience between the two groups at each point in time (PY 2 and PY 3). Because we were not able to collect data before CPC+ began, observed differences in any of the years may reflect preexisting differences between CPC+ and comparison practices.

Estimation. For each of the 38 questions that measure patients' experience, we calculated the proportion of Medicare FFS beneficiaries who gave the *best* (most favorable) responses (response scales varied from 2 points [yes/no] to 11 points [0 to 10 global rating scale]). We also calculated *average* responses on a standardized 0 to 1 scale. Examples of these responses are (1) the provider always explained things to the patient in a way that was easy to understand; (2) in the last 6 months, yes, the doctor's office gave the patient information about what to do if he or she needs care during the evenings, weekends, or holidays; and (3) the patient's rating of the care he or she received from the primary care doctors and their staff (where 0 is the worst level of care possible and 10 is the best level of care possible).

Best and average responses. We analyzed both the best and average responses because there are trade-offs to both methods of defining patients' experience. Reporting the proportion of beneficiaries who gave the *best* responses enables us to compare CPC+ and comparison practices in a way that is easier to understand and interpret. However, this analysis—which focuses only on shifting the proportion of beneficiaries who selected the best response category—ignores any shifts in the other response categories (for example, a shift in the proportion of responses from the third- to second-best response option). An analysis using *average* responses better reflects the range of beneficiaries' responses by averaging responses across all response options. However, this measure is also imperfect. Calculating average responses uses the survey's ordinal scale, which orders options from best to worst response, but counts the movement between each option as equivalent. For example, if there are five response options, it treats the movement from the fifth to the fourth option as equivalent to a movement from the second to first option. It does not take into account objective differences in the meaning of different response options. In addition, the sensitivity analysis increases the risk of finding statistically significant impacts due to chance alone—a result of multiple hypothesis testing (explained in more detail later). In future reports, we will add an additional sensitivity analysis that models the data using Bayesian multivariate ordinal logistic regressions. Mathematica developed this regression approach for the purpose of analyzing ordinal survey data. This approach provides efficient estimates of program impacts while incorporating a built-in correction for multiple comparisons.

Regression adjustment. We first calculated the likelihood (predicted probability) that beneficiaries would respond to a question with the best response using logistic regressions with recycled predictions. For each outcome, we estimated outcomes separately by track. All regressions controlled for baseline (before CPC+) beneficiary and practice characteristics, and beneficiaries' self-reported education level at the time of the survey. Table 5.A.6 lists the control variables. The control variables used in this analysis are the same as those used in the claims-based impact analysis with the following exceptions: (1) the impact analysis uses practice fixed

effects and therefore does not include practice-level control variables, and (2) this analysis also controls for the beneficiary's baseline Medicare FFS expenditures and service use, and self-reported education level at the time of survey response. For all regressions, we weighted estimates using beneficiary-level nonresponse and matching weights as described in Section 5.A.2. To account for correlation in responses of beneficiaries within practices, our regression models used cluster-robust standard errors, clustering at the practice level.

Table 5.A.6. Control variables used in regressions

Variable description	Source
Practice-level variables at baseline (2016)	
Number of practitioners (physicians, NPs, PAs) of all specialties	SK&A, 2016
Meaningful use status (whether physicians at practice are meaningful users of EHRs and earliest year that physician at practice attested to meaningful use)	CMS, 2016
Whether the practice is multispecialty	SK&A, 2016
Whether a hospital or health system owns the practice	SK&A, 2016
Whether the practice participated in an SSP accountable care organization	MDM, 2016
Prior experience in selected practice transformation activities: NCQA, TJC, AAAHC, URAC, or state medical-home recognition status (whether practice is in a medical home) or alumni of CPC Classic or MAPCP	NCQA, 2016; TJC, 2016; AAAHC, 2016; URAC, 2016; state-specific sources, 2016; CPC+ data; CMS, 2016
Modified U.S. Census region (Midwest, Northeast, South and Plains, West)[a]	SK&A, 2016
Median household income of the county	Area Resource File, 2015–2016
Whether there is a shortage of primary care health professionals in the practice's county	Area Resource File, 2015–2016
Medicare Advantage penetration rate in the practice's county	Area Resource File, 2015–2016
Whether in an urban, rural, or suburban area	Area Resource File, 2015–2016
Number of hospitals and/or hospital beds in the county	Area Resource File, 2015–2016
Percentage of county's population in poverty	Area Resource File, 2015–2016
Percentage of adults ages 25 or older in the county with a degree from a four-year college	Area Resource File, 2015–2016
Beneficiaries' characteristics at baseline (2016)	
Age	Medicare enrollment data, 2016
Gender	Medicare enrollment data, 2016
Race	Medicare enrollment data, 2016
Reasons for Medicare eligibility	Medicare enrollment data, 2016
Dual eligibility status	Medicare enrollment data, 2016
Self-reported education level	CPC+ Beneficiary Surveys, 2018-2019
Risk score measured using the beneficiary's HCC score and indicator for whether the HCC score is missing	Medicare claims and enrollment data, 2016
Annualized Medicare expenditures at baseline (2016)	Medicare claims, 2016
Annualized number of hospitalizations at baseline (2016)	Medicare claims data, 2016
Annualized number of ED visits at baseline (2016)	Medicare claims data, 2016
Indicator for missing baseline Medicare FFS expenditures and service use for new-to-Medicare beneficiaries	Medicare claims data
Annualized number of primary care visits at baseline (2016)	Medicare claims data, 2016

Table 5.A.6. ***(continued)***

Variable description	Source
Presence of selected chronic conditions • HCC 8 – Metastatic Cancer and Acute Leukemia • HCC 18 – Diabetes with Chronic Complications • HCC 21 – Protein-Calorie Malnutrition • HCC 22 – Morbid Obesity • HCC 23 – Other Significant Endocrine and Metabolic Disorders • HCC 85 – Congestive Heart Failure • HCC 96 – Specified Heart Arrhythmias • HCC 106 – Atherosclerosis of the Extremities with Ulceration or Gangrene • HCC 111 – Chronic Obstructive Pulmonary Disease • HCC 173 – Traumatic Amputations and Complications • HCC 186 – Major Organ Transplant or Replacement Status • HCC 40 or 47 – Rheumatoid Arthritis and Inflammatory Connective Tissue Disease or Disorders of Immunity • HCC 46 or 48 – Severe Hematological Disorders, or Coagulation Defects and Other Specified Hematological Disorders • HCC 54 or 55 – Drug/Alcohol Psychosis or Dependence • HCC 57 or 58 – Schizophrenia or Major Depressive, Bipolar, and Paranoid Disorders • HCC 70 or 71 – Quadriplegia or Paraplegia • HCC 80 or 82 – Coma, Brain Compression/Anoxic Damage or Respirator Dependence/Tracheostomy Status • HCC 86, 87, or 88 – Acute Myocardial Infarction, Unstable Angina and Other Acute Ischemic Heart Disease, or Angina Pectoris • HCC 99 or 100 – Cerebral Hemorrhage, or Ischemic or Unspecified Stroke • HCC 107 or 108 – Vascular Disease, with Complications • HCC 157 or 158 – Pressure Ulcer of Skin with Necrosis Through to Muscle, Tendon, or Bone; or of Skin with Full Thickness Skin Loss • Chronic Conditions Warehouse indicator • Alzheimer's Disease or Dementia	Medicare claims data, 2016

[a] For the 2017 Starters, we grouped CPC+ regions into four market areas using the four U.S. Census regions as our starting point. We moved two CPC+ 2017 regions from their given Census region to a neighboring Census region. The Northern Kentucky–Ohio region spans two Census regions; therefore, we moved CPC+ practices in Northern Kentucky to the Midwest region. Because of its proximity to CPC+ regions in the South (Arkansas, Oklahoma, and Tennessee), we moved the Kansas City region from the Midwest region to the South. For face validity, we excluded several states from the external market areas from which we drew comparison practices. We also assigned three external states to a geographic region different from their Census region, to more closely mirror the CPC+ regions' market characteristics.

AAAHC = Accreditation Association for Ambulatory Health Care; CMS = Centers for Medicare & Medicaid Services; ED = emergency department; EHR = electronic health record; FFS = fee-for-service; HCC = hierarchical condition category; MAPCP = Multi-Payer Advanced Primary Care Practice; MDM = master data management system; NCQA = National Committee for Quality Assurance; NP = nurse practitioner; PA = physician assistant; SSP = Medicare Shared Savings Program; TJC = The Joint Commission; URAC = Utilization Review Accreditation Commission.

Missing data due to nonresponse or skips. We calculated predicted probabilities for each of the 38 questions among beneficiaries who responded to that question. Questions that asked respondents whether the next question applied to them preceded 10 of these questions. Fewer beneficiaries responded to these questions, because of skip patterns in the survey. In those cases, we report responses among those who should have answered the question. For example, the survey asked all beneficiaries whether they contacted the doctor's office with a health question during regular office hours. If respondents selected yes, the survey then asked a follow-up question about how often they received an answer to their medical question the same day. In the PY 2 survey, 56 percent of respondents in both groups of practices answered that they did not phone their provider's office with a medical question during regular office hours. Therefore, these beneficiaries were not asked the follow-up question and were not included in the analysis for that question. Most questions that were not preceded by a screener question were answered by 95 percent or more of the survey respondents.

Creating and assessing composite measures. In addition to individual questions, we created 10 composite measures using 36 of the 38 questions about patients' experience (described before). We calculated composite measures by averaging nonmissing binary indicators for whether the beneficiary's response was the best option across each question in the composite. (That is, if the composite contained four questions and the respondent answered all four and gave the best response for three of them, the patient's score for that composite measure was 0.75.) We then assessed differences in composite measures between beneficiaries in the CPC+ and comparison groups using ordinary least squares regressions that controlled for the same characteristics as the regressions for individual questions (described earlier).

Subgroups. For the composite measures, we also estimated the effects of CPC+ on key subgroups of beneficiaries:

- Practice's characteristics
  - Whether the beneficiary's practice participated in a Medicare SSP accountable care organization at the start of CPC+ (January 1, 2017, for practices that started CPC+ in 2017)
  - Whether the beneficiary's practice participated in prior practice transformation activities, defined as whether the practice was recognized as a medical home or participated in the Multi-Payer Advanced Primary Care Practice demonstration or CPC Classic[55]
  - Whether a hospital or a health system owned the beneficiary's practice[56]
  - The size of the beneficiary's practice site (measured by number of primary care practitioners: large [6 or more practitioners], medium [3 to 5 practitioners], or small [1 or 2 practitioners])[57]

[55] We considered a practice to be a Multi-Payer Advanced Primary Care Practice participant if it participated in any year, 2011–2014 for 2017 Starters, as determined by a file from CMS. A practice was considered to have medical home recognition if it at least one of its primary care providers was listed as having recognition at some point 2014–2017 from the National Community for Quality Assurance (NCQA), a state, the Accreditation Association for Ambulatory Health Care (AAAHC), The Joint Commission (TJC), or Utilization Review Accreditation Commission (URAC), as determined by the June 2016 (for 2017 Starters) NCQA PCMH file and data extracted from the websites of TJC, AAAHC, URAC, and state-specific sources from October 2016 to February 2017..

[56] Practice ownership comes from the SK&A database, managed by IQVIA, a marketing organization that collects information directly from all health care practices in the United States. IQVIA updates this information on an ongoing basis; we pulled practice ownership information in November 2016.

[57] We calculated the number of primary care practitioners (PCPs) at the practice site using a November 2016 pull of SK&A data and the National Plan & Provider Enumeration System (NPPES). We counted a provider as a primary care practitioner if they met criteria in either the SK&A data or the NPPES data; we did not require them to be considered a primary care practitioner in both data sources. Using the SK&A data, we defined PCPs as a physician (MD or DO), nurse practitioner (NP), or physician's assistant (PA) who bill under their own National Provider Identifier (NPI) and have a specialty of general practitioner, family practitioner, internist, internal medicine/pediatrics, or geriatrician. In NPPES, we defined PCPs as physicians, NPs, PAs, or clinical nurse specialists with 1 of 56 primary care taxonomy codes.

  - Whether the beneficiary's practice was in a rural, suburban, or urban area[58]

- Patient's characteristics
  - The beneficiary's relative health status, measured in three different ways, by whether the beneficiary at baseline had:
    - A top quartile HCC risk score (Pope et al. 2004)
    - A top 10 percent HCC score or dementia
    - A serious mental illness (defined as having one of the following behavioral health conditions: schizophrenia or major depressive, bipolar, and paranoid disorders, or drug/alcohol psychosis or drug/alcohol dependence)

For these subgroup analyses, we included in the regressions interactions of variables denoting subgroup membership with the indicator for CPC+ versus comparison status and survey wave. Because there is likely to be significant correlation among practice or beneficiary characteristics, for example, between practice size and ownership, testing for differential effects for each characteristic separately might not unmask the real drivers of significant differences. Therefore, we included interactions with subgroup indicators for *all* practice (or beneficiary) characteristics in a single regression to disentangle characteristics that actually influence program impacts.

Power. Using two-tailed tests at the 10 percent significance level, the analysis had 80 percent power to detect differences between CPC+ and comparison patients of 1 to 4 percentage points for the composite measures and most individual questions. Exceptions were for questions that applied to a small proportion of respondents, such as beneficiaries who had contacted the doctor's office outside of regular office hours, or via a patient portal or text messaging, as well as beneficiaries who in the last six months had gone to the emergency department for care or stayed overnight in the hospital, where we could detect differences of 6 to 10 percentage points. Among subgroups, minimum detectable effects are larger due to smaller sample sizes.

[58] Geographic location is derived from the 2015–2016 U.S. Department of Health and Human Services' Area Health Resource File (AHRF). The variable used reflects 2013 data. The AHRF provides a 9-point rural–urban continuum code (RUCC) from the U.S. Department of Agriculture Economic Research Service. From these codes, we defined urban as a county in a metropolitan area of more than 250,000 people (RUCC = 1 or 2), suburban as a county in a metropolitan area of fewer than 250,000 people or that has an urban population of 20,000 or more and is adjacent to a metropolitan area (RUCC=3 or 4), or rural if it does not meet the urban or suburban classifications (RUCC = 5 to 9).

Multiple comparisons and substantial importance. Because multiple comparisons can lead to false positives, we do not draw inferences about effects from tests of each hypothesis separately, but rather from the findings across the set of questions and composites, relying most heavily on the summary composites. Nevertheless, we must interpret results with caution due to the number of tests performed. We tested for 96 primary impacts (38 survey questions and 10 composite measures across the two tracks), not including the subgroup analyses and the sensitivity analysis on average response. The analyses for the eight subgroups in each track examined only the 10 composite measures, resulting in an additional 160 tests. The analysis of average responses added an additional 96 tests (38 survey questions and 10 composites across two tracks). This means that, by chance alone, we would expect to find statistically significant differences in 35 tests using the 0.10 significance level. To reduce the risk of incorrectly concluding there were effects of CPC+, we considered responses between beneficiaries in CPC+ and comparison practices to be statistically different and *substantially* important if the difference met two criteria: (1) the *p*-value was less than or equal to 0.10 and (2) the difference between the two groups was larger than 5 percentage points.

Sensitivity tests using average response. To test the sensitivity of our findings, we examined CPC+–comparison differences in regression-adjusted average responses. Because the number of response options varies among questions, we first standardized responses to a 0 to 1 scale, where 0 is the worst response and 1 is the best. To calculate average responses for the composite measures, we created beneficiary-level composite measures by averaging the nonmissing standardized responses across the questions in the composite measure. We then used ordinary least squares regressions and controlled for the same practice and beneficiary characteristics used for the analysis of best responses.

Software. We conducted all analyses using SAS version 9.4 and Stata version 15, and statistical tests used survey commands to account for the survey sampling design.

5.A.5. Data tables

This section presents five sets of tables showing weighted and regression-adjusted data. Each table shows data for respondents in CPC+ and comparison practices separately, as follows:

- Table 5.A.7 presents the predicted percentage of Medicare FFS beneficiaries attributed to CPC+ and comparison practices who gave the best response to individual survey questions and the 10 composite measures, by PY and track.
- Table 5.A.8 presents the predicted standardized average responses for composite measures and the individual survey questions for Medicare FFS beneficiaries attributed to CPC+ and comparison practices, by PY and track.
- Table 5.A.9 presents the predicted percentage of Medicare FFS beneficiaries attributed to CPC+ and comparison practices who gave the best response to the 10 composite measures, by SSP status, by PY and track.
- Tables 5.A.10a–5.A.10d present the predicted percentage of Medicare FFS beneficiaries attributed to CPC+ and comparison practices who gave the best responses to the 10 composite measures, by various practice characteristics, by PY and track.

  - Table 5.A.10a: by practice ownership
  - Table 5.A.10b: by practice size
  - Table 5.A.10c: by practice's geographic location
  - Table 5.A.10d: by practice's prior primary care transformation experience
- Tables 5.A.11a–5.A.11c present the predicted percentage of Medicare FFS beneficiaries attributed to CPC+ and comparison practices who gave the best responses to the 10 composite measures, by various beneficiary characteristics, by PY and track.
  - Table 5.A.11a: by beneficiary's high-risk status defined by whether the beneficiary's HCC score is in the top quartile of the sample
  - Table 5.A.11b: by beneficiary's high-risk status defined by whether the beneficiary's HCC score is in the top 10 percent or has dementia
  - Table 5.A.11c: by beneficiary's high-risk status defined by whether the beneficiary has a serious mental illness

In each of the tables, **bolded text** indicates a statistically significant ($p < 0.10$) difference between responses from beneficiaries in CPC+ and comparison practices. Green shading with **bolded text** indicates a favorable finding that is both statistically significant ($p < 0.10$) and substantially significant (a difference of 5 percentage points or more); red shading with ***bold, italicized text*** indicates an unfavorable finding that is both statistically and substantially significant.

Table 5.A.7a. Predicted percentage of Medicare FFS beneficiaries attributed to CPC+ and comparison practices giving the best response to questions and composites, PY 2 and PY 3, Track 1

	PY 2				PY 3				N
	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value	(CPC+; Comparison)
Composite measures (36 total questions)									
Access (11 questions)	37.6	38.3	-0.7	0.170	38.7	38.0	0.7	0.190	7,524; 11,270
Continuity in the doctor's office (1 question)	83.1	84.5	-1.4	0.143	80.7	80.4	0.3	0.740	7,299; 10,921
Continuity outside of the doctor's office (2 question)	3.2	3.2	0.1	0.889	2.2	2.5	-0.3	0.373	7,328; 11,012
Care management (4 questions)	70.9	70.8	0.2	0.850	70.3	70.2	0.1	0.852	7,497; 11,226
Comprehensiveness (6 questions)	50.7	51.2	-0.4	0.534	52.6	51.2	1.4	**0.050**	7,492; 11,219
Coordination (1 question)[a]	66.3	67.6	-1.3	0.366	59.8	59.7	0.2	0.910	5,465; 8,161
Patient and family caregiver engagement (7 questions)	72.2	73.9	-1.7	**0.008**	75.0	74.7	0.3	0.642	7,518; 11,255
Helpful, courteous, and respectful office staff (2 questions)	83.4	85.2	-1.9	**0.031**	84.5	85.8	-1.3	0.117	7,420; 11,112
Teamwork (1 question)	78.2	79.0	-0.9	0.407	80.5	80.2	0.3	0.744	7,333; 11,010
Patients' rating of the primary care doctors and their staff (1 question)	84.0	84.1	-0.1	0.941	85.4	85.4	0.0	0.976	7,365; 11,031
Individual questions in the composite measures (PY 3 question number)									
Access (11 questions)									
Q2 and Q3 Type of care received by patient from primary care doctors and their staff									
Q2_4 Discussed his/her health with doctor or someone from the doctor's office via phone, email, text messaging, or a patient portal	34.1	37.1	-3.0	**0.012**	18.7	19.3	-0.6	0.509	7.398; 11,116
Q2_2 Had a same-day appointment or walk-in visit	20.4	19.1	1.2	0.235	12.6	12.9	-0.3	0.704	7,398; 11,116
Q3_3 Had a video appointment with doctor or someone from doctor's office	1.1	1.0	0.1	0.668	0.5	0.4	0.1	0.609	7,281; 10,948
Q3_4 Attended a group medical appointment arranged by the doctor's office with patients with similar medical issues	1.2	1.4	-0.1	0.688	0.6	0.6	0.1	0.789	7,281; 10,948
Q5: Patient always got care as soon as needed when s/he contacted doctor's office for care needed right away	72.6	71.3	1.3	0.500	75.2	73.2	2.0	0.238	3,164; 4,630

Table 5.A.7a. ***(continued)***

	PY 2				PY 3				N
	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value	(CPC+; Comparison)
Q7: Patient always got care as soon as needed when s/he made appointments for check-up or routine care	78.1	79.5	-1.4	0.227	81.0	80.4	0.6	0.561	6,142; 9,213
Q9: Patient always received an answer to his/her health question that same day when contacting doctor's office during regular office hours	61.0	60.5	0.4	0.838	63.5	60.2	3.3	**0.088**	3,214; 4,883
Q10: Patient received information from doctor's office about what to do if she/he needed care during evenings, weekends, or holidays	71.6	71.1	0.5	0.686	73.4	70.8	2.5	**0.028**	7,272; 10,815
Q12: Patient always received an answer to his/her health question as soon as needed when contacting doctor's office outside of regular office hours	59.9	62.9	-3.0	0.492	70.9	66.6	4.3	0.275	578; 949
Q14: Patient always received an answer to his/her health question as soon as needed when contacting the doctor's office using email, a patient portal, or text messaging	76.8	75.6	1.2	0.705	74.7	77.1	-2.4	0.409	797; 1,430
Q15: Among individuals with scheduled appointments, appointments always started within 15 minutes of scheduled appointment time	41.5	45.7	-4.2	**0.002**	45.8	45.4	0.4	0.761	7,301; 10,890
Continuity in the doctor's office (1 question)									
Q40: Patient always received care from the primary care doctor she/he thought of as her/his regular doctor[b]	83.1	84.6	-1.5	0.133	80.7	80.4	0.3	0.745	7,299; 10,,921
Continuity outside of the doctor's office (2 questions)									
Q3_1: Patient's doctor or someone from the doctor's office came to see patient in the hospital	4.2	4.1	0.1	0.880	3.1	3.7	-0.6	0.223	7,328; 11,012
Q3_2: Patient's doctor or someone from the doctor's office came to see patient at another location (excluding the doctor's office and hospital) to provide health care	2.2	2.2	0.1	0.879	1.3	1.2	0.1	0.755	7,328; 11,012

Table 5.A.7a. ***(continued)***

	PY 2				PY 3				N
	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value	(CPC+; Comparison)
Care management (4 questions)									
Q17: If patient took prescription medicine, someone from the doctor's office talked with patient about all the prescription medicines patient was taking	93.6	92.9	0.7	0.309	93.5	93.9	-0.4	0.564	7,163; 10,640
Q25: Patient's doctor or someone from the doctor's office asked patient if there are things that make it hard for him/her to take care of his/her health	53.0	54.4	-1.4	0.290	51.8	51.6	0.3	0.850	7,305; 10,922
Q36: If patient visited the emergency room or emergency department for care, patient was contacted by doctor's office within one week	65.2	58.5	**6.7**	**0.012**	63.9	59.5	4.4	**0.092**	1,710; 2,466
Q38: If patient stayed in a hospital overnight or longer, patient was contacted by doctor's office within 3 days	53.5	55.9	-2.4	0.439	55.2	55.1	0.1	0.975	1,170; 1,750
Comprehensiveness (6 questions)									
Q22: People from the doctor's office, including the doctor, always seemed to know the important information about patient's medical history	75.5	75.9	-0.4	0.734	76.1	75.2	0.9	0.407	7,429; 11,110
Q26: Patient's doctor or someone from the doctor's office asked patient if she/he had any problems with physical pain or discomfort	85.3	86.7	-1.3	0.137	85.3	85.6	-0.3	0.735	7,392; 11,067
Q27: Patient's doctor or someone from the doctor's office asked patient if there was a period of time when she/he felt sad, empty, or depressed	59.9	58.9	1.1	0.447	64.5	60.7	3.8	**0.004**	7,351; 11,006
Q28: Patient's doctor or someone from the doctor's office talked to patient about things in his/her life that cause worry or stress	52.3	52.6	-0.3	0.821	53.9	51.4	2.5	**0.058**	7,318; 10,971
Q29: Patient's doctor or someone from the doctor's office asked her/him about non-medical problems she/he might need help with	10.5	10.2	0.2	0.790	13.0	12.4	0.7	0.438	7,322; 10,897

Table 5.A.7a. ***(continued)***

	PY 2				PY 3				N
	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value	(CPC+; Comparison)
Q30: Patient's doctor or someone from the doctor's office asked her/him if she/he had any problems with abuse or violence at home or in her/his neighborhood	17.7	18.3	-0.6	0.598	21.0	20.0	1.0	0.402	7,318; 10,891
Coordination (1 question)[a]									
(PY 2 Q36) If patient received care from a specialist, primary care doctor's and their staff always seemed to work well together to care for patient	66.3	67.6	-1.3	0.366	n.a.	n.a.	n.a.	n.a.	5,465; 8,161
(PY 3 Q34) If patient received care from specialist, primary care doctor's office was informed and up-to-date on specialist care	n.a.	n.a.	n.a.	n.a.	59.8	59.7	0.2	0.907	5,465; 8,161
Patient and family caregiver engagement (7 questions)									
Q19: Patient always received test results that were ordered by the doctor or someone at the doctor's office	82.6	85.0	-2.4	**0.021**	85.6	84.7	1.0	0.305	6,196; 9,313
Q20: People from the doctor's office, including the doctor, always explained medical things to patient in a way that was easy to understand	78.2	80.3	-2.1	**0.039**	80.2	80.6	-0.4	0.680	7,446; 11,143
Q21: People from the doctor's office, including the doctor, always listened carefully to patient	82.4	82.3	0.0	0.971	84.3	84.1	0.2	0.839	7,441; 11,158
Q23: People from the doctor's office, including the doctor, always showed respect for what patient had to say	87.3	87.5	-0.2	0.858	88.7	87.9	0.8	0.312	7,462; 11,153
Q24: People from the doctor's office, including the doctor, always spent enough time with patient	77.7	77.9	-0.3	0.811	78.9	79.4	-0.4	0.667	7,457; 11,171
Q31: Patient has an advanced care plan	62.5	65.6	-3.2	**0.009**	64.2	65.7	-1.5	0.221	7,372; 10,965
Q32: Patient's doctor or someone from the doctor's office asked patient about his/her end-of-life care wishes or creating an advance care plan	36.8	39.9	-3.1	**0.021**	44.9	42.6	2.3	**0.093**	7,285; 10,874
Helpful, courteous, and respectful office staff (2 questions)									
Q41: Clerks and receptionists at the doctor's office were always as helpful as patient thought they should be	78.9	81.2	-2.3	**0.027**	79.5	81.5	-2.0	**0.047**	7,396; 11,068

Table 5.A.7a. ***(continued)***

	PY 2				PY 3				N
	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value	(CPC+; Comparison)
Q42: Clerks and receptionists at the doctor's office always treated patient with courtesy and respect	88.0	89.2	-1.3	0.133	89.6	90.1	-0.5	0.486	7,403; 11,083
Teamwork (1 question)									
Q39: Primary care doctors and their staff always worked well together to care for patient	78.2	79.0	-0.9	0.409	80.5	80.2	0.3	0.757	7,333; 11,010
Patients' rating of the primary care doctors and their staff (1 question)									
Q43: Patient's rating of care received from the primary care doctors and their staff as best level of care possible (9-10, out of a maximum of 10)	84.0	84.1	0.0	0.976	85.4	85.4	0.0	0.990	7,365; 11,031
Questions not included in composite measures									
Q2_1: Had a scheduled appointment with the primary care doctors and their staff	94.4	95.2	-0.8	0.180	92.6	92.9	-0.2	0.709	7,398; 11,116
Q2_3: Received help to fill prescriptions, set up medical tests, or schedule appointments from the primary care doctors and their staff	62.3	63.8	-1.5	0.246	36.7	36.9	-0.1	0.908	7,398; 11,116
(PY 2 Q26) Patient's doctor or someone from the doctor's office talked with patient about how to be healthy enough to do the things he/she likes to do	77.6	80.3	-2.7	**0.007**	n.a.	n.a.	n.a.	n.a.	3,516; 6,498

Source: CPC+ Beneficiary Survey administered to Medicare FFS beneficiaries attributed to 2017 Starter CPC+ practices and comparison practices. The PY 2 survey was administered May through August 2018 to beneficiaries in CPC+ practices and June through December 2018 to Medicare FFS beneficiaries attributed to comparison practices. The PY 3 survey was administered February through May 2019 to beneficiaries in CPC+ and comparison practices.

Notes: Question numbers are from the PY 3 survey unless otherwise noted.

Composite measures for the 10 domains of care were created from 36 survey questions. To calculate predicted probabilities for the composite measures, we first created beneficiary-level composite measures by averaging nonmissing binary indicators for whether the beneficiary's response was the best option across each question in the composite. We then ran ordinary least squares regressions on beneficiary-level composite measures to create CPC-wide composite scores.

We estimated outcomes separately for Track 1 and Track 2. All regressions controlled for baseline (pre-CPC+) beneficiary and practice characteristics, and beneficiaries' self-reported education level at the time of the survey. Appendix Table 5.A.6 lists the control variables. For all regressions, we weighted estimates using beneficiary-level nonresponse and matching weights. To account for correlation in responses within practices, our regression models used cluster-robust standard errors, clustering at the practice level.

Bolded text indicates that the finding was statistically significant at the $p<0.10$ level, using a two-tailed t-test. **Green shading with bolded text** indicates a favorable finding that is both statistically and substantially significant; there were no unfavorable findings that were both statistically and substantially significant.

[a] This domain changed composition over time. While remaining a domain composed of one question, the wording of the question changed substantially over time. In PY 2, we asked "In the last 6 months, how often did the primary care doctors and their staff from this doctor's office and your specialist(s) seem to work well together to care for you?" In PY 3, we

Table 5.A.7a. ***(continued)***

asked “In the last 6 months, how often did the people from this doctor's office, including your doctor, seem informed and up-to-date about the care you got from specialists?” Given the substantial differences in the question wording, domain scores should not be compared over time.

[b] The wording on this question changed from the PY 2 survey. In the PY 2 survey, we asked “In the last 6 months, when you got care from a primary care doctor from this doctor's office, how often was this doctor the person you think of as your regular doctor in this office? By doctor, we mean a doctor, nurse practitioner (NP), or physician assistant (PA).” In the PY 3 survey, we asked “When you saw a primary care doctor from this office in the last 6 months, how often were these visits with your regular doctor? A primary care doctor might be a physician (MD or DO), nurse practitioner (NP), or physician assistant (PA).”

FFS = fee-for-service; n.a. = not applicable because the question was not asked in that survey; PY = Program Year; Q = question number.

Table 5.A.7b. Predicted percentage of Medicare FFS beneficiaries attributed to CPC+ and comparison practices giving the best response to questions and composites, PY 2 and PY 3, Track 2

	PY 2				PY 3				N
	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value	(CPC+; Comparison)
Composite measures (36 total questions)									
Access (11 questions)	38.7	37.9	0.8	0.125	38.6	38.2	0.4	0.457	7,515; 10,653
Continuity in the doctor's office (1 question)	83.3	84.5	-1.2	0.203	78.6	79.6	-1.0	0.353	7,279; 10,314
Continuity outside of the doctor's office (2 question)	3.6	2.8	0.9	**0.025**	2.2	2.4	-0.2	0.487	7,332; 10,434
Care management (4 questions)	71.2	71.0	0.2	0.821	70.9	69.9	0.9	0.267	7,496; 10,605
Comprehensiveness (6 questions)	50.5	51.9	-1.3	**0.069**	52.7	52.3	0.3	0.637	7,488; 10,604
Coordination (1 question)[a]	65.7	67.9	-2.2	0.122	58.9	60.8	-1.9	0.172	5,562; 7,682
Patient and family caregiver engagement (7 questions)	73.8	74.5	-0.7	0.269	75.4	75.6	-0.2	0.721	7,508; 10,637
Helpful, courteous, and respectful office staff (2 questions)	84.3	85.2	-0.9	0.313	85.1	85.5	-0.4	0.636	7,407; 10,493
Teamwork (1 question)	79.9	79.4	0.5	0.665	80.5	80.7	-0.2	0.852	7,350; 10,374
Patients' rating of the primary care doctors and their staff (1 question)	85.0	84.2	0.9	0.355	85.8	85.7	0.2	0.855	7,358; 10,429
Individual questions in the composite measures (PY 3 question number)									
Access (11 questions)									
Q2 and Q3 Type of care received by patient from primary care doctors and their staff									
Q2_4 Discussed his/her health with doctor or someone from the doctor's office via phone, email, text messaging, or a patient portal	36.0	36.2	-0.2	0.836	19.8	19.5	0.3	0.793	7,402; 10,511
Q2_2 Had a same-day appointment or walk-in visit	18.9	18.3	0.6	0.573	13.8	13.3	0.5	0.606	7,402; 10,511
Q3_3 Had a video appointment with doctor or someone from doctor's office	1.4	0.9	0.5	**0.059**	0.3	0.4	-0.1	0.292	7,303; 10,391
Q3_4 Attended a group medical appointment arranged by the doctor's office with patients with similar medical issues	1.8	1.1	0.6	**0.037**	0.7	0.6	0.1	0.464	7,296; 10,375
Q5: Patient always got care as soon as needed when s/he contacted doctor's office for care needed right away	74.4	71.8	2.6	0.146	75.3	73.5	1.8	0.284	3,149; 4,336

Table 5.A.7b. ***(continued)***

	PY 2				PY 3				N
	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value	(CPC+; Comparison)
Q7: Patient always got care as soon as needed when s/he made appointments for check-up or routine care	79.9	78.6	1.3	0.263	80.4	79.6	0.8	0.471	6,118; 8,689
Q9: Patient always received an answer to his/her health question that same day when contacting doctor's office during regular office hours	58.8	60.9	-2.1	0.290	60.4	60.6	-0.2	0.926	3,126; 4,593
Q10: Patient received information from doctor's office about what to do if she/he needed care during evenings, weekends, or holidays	73.3	71.3	2.0	0.103	72.9	71.0	1.9	0.110	7,276; 10,222
Q12: Patient always received an answer to his/her health question as soon as needed when contacting doctor's office outside of regular office hours	67.5	60.6	**6.9**	**0.096**	61.8	64.3	-2.4	0.559	606; 897
Q14: Patient always received an answer to his/her health question as soon as needed when contacting the doctor's office using email, a patient portal, or text messaging	75.7	73.5	2.2	0.465	78.6	75.2	3.4	0.195	1,049; 1,416
Q15: Among individuals with scheduled appointments, appointments always started within 15 minutes of scheduled appointment time	44.2	45.5	-1.3	0.349	46.3	47.1	-0.8	0.568	7,264; 10,272
Continuity in the doctor's office (1 question)									
Q40: Patient always received care from the primary care doctor she/he thought of as her/his regular doctor[b]	83.3	84.6	-1.2	0.197	78.6	79.6	-1.0	0.347	7,279; 10,314
Continuity outside of the doctor's office (2 questions)									
Q3_1: Patient's doctor or someone from the doctor's office came to see patient in the hospital	4.6	3.5	1.1	**0.036**	3.0	3.5	-0.6	0.194	7,332; 10,434
Q3_2: Patient's doctor or someone from the doctor's office came to see patient at another location (excluding the doctor's office and hospital) to provide health care	2.7	2.0	0.8	**0.048**	1.4	1.2	0.2	0.582	7,304; 10,393

Table 5.A.7b. ***(continued)***

	PY 2				PY 3				N
	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value	(CPC+; Comparison)
Care management (4 questions)									
Q17: If patient took prescription medicine, someone from the doctor's office talked with patient about all the prescription medicines patient was taking	93.4	93.0	0.4	0.499	93.9	93.9	0.0	0.955	7,164; 10,039
Q25: Patient's doctor or someone from the doctor's office asked patient if there are things that make it hard for him/her to take care of his/her health	53.5	54.5	-1.1	0.420	51.5	51.2	0.3	0.803	7,284; 10,303
Q36: If patient visited the emergency room or emergency department for care, patient was contacted by doctor's office within one week	65.1	61.7	3.4	0.173	63.8	61.2	2.6	0.352	1,671; 2,297
Q38: If patient stayed in a hospital overnight or longer, patient was contacted by doctor's office within 3 days	60.5	54.5	**6.1**	**0.048**	62.4	52.2	**10.2**	**0.002**	1,190; 1,704
Comprehensiveness (6 questions)									
Q22: People from the doctor's office, including the doctor, always seemed to know the important information about patient's medical history	75.6	76.0	-0.4	0.699	75.6	76.0	-0.4	0.699	7,420; 10,492
Q26: Patient's doctor or someone from the doctor's office asked patient if she/he had any problems with physical pain or discomfort	84.3	86.3	-2.1	**0.031**	84.8	85.3	-0.6	0.531	7,379; 10,438
Q27: Patient's doctor or someone from the doctor's office asked patient if there was a period of time when she/he felt sad, empty, or depressed	60.9	61.4	-0.5	0.702	65.0	63.2	1.8	0.175	7,342; 10,414
Q28: Patient's doctor or someone from the doctor's office talked to patient about things in his/her life that cause worry or stress	52.0	53.3	-1.2	0.345	53.2	53.3	-0.1	0.960	7,311; 10,371
Q29: Patient's doctor or someone from the doctor's office asked her/him about non-medical problems she/he might need help with	10.8	10.1	0.7	0.372	14.7	12.8	1.9	**0.039**	7,305; 10,295

Table 5.A.7b. ***(continued)***

	PY 2				PY 3				N
	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value	(CPC+; Comparison)
Q30: Patient's doctor or someone from the doctor's office asked her/him if she/he had any problems with abuse or violence at home or in her/his neighborhood	17.5	20.3	-2.8	**0.013**	21.8	21.3	0.5	0.667	7,320; 10,286
Coordination (1 question)[a]									
(PY 2 Q36) If patient received care from a specialist, primary care doctor's and their staff always seemed to work well together to care for patient	65.7	67.9	-2.2	0.119	n.a.	n.a.	n.a.	n.a.	5,562; 7,682
(PY 3 Q34) If patient received care from specialist, primary care doctor's office was informed and up-to-date on specialist care	n.a.	n.a.	n.a.	n.a.	58.9	60.8	-1.9	0.172	5,562; 7,683
Patient and family caregiver engagement (7 questions)									
Q19: Patient always received test results that were ordered by the doctor or someone at the doctor's office	84.6	85.2	-0.6	0.533	86.0	85.8	0.1	0.901	6,116; 8,887
Q20: People from the doctor's office, including the doctor, always explained medical things to patient in a way that was easy to understand	78.3	80.9	-2.7	**0.010**	81.7	81.4	0.3	0.749	7,425; 10,524
Q21: People from the doctor's office, including the doctor, always listened carefully to patient	83.4	83.6	-0.2	0.862	84.2	84.3	-0.1	0.932	7,433; 10,539
Q23: People from the doctor's office, including the doctor, always showed respect for what patient had to say	87.8	88.2	-0.4	0.606	88.6	88.5	0.1	0.866	7,432; 10,536
Q24: People from the doctor's office, including the doctor, always spent enough time with patient	79.2	77.7	1.5	0.174	79.6	80.3	-0.7	0.509	7,438; 10,542
Q31: Patient has an advanced care plan	65.0	65.4	-0.4	0.741	65.0	66.9	-2.0	**0.097**	7,361; 10,352
Q32: Patient's doctor or someone from the doctor's office asked patient about his/her end-of-life care wishes or creating an advance care plan	40.9	42.3	-1.3	0.336	46.3	45.0	1.3	0.339	7,293; 10,270
Helpful, courteous, and respectful office staff (2 questions)									
Q41: Clerks and receptionists at the doctor's office were always as helpful as patient thought they should be	79.7	81.0	-1.3	0.215	80.3	81.6	-1.3	0.220	7,384; 10,447

Table 5.A.7b. ***(continued)***

	PY 2				PY 3				N
	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value	(CPC+; Comparison)
Q42: Clerks and receptionists at the doctor's office always treated patient with courtesy and respect	89.0	89.3	-0.3	0.719	89.8	89.5	0.3	0.674	7,381; 10,469
Teamwork (1 question)									
Q39: Primary care doctors and their staff always worked well together to care for patient	79.9	79.4	0.5	0.658	80.5	80.7	-0.2	0.844	7,350; 10,374
Patients' rating of the primary care doctors and their staff (1 question)									
Q43: Patient's rating of care received from the primary care doctors and their staff as best level of care possible (9-10, out of a maximum of 10)	85.1	84.2	0.9	0.340	85.8	85.7	0.2	0.849	7,358; 10,429
Questions not included in composite measures									
Q2_1: Had a scheduled appointment with the primary care doctors and their staff	94.1	95.4	-1.3	**0.026**	92.4	92.6	-0.3	0.695	7,394; 10,493
Q2_3: Received help to fill prescriptions, set up medical tests, or schedule appointments from the primary care doctors and their staff	62.3	61.8	0.6	0.644	35.8	36.5	-0.7	0.541	7,402; 10,511
(PY 2 Q26) Patient's doctor or someone from the doctor's office talked with patient about how to be healthy enough to do the things he/she likes to do	78.0	79.5	-1.5	0.145	n.a.	n.a.	n.a.	n.a.	3,626; 6,448

Source: CPC+ Beneficiary Survey administered to Medicare FFS beneficiaries attributed to 2017 Starter CPC+ practices and comparison practices. The PY 2 survey was administered May through August 2018 to beneficiaries in CPC+ practices and June through December 2018 to Medicare FFS beneficiaries attributed to comparison practices. The PY 3 survey was administered February through May 2019 to beneficiaries in CPC+ and comparison practices.

Notes: Question numbers are from the PY 3 survey unless otherwise noted.

Composite measures for the 10 domains of care were created from 36 survey questions. To calculate predicted probabilities for the composite measures, we first created beneficiary-level composite measures by averaging nonmissing binary indicators for whether the beneficiary's response was the best option across each question in the composite. We then ran ordinary least squares regressions on beneficiary-level composite measures to create CPC-wide composite scores.

We estimated outcomes separately for Track 1 and Track 2. All regressions controlled for baseline (pre-CPC+) beneficiary and practice characteristics, and beneficiaries' self-reported education level at the time of the survey. Appendix Table 5.A.6 lists the control variables. For all regressions, we weighted estimates using beneficiary-level nonresponse and matching weights. To account for correlation in responses within practices, our regression models used cluster-robust standard errors, clustering at the practice level.

Bolded text indicates that the finding was statistically significant at the $p<0.10$ level, using a two-tailed t-test. **Green shading with bolded text** indicates a favorable finding that is both statistically and substantially significant; there were no unfavorable findings that were both statistically and substantially significant.

[a] This domain changed composition over time. While remaining a domain composed of one question, the wording of the question changed substantially over time. In PY 2, we asked "In the last 6 months, how often did the primary care doctors and their staff from this doctor's office and your specialist(s) seem to work well together to care for you?" In PY 3, we

Table 5.A.7b. ***(continued)***

asked “In the last 6 months, how often did the people from this doctor's office, including your doctor, seem informed and up-to-date about the care you got from specialists?” Given the substantial differences in the question wording, domain scores should not be compared over time.

[b] The wording on this question changed from the PY 2 survey. In the PY 2 survey, we asked “In the last 6 months, when you got care from a primary care doctor from this doctor's office, how often was this doctor the person you think of as your regular doctor in this office? By doctor, we mean a doctor, nurse practitioner (NP), or physician assistant (PA).” In the PY 3 survey, we asked “When you saw a primary care doctor from this office in the last 6 months, how often were these visits with your regular doctor? A primary care doctor might be a physician (MD or DO), nurse practitioner (NP), or physician assistant (PA).”

FFS = fee-for-service; n.a. = not applicable because the question was not asked in that survey; PY = Program Year; Q = question number.

Table 5.A.8a. Predicted standardized average responses (0 to 1) for composite measures and individual questions for Medicare FFS beneficiaries attributed to CPC+ and comparison practices, PY 2 and PY 3, Track 1

	PY 2				PY 3			
	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value
Composite measures								
Access (11 questions)	0.45	0.46	0.00	0.734	0.46	0.45	0.01	0.173
Continuity in the doctor's office (1 question)	0.92	0.93	0.00	0.335	0.91	0.91	0.00	0.730
Continuity outside of the doctor's office (2 question)	0.03	0.03	0.00	0.889	0.02	0.02	0.00	0.373
Care management (4 questions)	0.71	0.71	0.00	0.850	0.70	0.70	0.00	0.852
Comprehensiveness (6 questions)	0.53	0.54	0.00	0.482	0.55	0.54	0.01	**0.065**
Coordination (1 question)[a]	0.83	0.84	-0.01	0.528	0.81	0.81	0.00	0.964
Patient and family caregiver engagement (7 questions)	0.80	0.81	-0.01	**0.002**	0.82	0.82	0.00	0.524
Helpful, courteous, and respectful office staff (2 questions)	0.93	0.94	-0.01	**0.043**	0.94	0.94	-0.01	**0.062**
Teamwork (1 question)	0.91	0.91	0.00	0.520	0.92	0.92	0.00	0.396
Patients' rating of the primary care doctors and their staff (1 question)	0.93	0.93	0.00	0.780	0.94	0.94	0.00	0.476
Individual questions in the composite measures (PY 3 question number)								
Access (11 questions)								
Q2 and Q3 Type of care received by patient from primary care doctors and their staff								
Q2_3 Discussed his/her health with doctor or someone from the doctor's office via phone, email, text messaging, or a patient portal	0.62	0.64	-0.01	0.246	0.37	0.37	0.00	0.908
Q2_4 Had a same-day appointment or walk-in visit	0.34	0.37	-0.03	**0.012**	0.19	0.19	-0.01	0.509
Q3_3 Had a video appointment with doctor or someone from doctor's office	0.01	0.01	0.00	0.668	0.00	0.00	0.00	0.609
Q3_4 Attended a group medical appointment arranged by the doctor's office with patients with similar medical issues	0.01	0.01	0.00	0.688	0.01	0.01	0.00	0.789
Q5: Patient always got care as soon as needed when s/he contacted doctor's office for care needed right away	0.88	0.88	0.00	0.680	0.89	0.88	0.01	0.122
Q7: Patient always got care as soon as needed when s/he made appointments for check-up or routine care	0.91	0.92	-0.01	0.249	0.93	0.92	0.00	0.310
Q9: Patient always received an answer to his/her health question that same day when contacting doctor's office during regular office hours	0.83	0.82	0.01	0.210	0.84	0.82	0.02	**0.046**

Table 5.A.8a. ***(continued)***

	PY 2				PY 3			
	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value
Q10: Patient received information from doctor's office about what to do if she/he needed care during evenings, weekends, or holidays	0.72	0.71	0.00	0.686	0.73	0.71	0.03	**0.028**
Q12: Patient always received an answer to his/her health question as soon as needed when contacting doctor's office outside of regular office hours	0.81	0.82	-0.02	0.562	0.86	0.82	0.04	**0.089**
Q14: Patient always received an answer to his/her health question as soon as needed when contacting the doctor's office using email, a patient portal, or text messaging	0.89	0.88	0.00	0.893	0.88	0.89	0.00	0.764
Q15: Among individuals with scheduled appointments, appointments always started within 15 minutes of scheduled appointment time	0.74	0.75	-0.01	0.126	0.76	0.76	0.00	0.947
Continuity in the doctor's office (1 question)								
Q40: Patient always received care from the primary care doctor she/he thought of as her/his regular doctor[b]	0.92	0.93	0.00	0.335	0.91	0.91	0.00	0.730
Continuity outside of the doctor's office (2 questions)								
Q3_1: Patient's doctor or someone from the doctor's office came to see patient in the hospital	0.04	0.04	0.00	0.880	0.03	0.04	-0.01	0.223
Q3_2: Patient's doctor or someone from the doctor's office came to see patient at another location (excluding the doctor's office and hospital) to provide health care	0.02	0.02	0.00	0.879	0.01	0.01	0.00	0.755
Care management (4 questions)								
Q17: If patient took prescription medicine, someone from the doctor's office talked with patient about all the prescription medicines patient was taking	0.94	0.93	0.01	0.309	0.94	0.94	0.00	0.564
Q25: Patient's doctor or someone from the doctor's office asked patient if there are things that make it hard for him/her to take care of his/her health	0.53	0.54	-0.01	0.290	0.52	0.52	0.00	0.850
Q36: If patient visited the emergency room or emergency department for care, patient was contacted by doctor's office within one week	0.65	0.58	**0.07**	**0.012**	0.64	0.59	0.04	**0.092**
Q38: If patient stayed in a hospital overnight or longer, patient was contacted by doctor's office within 3 days	0.54	0.56	-0.02	0.439	0.55	0.55	0.00	0.975

Table 5.A.8a. ***(continued)***

	PY 2				PY 3			
	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value
Comprehensiveness (6 questions)								
Q22: People from the doctor's office, including the doctor, always seemed to know the important information about patient's medical history	0.90	0.90	0.00	0.702	0.90	0.90	0.00	0.890
Q26: Patient's doctor or someone from the doctor's office asked patient if she/he had any problems with physical pain or discomfort	0.85	0.87	-0.01	0.137	0.85	0.86	0.00	0.735
Q27: Patient's doctor or someone from the doctor's office asked patient if there was a period of time when she/he felt sad, empty, or depressed	0.60	0.59	0.01	0.447	0.65	0.61	0.04	**0.004**
Q28: Patient's doctor or someone from the doctor's office talked to patient about things in his/her life that cause worry or stress	0.52	0.53	0.00	0.821	0.54	0.51	0.03	**0.058**
Q29: Patient's doctor or someone from the doctor's office asked her/him about non-medical problems she/he might need help with	0.10	0.10	0.00	0.790	0.13	0.12	0.01	0.438
Q30: Patient's doctor or someone from the doctor's office asked her/him if she/he had any problems with abuse or violence at home or in her/his neighborhood	0.18	0.18	-0.01	0.598	0.21	0.20	0.01	0.402
Coordination (1 question)[a]								
(PY 2 Q36) If patient received care from a specialist, primary care doctor's and their staff always seemed to work well together to care for patient	0.83	0.84	-0.01	0.528	n.a.	n.a.	n.a.	n.a.
(PY 3 Q34) If patient received care from specialist, primary care doctor's office was informed and up-to-date on specialist care	n.a.	n.a.	n.a.	n.a.	0.81	0.81	0.00	0.964
Patient and family caregiver engagement (7 questions)								
Q19: Patient always received test results that were ordered by the doctor or someone at the doctor's office	0.92	0.93	-0.01	**0.047**	0.93	0.93	0.00	0.337
Q20: People from the doctor's office, including the doctor, always explained medical things to patient in a way that was easy to understand	0.91	0.92	-0.01	0.138	0.92	0.92	0.00	0.918
Q21: People from the doctor's office, including the doctor, always listened carefully to patient	0.93	0.93	0.00	0.770	0.94	0.94	0.00	0.756
Q23: People from the doctor's office, including the doctor, always showed respect for what patient had to say	0.95	0.95	0.00	0.940	0.95	0.95	0.00	0.406

Table 5.A.8a. ***(continued)***

	PY 2				PY 3			
	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value
Q24: People from the doctor's office, including the doctor, always spent enough time with patient	0.91	0.91	0.00	0.552	0.92	0.92	0.00	0.855
Q31: Patient has an advanced care plan	0.62	0.66	-0.03	**0.009**	0.64	0.66	-0.01	0.221
Q32: Patient's doctor or someone from the doctor's office asked patient about his/her end-of-life care wishes or creating an advance care plan	0.37	0.40	-0.03	**0.021**	0.45	0.43	0.02	**0.093**
Helpful, courteous, and respectful office staff (2 questions)								
Q41: Clerks and receptionists at the doctor's office were always as helpful as patient thought they should be	0.91	0.92	-0.01	**0.030**	0.92	0.93	-0.01	**0.031**
Q42: Clerks and receptionists at the doctor's office always treated patient with courtesy and respect	0.95	0.96	0.00	0.172	0.96	0.96	0.00	0.251
Teamwork (1 question)								
Q39: Primary care doctors and their staff always worked well together to care for patient	0.91	0.91	0.00	0.520	0.92	0.92	0.00	0.396
Patients' rating of the primary care doctors and their staff (1 question)								
Q43: Patient's rating of care received from the primary care doctors and their staff as best level of care possible (9-10, out of a maximum of 10)	0.93	0.93	0.00	0.780	0.94	0.94	0.00	0.476
Questions not included in composite measures								
Q2_1: Had a scheduled appointment with the primary care doctors and their staff	0.94	0.95	-0.01	0.180	0.93	0.93	0.00	0.709
Q2_2: Received help to fill prescriptions, set up medical tests, or schedule appointments from the primary care doctors and their staff	0.20	0.19	0.01	0.235	0.13	0.13	0.00	0.704
(PY 2 Q26) Patient's doctor or someone from the doctor's office talked with patient about how to be healthy enough to do the things he/she likes to do	0.78	0.80	-0.03	**0.007**	n.a.	n.a.	n.a.	n.a.

Source: CPC+ Beneficiary Survey administered to Medicare FFS beneficiaries attributed to 2017 Starter CPC+ practices and comparison practices. The PY 2 survey was administered May through August 2018 to beneficiaries in CPC+ practices and June through December 2018 to Medicare FFS beneficiaries attributed to comparison practices. The PY 3 survey was administered February through May 2019 to beneficiaries in CPC+ and comparison practices.

Notes: Question numbers are from the PY 3 survey unless otherwise noted.

Composite measures for the 10 domains of care were created from 36 survey questions. To calculate means for the composite measures, we first created beneficiary-level composite measures by averaging nonmissing responses across each question in the composite. We then ran ordinary least squares regressions on beneficiary-level composite measures to create CPC-wide composite scores.

We estimated outcomes separately for Track 1 and Track 2. All regressions controlled for baseline (pre-CPC+) beneficiary and practice characteristics, and beneficiaries' self-reported education level at the time of the survey. Appendix Table 5.A.6 lists the control variables. For all regressions, we weighted estimates using beneficiary-level

Table 5.A.8a. ***(continued)***

nonresponse and matching weights. To account for correlation in responses within practices, our regression models used cluster-robust standard errors, clustering at the practice level.

Sample sizes for each questions are shown in Table 5.A.7.

Bolded text indicates that the finding was statistically significant at the $p<0.10$ level, using a two-tailed t-test. **Green shading with bolded text** indicates a favorable finding that is both statistically and substantially significant; there were no unfavorable findings that were both statistically and substantially significant.

[a] This domain changed composition over time. While remaining a domain composed of one question, the wording of the question changed substantially over time. In PY 2, we asked "In the last 6 months, how often did the primary care doctors and their staff from this doctor's office and your specialist(s) seem to work well together to care for you?" In PY 3, we asked "In the last 6 months, how often did the people from this doctor's office, including your doctor, seem informed and up-to-date about the care you got from specialists?" Given the substantial differences in the question wording, domain scores should not be compared over time.

[b] The wording on this question changed from the PY 2 survey. In the PY 2 survey, we asked "In the last 6 months, when you got care from a primary care doctor from this doctor's office, how often was this doctor the person you think of as your regular doctor in this office? By doctor, we mean a doctor, nurse practitioner (NP), or physician assistant (PA)." In the PY 3 survey, we asked "When you saw a primary care doctor from this office in the last 6 months, how often were these visits with your regular doctor? A primary care doctor might be a physician (MD or DO), nurse practitioner (NP), or physician assistant (PA)."PY = Program Year; n.a. = not applicable because the question was not asked in that survey.

FFS = fee-for-service; n.a. = not applicable because the question was not asked in that survey; PY = Program Year; Q = question number.

Table 5.A.8b. Predicted standardized average responses (0 to 1) for composite measures and individual questions for Medicare FFS beneficiaries attributed to CPC+ and comparison practices, PY 2 and PY 3, Track 2

	PY 2				PY 3			
	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value
Composite measures								
Access (11 questions)	0.46	0.45	0.01	**0.056**	0.46	0.45	0.00	0.353
Continuity in the doctor's office (1 question)	0.93	0.93	-0.01	0.235	0.90	0.90	0.00	0.581
Continuity outside of the doctor's office (2 question)	0.04	0.03	0.01	**0.025**	0.02	0.02	0.00	0.487
Care management (4 questions)	0.71	0.71	0.00	0.821	0.71	0.70	0.01	0.267
Comprehensiveness (6 questions)	0.53	0.54	-0.01	**0.073**	0.55	0.55	0.00	0.562
Coordination (1 question)[a]	0.84	0.85	-0.01	0.156	0.81	0.82	-0.01	0.159
Patient and family caregiver engagement (7 questions)	0.81	0.82	-0.01	0.151	0.82	0.82	0.00	0.588
Helpful, courteous, and respectful office staff (2 questions)	0.94	0.94	0.00	0.474	0.94	0.94	0.00	0.791
Teamwork (1 question)	0.92	0.92	0.00	0.729	0.92	0.92	0.00	0.781
Patients' rating of the primary care doctors and their staff (1 question)	0.94	0.94	0.00	0.785	0.94	0.94	0.00	0.837
Individual questions in the composite measures (PY 3 question number)								
Access (11 questions)								
Q2 and Q3 Type of care received by patient from primary care doctors and their staff								
Q2_3 Discussed his/her health with doctor or someone from the doctor's office via phone, email, text messaging, or a patient portal	0.62	0.62	0.01	0.644	0.36	0.37	-0.01	0.541
Q2_4 Had a same-day appointment or walk-in visit	0.36	0.36	0.00	0.836	0.20	0.20	0.00	0.793
Q3_3 Had a video appointment with doctor or someone from doctor's office	0.01	0.01	0.01	**0.059**	0.00	0.00	0.00	0.292
Q3_4 Attended a group medical appointment arranged by the doctor's office with patients with similar medical issues	0.02	0.01	0.01	**0.037**	0.01	0.01	0.00	0.464
Q5: Patient always got care as soon as needed when s/he contacted doctor's office for care needed right away	0.89	0.88	0.01	0.292	0.89	0.88	0.01	0.498
Q7: Patient always got care as soon as needed when s/he made appointments for check-up or routine care	0.92	0.92	0.00	0.404	0.92	0.92	0.01	0.306
Q9: Patient always received an answer to his/her health question that same day when contacting doctor's office during regular office hours	0.82	0.82	0.00	0.801	0.83	0.82	0.01	0.458

Table 5.A.8b. ***(continued)***

	PY 2				PY 3			
	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value
Q10: Patient received information from doctor's office about what to do if she/he needed care during evenings, weekends, or holidays	0.73	0.71	0.02	0.103	0.73	0.71	0.02	0.110
Q12: Patient always received an answer to his/her health question as soon as needed when contacting doctor's office outside of regular office hours	0.84	0.82	0.02	0.401	0.83	0.82	0.01	0.639
Q14: Patient always received an answer to his/her health question as soon as needed when contacting the doctor's office using email, a patient portal, or text messaging	0.89	0.87	0.01	0.448	0.91	0.89	0.02	**0.076**
Q15: Among individuals with scheduled appointments, appointments always started within 15 minutes of scheduled appointment time	0.75	0.75	0.00	0.945	0.76	0.76	0.00	0.954
Continuity in the doctor's office (1 question)								
Q40: Patient always received care from the primary care doctor she/he thought of as her/his regular doctor[b]	0.93	0.93	-0.01	0.235	0.90	0.90	0.00	0.581
Continuity outside of the doctor's office (2 questions)								
Q3_1: Patient's doctor or someone from the doctor's office came to see patient in the hospital	0.05	0.04	0.01	**0.036**	0.03	0.04	-0.01	0.194
Q3_2: Patient's doctor or someone from the doctor's office came to see patient at another location (excluding the doctor's office and hospital) to provide health care	0.03	0.02	0.01	**0.048**	0.01	0.01	0.00	0.582
Care management (4 questions)								
Q17: If patient took prescription medicine, someone from the doctor's office talked with patient about all the prescription medicines patient was taking	0.93	0.93	0.00	0.499	0.94	0.94	0.00	0.955
Q25: Patient's doctor or someone from the doctor's office asked patient if there are things that make it hard for him/her to take care of his/her health	0.53	0.55	-0.01	0.420	0.52	0.51	0.00	0.803
Q36: If patient visited the emergency room or emergency department for care, patient was contacted by doctor's office within one week	0.65	0.62	0.03	0.173	0.64	0.61	0.03	0.352
Q38: If patient stayed in a hospital overnight or longer, patient was contacted by doctor's office within 3 days	0.61	0.54	**0.06**	**0.048**	0.62	0.52	**0.10**	**0.002**

Table 5.A.8b. ***(continued)***

	PY 2				PY 3			
	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value
Comprehensiveness (6 questions)								
Q22: People from the doctor's office, including the doctor, always seemed to know the important information about patient's medical history	0.90	0.91	0.00	0.913	0.90	0.91	0.00	0.602
Q26: Patient's doctor or someone from the doctor's office asked patient if she/he had any problems with physical pain or discomfort	0.84	0.86	-0.02	**0.031**	0.85	0.85	-0.01	0.531
Q27: Patient's doctor or someone from the doctor's office asked patient if there was a period of time when she/he felt sad, empty, or depressed	0.61	0.61	-0.01	0.702	0.65	0.63	0.02	0.175
Q28: Patient's doctor or someone from the doctor's office talked to patient about things in his/her life that cause worry or stress	0.52	0.53	-0.01	0.345	0.53	0.53	0.00	0.960
Q29: Patient's doctor or someone from the doctor's office asked her/him about non-medical problems she/he might need help with	0.11	0.10	0.01	0.372	0.15	0.13	0.02	**0.039**
Q30: Patient's doctor or someone from the doctor's office asked her/him if she/he had any problems with abuse or violence at home or in her/his neighborhood	0.18	0.20	-0.03	**0.013**	0.22	0.21	0.01	0.667
Coordination (1 question)[a]								
(PY 2 Q36) If patient received care from a specialist, primary care doctor's and their staff always seemed to work well together to care for patient	0.84	0.85	-0.01	0.156	n.a.	n.a.	n.a.	n.a.
(PY 3 Q34) If patient received care from specialist, primary care doctor's office was informed and up-to-date on specialist care	n.a.	n.a.	n.a.	n.a.	0.81	0.82	-0.01	0.159
Patient and family caregiver engagement (7 questions)								
Q19: Patient always received test results that were ordered by the doctor or someone at the doctor's office	0.93	0.93	-0.01	0.287	0.93	0.93	0.00	0.857
Q20: People from the doctor's office, including the doctor, always explained medical things to patient in a way that was easy to understand	0.91	0.92	-0.01	**0.020**	0.92	0.92	0.00	0.879
Q21: People from the doctor's office, including the doctor, always listened carefully to patient	0.93	0.93	0.00	0.860	0.94	0.94	0.00	0.697
Q23: People from the doctor's office, including the doctor, always showed respect for what patient had to say	0.95	0.95	0.00	0.500	0.95	0.95	0.00	0.985

Table 5.A.8b. ***(continued)***

	PY 2				PY 3			
	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value
Q24: People from the doctor's office, including the doctor, always spent enough time with patient	0.91	0.91	0.00	0.622	0.92	0.92	0.00	0.576
Q31: Patient has an advanced care plan	0.65	0.65	0.00	0.741	0.65	0.67	-0.02	**0.097**
Q32: Patient's doctor or someone from the doctor's office asked patient about his/her end-of-life care wishes or creating an advance care plan	0.41	0.42	-0.01	0.336	0.46	0.45	0.01	0.339
Helpful, courteous, and respectful office staff (2 questions)								
Q41: Clerks and receptionists at the doctor's office were always as helpful as patient thought they should be	0.92	0.92	0.00	0.344	0.92	0.93	0.00	0.330
Q42: Clerks and receptionists at the doctor's office always treated patient with courtesy and respect	0.96	0.96	0.00	0.863	0.96	0.96	0.00	0.511
Teamwork (1 question)								
Q39: Primary care doctors and their staff always worked well together to care for patient	0.92	0.92	0.00	0.729	0.92	0.92	0.00	0.781
Patients' rating of the primary care doctors and their staff (1 question)								
Q43: Patient's rating of care received from the primary care doctors and their staff as best level of care possible (9-10, out of a maximum of 10)	0.94	0.94	0.00	0.785	0.94	0.94	0.00	0.837
Questions not included in composite measures								
Q2_1: Had a scheduled appointment with the primary care doctors and their staff	0.94	0.95	-0.01	**0.026**	0.92	0.93	0.00	0.695
Q2_2: Received help to fill prescriptions, set up medical tests, or schedule appointments from the primary care doctors and their staff	0.19	0.18	0.01	0.573	0.14	0.13	0.00	0.606
(PY 2 Q26) Patient's doctor or someone from the doctor's office talked with patient about how to be healthy enough to do the things he/she likes to do	0.78	0.80	-0.02	0.145	n.a.	n.a.	n.a.	n.a.

Source: CPC+ Beneficiary Survey administered to Medicare FFS beneficiaries attributed to 2017 Starter CPC+ practices and comparison practices. The PY 2 survey was administered May through August 2018 to beneficiaries in CPC+ practices and June through December 2018 to Medicare FFS beneficiaries attributed to comparison practices. The PY 3 survey was administered February through May 2019 to beneficiaries in CPC+ and comparison practices.

Notes: Question numbers are from the PY 3 survey unless otherwise noted.

Composite measures for the 10 domains of care were created from 36 survey questions. To calculate means for the composite measures, we first created beneficiary-level composite measures by averaging nonmissing responses across each question in the composite. We then ran ordinary least squares regressions on beneficiary-level composite measures to create CPC-wide composite scores.

We estimated outcomes separately for Track 1 and Track 2. All regressions controlled for baseline (pre-CPC+) beneficiary and practice characteristics, and beneficiaries' self-reported education level at the time of the survey. Appendix Table 5.A.6 lists the control variables. For all regressions, we weighted estimates using beneficiary-level

Table 5.A.8b. ***(continued)***

nonresponse and matching weights. To account for correlation in responses within practices, our regression models used cluster-robust standard errors, clustering at the practice level.

Sample sizes for each questions are shown in Table 5.A.7.

Bolded text indicates that the finding was statistically significant at the $p<0.10$ level, using a two-tailed t-test. **Green shading with bolded text** indicates a favorable finding that is both statistically and substantially significant; there were no unfavorable findings that were both statistically and substantially significant.

[a] This domain changed composition over time. While remaining a domain composed of one question, the wording of the question changed substantially over time. In PY 2, we asked "In the last 6 months, how often did the primary care doctors and their staff from this doctor's office and your specialist(s) seem to work well together to care for you?" In PY 3, we asked "In the last 6 months, how often did the people from this doctor's office, including your doctor, seem informed and up-to-date about the care you got from specialists?" Given the substantial differences in the question wording, domain scores should not be compared over time.

[b] The wording on this question changed from the PY 2 survey. In the PY 2 survey, we asked "In the last 6 months, when you got care from a primary care doctor from this doctor's office, how often was this doctor the person you think of as your regular doctor in this office? By doctor, we mean a doctor, nurse practitioner (NP), or physician assistant (PA)." In the PY 3 survey, we asked "When you saw a primary care doctor from this office in the last 6 months, how often were these visits with your regular doctor? A primary care doctor might be a physician (MD or DO), nurse practitioner (NP), or physician assistant (PA)."

FFS = fee-for-service; n.a. = not applicable because the question was not asked in that survey; PY = Program Year; Q = question number.

Table 5.A.9a. Predicted percentage of Medicare FFS beneficiaries attributed to CPC+ and comparison practices giving the best response to questions in the composites, by practice characteristics (PY 2 and PY 3): SSP status, Track 1

	SSP[a], PY 2				SSP[a], PY 3				Not SSP[b], PY 2				Not SSP[b], PY 3			
	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value
Composite measures																
Access (11 questions)	36.9	37.4	-0.5	0.467	38.5	37.3	**1.2**	0.098	38.3	39.4	-1.1	0.186	39.0	39.0	0.0	0.985
Continuity in the doctor's office (1 question)	82.3	85.0	-2.7	**0.045**	79.0	80.1	-1.1	0.434	84.5	84.6	-0.1	0.936	82.1	80.4	1.6	0.283
Continuity outside of the doctor's office (2 question)	3.1	3.3	-0.2	0.656	2.3	2.7	-0.4	0.319	3.0	2.7	0.3	0.582	2.4	2.6	-0.2	0.640
Care management (4 questions)	70.3	71.7	-1.5	0.201	69.9	70.4	-0.5	0.638	71.9	69.7	**2.1**	0.091	70.6	69.7	0.8	0.483
Comprehensiveness (6 questions)	51.0	52.0	-1.0	0.302	52.6	51.1	1.5	0.129	50.6	50.5	0.2	0.869	52.4	51.1	1.3	0.257
Coordination (1 question)	65.0	66.9	-1.9	0.339	58.7	59.3	-0.6	0.745	67.8	68.7	-1.0	0.648	61.0	59.9	1.0	0.611
Patient and family caregiver engagement (7 questions)	71.8	73.9	-2.1	**0.016**	74.8	73.9	0.9	0.314	72.8	74.1	-1.3	0.194	75.0	75.5	-0.5	0.585
Helpful, courteous, and respectful office staff (2 questions)	82.5	85.1	-2.6	**0.030**	84.5	84.7	-0.2	0.840	84.2	85.3	-1.1	0.379	84.6	87.2	**-2.6**	0.029
Teamwork (1 question)	76.9	78.5	-1.6	0.298	79.0	79.4	-0.4	0.783	79.8	80.0	-0.2	0.908	81.7	80.9	0.8	0.555
Patients' rating of the primary care doctors and their staff (1 question)	83.5	84.6	-1.1	0.404	86.1	85.5	0.5	0.669	84.6	83.5	1.2	0.414	84.7	85.6	-0.8	0.516

Source: CPC+ Beneficiary Survey administered to Medicare FFS beneficiaries attributed to 2017 Starter CPC+ practices and comparison practices. The PY 2 survey was administered May through August 2018 to beneficiaries in CPC+ practices and June through December 2018 to Medicare FFS beneficiaries attributed to comparison practices. The PY 3 survey was administered February through May 2019 to beneficiaries in CPC+ and comparison practices.

Notes: Composite measures for the 10 domains of care were created from 36 survey questions. To calculate predicted probabilities for the composite measures, we first created beneficiary-level composite measures by averaging nonmissing binary indicators for whether the beneficiary's response was the best option across each question in the composite. We then ran ordinary least squares regressions on beneficiary-level composite measures to create CPC-wide composite scores.

We estimated outcomes separately by Medicare Shared Savings Program (SSP) participation status at the start of CPC+ (January 1, 2017) within Track. All regressions controlled for baseline (pre-CPC+) beneficiary and practice characteristics, and beneficiaries' self-reported education level at the time of the survey. Appendix Table 5.A.6 lists the control variables. For all regressions, we weighted estimates using beneficiary-level nonresponse and matching weights. To account for correlation in responses within practices, our regression models used cluster-robust standard errors, clustering at the practice level.

Bolded text indicates that the finding was statistically significant at the $p<0.10$ level, using a two-tailed t-test.

[a] Sample sizes were between 2,863 beneficiaries and 3,933 beneficiaries in CPC+ practices and 4,341 beneficiaries and 5,972 beneficiaries in the comparison practices.

[b] Sample sizes were between 2,602 beneficiaries and 3,591 beneficiaries in CPC+ practices and 3,820 beneficiaries and 5,298 beneficiaries in the comparison practices.

FFS = fee-for-service; PY = Program Year; SSP = Medicare Shared Savings Program.

Table 5.A.9b. Predicted percentage of Medicare FFS beneficiaries attributed to CPC+ and comparison practices giving the best response to questions in the composites, by practice characteristics (PY 2 and PY 3): SSP status, Track 2

	SSP[a], PY 2				SSP[a], PY 3				Not SSP[b], PY 2				Not SSP[b], PY 3			
	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value
Composite measures																
Access (11 questions)	38.0	37.2	0.8	0.293	38.4	37.4	1.0	0.206	39.2	38.4	0.8	0.274	38.8	38.8	-0.1	0.911
Continuity in the doctor's office (1 question)	82.3	83.7	-1.3	0.372	78.7	79.5	-0.7	0.626	84.5	85.5	-0.9	0.456	78.2	79.5	-1.2	0.383
Continuity outside of the doctor's office (2 question)	3.5	2.7	0.8	0.110	2.7	2.4	0.3	0.484	3.4	2.6	0.8	0.115	2.0	2.7	-0.7	**0.092**
Care management (4 questions)	71.3	71.5	-0.2	0.861	72.2	70.2	2.0	**0.099**	71.1	70.5	0.5	0.631	69.7	69.7	0.0	0.983
Comprehensiveness (6 questions)	50.9	53.0	-2.0	**0.073**	53.8	52.5	1.3	0.214	50.3	51.1	-0.8	0.417	51.5	52.0	-0.4	0.651
Coordination (1 question)	62.9	66.8	-3.9	**0.072**	59.7	60.9	-1.2	0.556	68.2	68.8	-0.6	0.746	58.0	60.6	-2.6	0.176
Patient and family caregiver engagement (7 questions)	73.6	74.3	-0.7	0.484	76.3	75.2	1.0	0.258	74.2	75.0	-0.7	0.413	74.4	75.7	-1.3	0.114
Helpful, courteous, and respectful office staff (2 questions)	83.7	84.7	-1.0	0.450	86.5	85.1	1.4	0.230	84.8	85.6	-0.8	0.484	83.9	85.8	-1.8	0.111
Teamwork (1 question)	78.5	78.0	0.5	0.753	81.5	79.8	1.7	0.246	81.4	80.9	0.5	0.736	79.3	81.1	-1.8	0.189
Patients' rating of the primary care doctors and their staff (1 question)	85.4	84.3	1.1	0.411	86.0	85.9	0.1	0.923	85.1	84.4	0.7	0.603	85.4	85.3	0.1	0.921

Source: CPC+ Beneficiary Survey administered to Medicare FFS beneficiaries attributed to 2017 Starter CPC+ practices and comparison practices. The PY 2 survey was administered May through August 2018 to beneficiaries in CPC+ practices and June through December 2018 to Medicare FFS beneficiaries attributed to comparison practices. The PY 3 survey was administered February through May 2019 to beneficiaries in CPC+ and comparison practices.

Notes: Composite measures for the 10 domains of care were created from 36 survey questions. To calculate predicted probabilities for the composite measures, we first created beneficiary-level composite measures by averaging nonmissing binary indicators for whether the beneficiary's response was the best option across each question in the composite. We then ran ordinary least squares regressions on beneficiary-level composite measures to create CPC-wide composite scores.

We estimated outcomes separately by Medicare Shared Savings Program (SSP) participation status at the start of CPC+ (January 1, 2017) within Track. All regressions controlled for baseline (pre-CPC+) beneficiary and practice characteristics, and beneficiaries' self-reported education level at the time of the survey. Appendix Table 5.A.6 lists the control variables. For all regressions, we weighted estimates using beneficiary-level nonresponse and matching weights. To account for correlation in responses within practices, our regression models used cluster-robust standard errors, clustering at the practice level.

Bolded text indicates that the finding was statistically significant at the $p<0.10$ level, using a two-tailed t-test.

[a] Sample sizes were between 2,546 beneficiaries and 3,381 beneficiaries in CPC+ practices and 3,549 beneficiaries and 4,905 beneficiaries in the comparison practices.

[b] Sample sizes were between 3,016 beneficiaries and 4,134 beneficiaries in CPC+ practices and 4,133 beneficiaries and 5,748 beneficiaries in the comparison practices.

FFS = fee-for-service; PY = Program Year; SSP = Medicare Shared Savings Program.

Table 5.A.10a.1. Predicted percentage of Medicare FFS beneficiaries attributed to CPC+ and comparison practices giving the best response to questions in the composites, by practice characteristics (PY 2 and PY 3): practice ownership[59], Track 1

	System[a], PY 2				System[a], PY 3				Independent[b], PY 2				Independent[b], PY 3			
	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value
Composite measures																
Access (11 questions)	36.5	38.3	-1.7	**0.016**	38.5	38.0	0.4	0.519	38.8	38.4	0.4	0.644	39.1	38.3	0.8	0.273
Continuity in the doctor's office (1 question)	81.4	84.4	-3.0	**0.024**	80.2	79.1	1.1	0.442	85.8	85.3	0.6	0.691	80.8	81.7	-0.9	0.574
Continuity outside of the doctor's office (2 question)	2.4	2.7	-0.2	0.596	2.1	2.3	-0.2	0.501	3.8	3.5	0.4	0.549	2.7	3.0	-0.4	0.443
Care management (4 questions)	71.3	71.4	-0.1	0.907	71.7	71.3	0.4	0.683	70.7	70.0	0.8	0.546	68.3	68.6	-0.2	0.837
Comprehensiveness (6 questions)	51.9	52.3	-0.4	0.697	54.0	52.1	1.9	**0.061**	49.5	50.0	-0.5	0.630	50.5	49.9	0.7	0.511
Coordination (1 question)	66.3	69.7	-3.4	**0.076**	60.5	60.4	0.1	0.961	66.4	65.3	1.1	0.619	58.9	58.6	0.3	0.906
Patient and family caregiver engagement (7 questions)	71.0	74.6	-3.7	**<0.001**	75.3	75.1	0.1	0.882	74.0	73.2	0.7	0.449	74.4	74.1	0.3	0.745
Helpful, courteous, and respectful office staff (2 questions)	82.2	85.3	-3.1	**0.009**	85.5	86.2	-0.7	0.497	84.7	85.1	-0.3	0.794	83.3	85.5	-2.2	**0.073**
Teamwork (1 question)	76.7	79.6	-2.9	**0.043**	80.4	80.5	-0.1	0.932	80.3	78.6	1.7	0.296	80.2	79.6	0.6	0.687
Patients' rating of the primary care doctors and their staff (1 question)	82.4	85.1	-2.7	**0.045**	85.4	85.4	0.0	0.992	86.1	82.8	3.3	**0.022**	85.4	85.7	-0.3	0.831

Source: CPC+ Beneficiary Survey administered to Medicare FFS beneficiaries attributed to 2017 Starter CPC+ practices and comparison practices. The PY 2 survey was administered May through August 2018 to beneficiaries in CPC+ practices and June through December 2018 to Medicare FFS beneficiaries attributed to comparison practices. The PY 3 survey was administered February through May 2019 to beneficiaries in CPC+ and comparison practices.

Notes: Composite measures for the 10 domains of care were created from 36 survey questions. To calculate the composite measures, we first calculated beneficiary-level composite measures by averaging the nonmissing standardized responses across each question in the composite. We then ran ordinary least squares regressions on beneficiary-level composite measures to create CPC-wide composite scores.

We estimated outcomes separately for Track 1 and Track 2. All regressions controlled for baseline (pre-CPC+) beneficiary and practice characteristics, and beneficiaries' self-reported education level at the time of the survey. Appendix Table 5.A.6 lists the control variables. For all regressions, we weighted estimates using beneficiary-level nonresponse and matching weights. To account for correlation in responses within practices, our regression models used cluster-robust standard errors, clustering at the practice level.

Bolded text indicates that the finding was statistically significant at the p<0.10 level, using a two-tailed t-test.

[a] Sample sizes were between 3,006 beneficiaries and 4,164 beneficiaries in CPC+ practices and 4,550 beneficiaries and 6,273 beneficiaries in the comparison practices.

[b] Sample sizes were between 2,459 beneficiaries and 3,360 beneficiaries in CPC+ practices and 3,611 beneficiaries and 4,997 beneficiaries in the comparison practices.

FFS = fee-for-service; PY = Program Year.

[59] Practice ownership comes from the SK&A database, managed by IQVIA, a marketing organization that collects information directly from all health care practices in the United States. IQVIA updates this information on an ongoing basis; we pulled practice ownership information in November 2016.

Table 5.A.10a.2. Predicted percentage of Medicare FFS beneficiaries attributed to CPC+ and comparison practices giving the best response to questions in the composites, by practice characteristics (PY 2 and PY 3): practice ownership[60], Track 2

	System[a], PY 2				System[a], PY 3				Independent[b], PY 2				Independent[b], PY 3			
	CPC+ practices	Comparison practices	Difference	P-value	CPC+ practices	Comparison practices	Difference	P-value	CPC+ practices	Comparison practices	Difference	P-value	CPC+ practices	Comparison practices	Difference	P-value
Composite measures																
Access (11 questions)	37.9	37.2	0.7	0.348	38.3	37.9	0.4	0.532	39.7	38.7	1.0	0.209	39.1	38.7	0.4	0.653
Continuity in the doctor's office (1 question)	83.4	84.5	-1.1	0.361	78.9	79.4	-0.5	0.705	83.8	84.8	-1.0	0.481	77.8	79.5	-1.7	0.285
Continuity outside of the doctor's office (2 question)	3.1	2.4	0.6	0.195	2.3	2.5	-0.2	0.486	4.0	2.9	1.1	**0.061**	2.4	2.6	-0.2	0.716
Care management (4 questions)	70.4	70.7	-0.2	0.840	71.0	70.7	0.3	0.787	72.1	71.4	0.7	0.563	70.6	68.9	1.7	0.167
Comprehensiveness (6 questions)	50.4	52.3	-1.9	**0.053**	52.5	53.0	-0.5	0.592	50.8	51.4	-0.6	0.619	52.6	51.1	1.5	0.164
Coordination (1 question)	66.0	68.9	-2.9	0.126	61.7	62.7	-1.0	0.586	65.4	66.5	-1.1	0.627	54.9	58.1	-3.2	0.133
Patient and family caregiver engagement (7 questions)	73.4	74.6	-1.2	0.181	75.3	75.3	0.0	0.973	74.7	74.8	-0.1	0.912	75.2	75.7	-0.6	0.542
Helpful, courteous, and respectful office staff (2 questions)	83.7	85.0	-1.3	0.255	85.4	85.7	-0.3	0.774	85.1	85.4	-0.3	0.796	84.7	85.2	-0.5	0.725
Teamwork (1 question)	80.6	79.2	1.4	0.305	80.2	80.0	0.3	0.845	79.4	80.2	-0.8	0.640	80.4	81.2	-0.9	0.556
Patients' rating of the primary care doctors and their staff (1 question)	84.8	85.0	-0.2	0.847	85.4	85.0	0.4	0.737	85.8	83.4	2.4	0.110	86.0	86.3	-0.3	0.846

Source: CPC+ Beneficiary Survey administered to Medicare FFS beneficiaries attributed to 2017 Starter CPC+ practices and comparison practices. The PY 2 survey was administered May through August 2018 to beneficiaries in CPC+ practices and June through December 2018 to Medicare FFS beneficiaries attributed to comparison practices. The PY 3 survey was administered February through May 2019 to beneficiaries in CPC+ and comparison practices.

Notes: Composite measures for the 10 domains of care were created from 36 survey questions. To calculate the composite measures, we first calculated beneficiary-level composite measures by averaging the nonmissing standardized responses across each question in the composite. We then ran ordinary least squares regressions on beneficiary-level composite measures to create CPC-wide composite scores.

We estimated outcomes separately for Track 1 and Track 2. All regressions controlled for baseline (pre-CPC+) beneficiary and practice characteristics, and beneficiaries' self-reported education level at the time of the survey. Appendix Table 5.A.6 lists the control variables. For all regressions, we weighted estimates using beneficiary-level nonresponse and matching weights. To account for correlation in responses within practices, our regression models used cluster-robust standard errors, clustering at the practice level.

Bolded text indicates that the finding was statistically significant at the p<0.10 level, using a two-tailed t-test.

[a] Sample sizes were between 3,100 beneficiaries and 4,182 beneficiaries in CPC+ practices and 4,485 beneficiaries and 6,217 beneficiaries in the comparison practices.

[b] Sample sizes were between 2,462 beneficiaries and 3,333 beneficiaries in CPC+ practices and 3,197 beneficiaries and 4,436 beneficiaries in the comparison practices.

FFS = fee-for-service; PY = Program Year.

[60] Practice ownership comes from the SK&A database, managed by IQVIA, a marketing organization that collects information directly from all health care practices in the United States. IQVIA updates this information on an ongoing basis; we pulled practice ownership information in November 2016.

Table 5.A.10b.1. Predicted percentage of Medicare FFS beneficiaries attributed to CPC+ and comparison practices giving the best response to questions in the composites, by practice characteristics (PY 2 and PY 3): practice size[61], Track 1

	1–2 PCPs[a], PY 2				1–2 PCPs[a], PY 3				3–5 PCPs[b], PY 2				3–5 PCPs[b], PY 3				6+ PCPs[c], PY 2				6+ PCPs[c], PY 3			
	CPC+ practices	Comparison practices	Difference	P-value	CPC+ practices	Comparison practices	Difference	P-value	CPC+ practices	Comparison practices	Difference	P-value	CPC+ practices	Comparison practices	Difference	P-value	CPC+ practices	Comparison practices	Difference	P-value	CPC+ practices	Comparison practices	Difference	P-value
Composite measures																								
Access (11 questions)	39.7	40.1	-0.4	0.722	38.	40.	-2.0	**0.081**	37.3	38.2	-0.9	0.329	39.2	37.4	1.8	**0.027**	36.7	37.6	-0.9	0.283	38.8	37.9	0.9	0.259
Continuity in the doctor's office (1 question)	86.8	88.7	-1.9	0.342	86.2	84.9	1.2	0.529	83.7	85.7	-2.0	0.223	80.1	81.1	-1.0	0.556	81.5	82.3	-0.8	0.592	78.2	77.5	0.7	0.660
Continuity outside of the doctor's office (2 question)	4.7	3.4	1.3	0.177	3.7	3.1	0.6	0.361	2.3	3.1	-0.8	0.211	1.9	2.4	-0.5	0.292	2.9	2.8	0.1	0.907	2.1	2.6	-0.6	0.173
Care management (4 questions)	72.2	71.9	0.3	0.878	68.2	68.8	-0.6	0.743	71.3	71.8	-0.5	0.726	70.3	70.4	-0.1	0.909	70.3	69.5	0.9	0.516	71.1	70.4	0.7	0.574
Comprehensiveness (6 questions)	50.9	51.0	-0.1	0.928	52.1	50.	2.1	0.171	51.2	52.1	-0.9	0.472	51.5	50.8	0.7	0.531	50.5	50.8	-0.2	0.833	53.4	51.9	1.5	0.188
Coordination (1 question)	65.3	66.1	-0.7	0.820	**61.2**	**55.5**	**5.7**	**0.070**	66.6	67.2	-0.7	0.795	60.9	60.5	0.5	0.849	66.6	69.	-2.4	0.252	58.2	60.8	-2.6	0.242
Patient and family caregiver engagement (7 questions)	72.0	72.3	-0.3	0.853	74.6	74.7	-0.2	0.903	72.2	75.4	-3.2	**0.004**	74.9	73.7	1.2	0.243	72.5	73.7	-1.2	0.213	75.	75.4	-0.4	0.675
Helpful, courteous, and respectful office staff (2 questions)	84.9	86.7	-1.8	0.352	84.4	87.9	-3.5	**0.040**	82.6	85.5	-2.8	**0.049**	84.7	84.6	0.1	0.964	83.2	84.3	-1.2	0.381	84.6	86.1	-1.5	0.200
Teamwork (1 question)	79.7	79.8	-0.1	0.968	82.1	82.3	-0.3	0.906	78.5	79.7	-1.2	0.506	80.2	79.2	1.1	0.519	77.5	78.5	-1.0	0.528	79.5	79.8	-0.3	0.848
Patients' rating of the primary care doctors and their staff (1 question)	87.3	83.6	3.7	**0.082**	86.	88.6	-2.6	0.155	84.1	85.6	-1.5	0.345	87.	83.9	3.2	**0.035**	82.5	83.1	-0.6	0.713	83.9	85.5	-1.6	0.246

Source: CPC+ Beneficiary Survey administered to Medicare FFS beneficiaries attributed to 2017 Starter CPC+ practices and comparison practices. The PY 2 survey was administered May through August 2018 to beneficiaries in CPC+ practices and June through December 2018 to Medicare FFS beneficiaries attributed to comparison practices. The PY 3 survey was administered February through May 2019 to beneficiaries in CPC+ and comparison practices.

[61] We calculated the number of primary care practitioners (PCPs) at the practice site using a November 2016 pull of SK&A data and the National Plan & Provider Enumeration System (NPPES). We counted a provider as a primary care practitioner if they met criteria in either the SK&A data or the NPPES data; we did not require them to be considered a primary care practitioner in both data sources. Using the SK&A data, we defined PCPs as a physician (MD or DO), nurse practitioner (NP), or physician's assistant (PA) who bill under their own National Provider Identifier (NPI) and have a specialty of general practitioner, family practitioner, internist, internal medicine/pediatrics, or geriatrician. In NPPES, we defined PCPs as physicians, NPs, PAs, or clinical nurse specialists with 1 of 56 primary care taxonomy codes.

Table 5.A.10b.1. ***(continued)***

Notes: Composite measures for the 10 domains of care were created from 36 survey questions. To calculate the composite measures, we first calculated beneficiary-level composite measures by averaging the nonmissing standardized responses across each question in the composite. We then ran ordinary least squares regressions on beneficiary-level composite measures to create CPC+-wide composite scores.

We estimated outcomes separately for Track 1 and Track 2. All regressions controlled for baseline (pre-CPC+) beneficiary and practice characteristics, and beneficiaries' self-reported education level at the time of the survey. Appendix Table 5.A.6 lists the control variables. For all regressions, we weighted estimates using beneficiary-level nonresponse and matching weights. To account for correlation in responses within practices, our regression models used cluster-robust standard errors, clustering at the practice level.

Bolded text indicates that the finding was statistically significant at the $p<0.10$ level, using a two-tailed t-test. **Green shading with bolded text** indicates a favorable finding that is both statistically significant and substantially significant.

[a] Sample sizes were between 1,138 beneficiaries and 1,576 beneficiaries in CPC+ practices and 1,650 beneficiaries and 2,269 beneficiaries in the comparison practices.

[b] Sample sizes were between 1,767 beneficiaries and 2,418 beneficiaries in CPC+ practices and 2,982 beneficiaries and 4,099 beneficiaries in the comparison practices.

[c] Sample sizes were between 2,560 beneficiaries and 3,530 beneficiaries in CPC+ practices and 3,529 beneficiaries and 4,902 beneficiaries in the comparison practices.

FFS = fee-for-service; PCP = primary care provider; PY = Program Year.

Table 5.A.10b.2. Predicted percentage of Medicare FFS beneficiaries attributed to CPC+ and comparison practices giving the best response to questions in the composites, by practice characteristics (PY 2 and PY 3): practice size[62], Track 2

	1-2 PCPs[a], PY 2				1-2 PCPs[a], PY 3				3-5 PCPs[b], PY 2				3-5 PCPs[b], PY 3				6+ PCPs[c], PY 2				6+ PCPs[c], PY 3			
	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value[g]	CPC+ practices	Comparison practices	Difference	*p*-value
Composite measures																								
Access (11 questions)	40.7	37.5	3.2	**0.025**	39.2	40.2	-1.0	0.501	38.3	38.4	-0.1	0.909	37.9	38.1	-0.2	0.836	38.4	37.6	0.8	0.277	38.9	37.8	1.1	0.121
Continuity in the doctor's office (1 question)	87.3	87.4	-0.1	0.965	84.8	85.0	-0.3	0.919	85.5	85.7	-0.2	0.919	79.6	80.4	-0.8	0.634	81.4	83.3	-1.9	0.160	76.2	77.5	-1.3	0.372
Continuity outside of the doctor's office (2 question)	4.2	2.1	2.1	**0.041**	2.2	2.2	0.1	0.920	3.	2.4	0.6	0.320	2.	2.4	-0.4	0.415	3.6	2.9	0.7	0.206	2.5	2.7	-0.2	0.674
Care management (4 questions)	74.2	72.1	2.1	0.354	70.7	68.0	2.7	0.218	69.7	71.5	-1.8	0.218	71.2	71.3	-0.1	0.925	71.3	70.3	0.9	0.406	70.7	69.6	1.1	0.338
Comprehensiveness (6 questions)	51.2	52.1	-0.8	0.669	52.9	50.8	2.1	0.250	50.2	52.2	-2.0	**0.096**	51.6	52.3	-0.7	0.580	50.6	51.7	-1.1	0.311	53.	52.5	0.6	0.587
Coordination (1 question)	71.6	69.2	2.4	0.527	58.0	57.5	0.5	0.907	65.4	66.8	-1.3	0.599	59.	61.8	-2.9	0.248	64.6	68.2	-3.7	**0.061**	58.9	60.8	-2.0	0.292
Patient and family caregiver engagement (7 questions)	75.1	72.3	2.8	0.117	76.7	75.9	0.9	0.600	74.	75.4	-1.4	0.212	74.9	75.2	-0.2	0.827	73.6	74.8	-1.2	0.207	75.	75.6	-0.6	0.503
Helpful, courteous, and respectful office staff (2 questions)	87.2	84.9	2.3	0.283	86.9	87.0	-0.1	0.962	84.	85.5	-1.5	0.326	83.7	84.9	-1.2	0.395	83.8	85.1	-1.3	0.276	85.5	85.4	0.1	0.950
Teamwork (1 question)	79.8	79.5	0.3	0.928	81.6	83.7	-2.1	0.422	81.3	81.7	-0.4	0.842	79.7	79.8	-0.1	0.962	79.4	78.4	1.1	0.459	80.3	80.2	0.2	0.902
Patients' rating of the primary care doctors and their staff (1 question)	86.6	83.	3.6	0.158	86.9	88.9	-2.0	0.409	85.5	85.8	-0.3	0.839	84.7	84.9	-0.2	0.906	84.7	83.7	0.9	0.482	86.	85.1	0.8	0.490

[62] We calculated the number of primary care practitioners (PCPs) at the practice site using a November 2016 pull of SK&A data and the National Plan & Provider Enumeration System (NPPES). We counted a provider as a primary care practitioner if they met criteria in either the SK&A data or the NPPES data; we did not require them to be considered a primary care practitioner in both data sources. Using the SK&A data, we defined PCPs as a physician (MD or DO), nurse practitioner (NP), or physician's assistant (PA) who bill under their own National Provider Identifier (NPI) and have a specialty of general practitioner, family practitioner, internist, internal medicine/pediatrics, or geriatrician. In NPPES, we defined PCPs as physicians, NPs, PAs, or clinical nurse specialists with 1 of 56 primary care taxonomy codes.

Table 5.A.10b.2. ***(continued)***

Source: CPC+ Beneficiary Survey administered to Medicare FFS beneficiaries attributed to 2017 Starter CPC+ practices and comparison practices. The PY 2 survey was administered May through August 2018 to beneficiaries in CPC+ practices and June through December 2018 to Medicare FFS beneficiaries attributed to comparison practices. The PY 3 survey was administered February through May 2019 to beneficiaries in CPC+ and comparison practices.

Notes: Composite measures for the 10 domains of care were created from 36 survey questions. To calculate the composite measures, we first calculated beneficiary-level composite measures by averaging the nonmissing standardized responses across each question in the composite. We then ran ordinary least squares regressions on beneficiary-level composite measures to create CPC-wide composite scores.

We estimated outcomes separately for Track 1 and Track 2. All regressions controlled for baseline (pre-CPC+) beneficiary and practice characteristics, and beneficiaries' self-reported education level at the time of the survey. Appendix Table 5.A.6 lists the control variables. For all regressions, we weighted estimates using beneficiary-level nonresponse and matching weights. To account for correlation in responses within practices, our regression models used cluster-robust standard errors, clustering at the practice level.

Bolded text indicates that the finding was statistically significant at the $p<0.10$ level, using a two-tailed t-test. **Green shading with bolded text** indicates a favorable finding that is both statistically significant and substantially significant.

[a] Sample sizes were between 675 beneficiaries and 935 beneficiaries in CPC+ practices and 999 beneficiaries and 1,389 beneficiaries in the comparison practices.

[b] Sample sizes were between 1,813 beneficiaries and 2,458 beneficiaries in CPC+ practices and 2,571 beneficiaries and 3,549 beneficiaries in the comparison practices.

[c] Sample sizes were between 3,074 beneficiaries and 4,122 beneficiaries in CPC+ practices and 4,122beneficiaries and 5,715 beneficiaries in the comparison practices.

FFS = fee-for-service; PCP = primary care provider; PY = Program Year.

Table 5.A.10c.1. Predicted percentage of Medicare FFS beneficiaries attributed to CPC+ and comparison practices giving the best response to questions in the composites, by practice characteristics (PY 2 and PY 3): geographic location[63], Track 1

	Rural[a] PY 2				Rural[a] PY 3				Suburban[b] PY 2				Suburban[b] PY 3				Urban[c] PY 2				Urban[c] PY 3			
	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value
Composite measures																								
Access (11 questions)	38.0	38.7	-0.7	0.695	37.4	36.7	0.8	0.624	36.1	38.1	-1.9	0.171	38.9	38.1	0.9	0.424	37.8	38.3	-0.5	0.405	38.9	38.4	0.5	0.390
Continuity in the doctor's office (1 question)	83.5	86.0	-2.5	0.452	77.9	79.1	-1.2	0.699	81.5	84.2	-2.8	0.234	80.9	79.1	1.8	0.469	83.8	84.8	-1.0	0.386	80.7	80.7	0.0	0.991
Continuity outside of the doctor's office (2 question)	2.3	3.5	-1.2	0.291	2.6	3.7	-1.2	0.191	3.2	2.6	0.6	0.520	2.2	1.9	0.4	0.513	3.1	3.1	0.0	0.911	2.3	2.7	-0.3	0.328
Care management (4 questions)	70.9	68.8	2.1	0.456	68.5	68.3	0.2	0.945	70.6	70.9	-0.4	0.852	72.6	71.9	0.7	0.700	71.2	71.	0.2	0.848	69.8	69.9	0.0	0.993
Comprehensiveness (6 questions)	50.0	49.9	0.1	0.959	51.5	49.5	2.0	0.433	50.4	51.4	-1.0	0.584	53.6	51.2	2.4	0.148	51.1	51.4	-0.4	0.655	52.3	51.3	1.0	0.239
Coordination (1 question)	73.1	68.5	4.5	0.326	56.3	60.5	-4.2	0.389	66.	70.3	-4.3	0.245	60.2	62.	-1.7	0.624	65.6	67.1	-1.5	0.372	60.1	59.	1.1	0.500
Patient and family caregiver engagement (7 questions)	70.0	71.4	-1.4	0.535	74.6	73.2	1.4	0.485	71.1	74.4	-3.3	**0.038**	74.9	74.8	0.1	0.959	72.9	74.2	-1.4	**0.073**	74.9	74.8	0.1	0.922
Helpful, courteous, and respectful office staff (2 questions)	82.6	82.7	0.0	0.996	***81.5***	***87.7***	***-6.2***	***0.013***	84.3	87.6	-3.3	**0.093**	85.8	87.7	-1.9	0.311	83.2	84.9	-1.8	**0.086**	84.6	85.2	-0.6	0.518
Teamwork (1 question)	80.4	78.4	2.0	0.509	80.6	83.1	-2.5	0.401	78.7	80.1	-1.3	0.585	81.	80.9	0.1	0.949	77.9	79.1	-1.2	0.361	80.1	79.5	0.6	0.620
Patients' rating of the primary care doctors and their staff (1 question)	81.8	77.7	4.2	0.240	84.0	85.1	-1.1	0.701	84.4	84.5	-0.1	0.977	86.6	84.4	2.2	0.304	84.2	84.8	-0.6	0.608	85.3	85.9	-0.6	0.576

Source: CPC+ Beneficiary Survey administered to Medicare FFS beneficiaries attributed to 2017 Starter CPC+ practices and comparison practices. The PY 2 survey was administered May through August 2018 to beneficiaries in CPC+ practices and June through December 2018 to Medicare FFS beneficiaries attributed to comparison practices. The PY 3 survey was administered February through May 2019 to beneficiaries in CPC+ and comparison practices.

[63] Geographic location is derived from the 2015-2016 Department of Health and Human Services' Area Health Resource File (AHRF). The variable used reflects 2013 data. The AHRF provides a 9-point rural-urban continuum code (RUCC) from the USDA Economic Research Service. From these codes, we defined urban as a county in a metro area of more than 250,000 people (RUCC=1 or 2), suburban as a county in a metro area of less than 250,000 people or that has an urban population of 20,000 or more and is adjacent to a metro area (RUCC=3 or 4), or rural if it does not meet the urban or suburban classifications (RUCC=5-9).

Table 5.A.10c.1. ***(continued)***

Notes: Composite measures for the 10 domains of care were created from 36 survey questions. To calculate the composite measures, we first calculated beneficiary-level composite measures by averaging the nonmissing standardized responses across each question in the composite. We then ran ordinary least squares regressions on beneficiary-level composite measures to create CPC-wide composite scores.

We estimated outcomes separately for Track 1 and Track 2. All regressions controlled for baseline (pre-CPC+) beneficiary and practice characteristics, and beneficiaries' self-reported education level at the time of the survey. Appendix Table 5.A.6 lists the control variables. For all regressions, we weighted estimates using beneficiary-level nonresponse and matching weights. To account for correlation in responses within practices, our regression models used cluster-robust standard errors, clustering at the practice level.

Bolded text indicates that the finding was statistically significant at the $p<0.10$ level, using a two-tailed t-test. ***Red shading*** ***with bold, italicized text*** indicates an unfavorable finding that is both statistically significant and substantially significant.

[a] Sample sizes were between 466 beneficiaries and 709 beneficiaries in CPC+ practices and 687 beneficiaries and 1,067 beneficiaries in the comparison practices.

[b] Sample sizes were between 959 beneficiaries and 1,354 beneficiaries in CPC+ practices and 1,269 beneficiaries and 1,857 beneficiaries in the comparison practices.

[c] Sample sizes were between 4,040 beneficiaries and 5,461 beneficiaries in CPC+ practices and 6,205 beneficiaries and 8,346 beneficiaries in the comparison practices.

FFS = fee-for-service; PY = Program Year.

Table 5.A.10c.2. Predicted percentage of Medicare FFS beneficiaries attributed to CPC+ and comparison practices giving the best response to questions in the composites, by practice characteristics (PY 2 and PY 3): geographic location[64], Track 2

	Rural[a] PY 2				Rural[a] PY 3				Suburban[b] PY 2				Suburban[b] PY 3				Urban[c] PY 2				Urban[c] PY 3			
	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value
Composite measures																								
Access (11 questions)	38.3	37.7	0.6	0.775	36.	37.3	-1.3	0.502	38.5	37.0	1.6	0.266	37.7	38.4	-0.8	0.505	38.7	38.0	0.7	0.263	39.1	38.3	0.8	0.168
Continuity in the doctor's office (1 question)	84.2	86.1	-1.9	0.594	76.4	77.5	-1.1	0.748	84.8	85.0	-0.2	0.939	75.2	76.8	-1.6	0.557	83.2	84.4	-1.2	0.258	79.4	80.3	-0.9	0.459
Continuity outside of the doctor's office (2 question)	5.5	2.1	3.5	**0.060**	3.2	2.4	0.8	0.443	3.7	2.3	1.4	0.137	2.3	2.8	-0.5	0.457	3.2	2.8	0.4	0.293	2.2	2.5	-0.3	0.453
Care management (4 questions)	73.1	69.6	3.5	0.241	67.9	70.3	-2.4	0.395	70.8	71.6	-0.8	0.695	70.6	70.4	0.2	0.930	71.0	71.0	0.0	0.971	71.2	69.8	1.4	0.143
Comprehensiveness (6 questions)	51.2	51.2	0.0	0.991	51.2	50.6	0.5	0.841	49.5	52.4	-2.9	0.135	51.2	54.4	-3.3	**0.063**	50.7	51.9	-1.2	0.164	53.0	51.9	1.1	0.194
Coordination (1 question)	66.	70.2	-4.3	0.451	***49.9***	***61.3***	***-11.4***	***0.039***	68.3	69.0	-0.7	0.842	60.8	63.0	-2.2	0.493	65.3	67.4	-2.2	0.186	59.2	60.2	-1.0	0.527
Patient and family caregiver engagement (7 questions)	75.6	72.8	2.7	0.318	72.5	74.4	-1.9	0.385	72.3	75.8	-3.5	**0.056**	72.7	74.3	-1.5	0.310	74.1	74.6	-0.5	0.488	76.0	75.9	0.2	0.792
Helpful, courteous, and respectful office staff (2 questions)	86.6	84.5	2.0	0.511	85.3	87.3	-2.0	0.494	83.7	86.7	-3.1	0.186	83.6	86.4	-2.9	0.139	84.2	84.9	-0.8	0.446	85.4	85.0	0.3	0.731
Teamwork (1 question)	78.6	79.8	-1.2	0.780	79.2	83.	-3.9	0.243	79.7	81.2	-1.5	0.599	77.6	80.2	-2.6	0.307	80.4	79.3	1.1	0.365	81.0	80.3	0.7	0.547
Patients' rating of the primary care doctors and their staff (1 question)	85.2	80.5	4.7	0.196	82.9	85.	-2.2	0.535	85.5	85.3	0.2	0.933	83.8	83.5	0.3	0.909	85.2	84.6	0.6	0.573	86.4	86.0	0.3	0.732

Source: CPC+ Beneficiary Survey administered to Medicare FFS beneficiaries attributed to 2017 Starter CPC+ practices and comparison practices. The PY 2 survey was administered May through August 2018 to beneficiaries in CPC+ practices and June through December 2018 to Medicare FFS beneficiaries attributed to comparison practices. The PY 3 survey was administered February through May 2019 to beneficiaries in CPC+ and comparison practices.

[64] Geographic location is derived from the 2015-2016 Department of Health and Human Services' Area Health Resource File (AHRF). The variable used reflects 2013 data. The AHRF provides a 9-point rural-urban continuum code (RUCC) from the USDA Economic Research Service. From these codes, we defined urban as a county in a metro area of more than 250,000 people (RUCC=1 or 2), suburban as a county in a metro area of less than 250,000 people or that has an urban population of 20,000 or more and is adjacent to a metro area (RUCC=3 or 4), or rural if it does not meet the urban or suburban classifications (RUCC=5-9).

Table 5.A.10c.2. ***(continued)***

Notes: Composite measures for the 10 domains of care were created from 36 survey questions. To calculate the composite measures, we first calculated beneficiary-level composite measures by averaging the nonmissing standardized responses across each question in the composite. We then ran ordinary least squares regressions on beneficiary-level composite measures to create CPC-wide composite scores.

We estimated outcomes separately for Track 1 and Track 2. All regressions controlled for baseline (pre-CPC+) beneficiary and practice characteristics, and beneficiaries' self-reported education level at the time of the survey. Appendix Table 5.A.6 lists the control variables. For all regressions, we weighted estimates using beneficiary-level nonresponse and matching weights. To account for correlation in responses within practices, our regression models used cluster-robust standard errors, clustering at the practice level.

Bolded text indicates that the finding was statistically significant at the $p<0.10$ level, using a two-tailed t-test. ***Red shading*** ***with bold, italicized text*** indicates an unfavorable finding that is both statistically significant and substantially significant.

[a] Sample sizes were between 357 beneficiaries and 564 beneficiaries in CPC+ practices and 596 beneficiaries and 905 beneficiaries in the comparison practices.

[b] Sample sizes were between 831 beneficiaries and 1,168 beneficiaries in CPC+ practices and 1,231 beneficiaries and 1,794 beneficiaries in the comparison practices.

[c] Sample sizes were between 4,374 beneficiaries and 5,783 beneficiaries in CPC+ practices and 5,855 beneficiaries and 7,954 beneficiaries in the comparison practices.

FFS = fee-for-service; PY = Program Year.

Table 5.A.10d.1. Predicted percentage of Medicare FFS beneficiaries attributed to CPC+ and comparison practices giving the best response to questions in the composites, by practice characteristics (PY 2 and PY 3): prior primary care transformation[65], Track 1

	Participant in CPC Classic, MAPCP, or has medical home recognition[a], PY 2				Participant in CPC Classic, MAPCP, or has medical home recognition[a], PY 3				Not a participant in CPC Classic, MAPCP, and does not have medical home recognition[b], PY 2				Not a participant in CPC Classic, MAPCP, and does not have medical home recognition[b], PY 3			
	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value
Composite measures																
Access (11 questions)	38.0	38.0	0.1	0.909	39.3	38.0	1.4	**0.052**	36.9	38.8	-1.8	**0.025**	38.1	38.3	-0.3	0.725
Continuity in the doctor's office (1 question)	83.1	83.4	-0.3	0.845	79.1	79.3	-0.1	0.917	83.6	86.5	-2.9	**0.045**	82.1	81.4	0.6	0.676
Continuity outside of the doctor's office (2 question)	2.9	2.7	0.3	0.585	1.9	2.6	-0.7	**0.057**	3.2	3.5	-0.3	0.642	2.9	2.7	0.2	0.691
Care management (4 questions)	71.2	71.5	-0.2	0.842	70.3	70.5	-0.2	0.846	70.8	69.9	0.9	0.503	70.2	69.6	0.6	0.630
Comprehensiveness (6 questions)	51.3	52.2	-0.9	0.356	53.3	52.4	0.9	0.366	50.4	50.2	0.2	0.880	51.5	49.6	1.9	**0.069**
Coordination (1 question)	66.7	68.6	-1.9	0.314	59.7	61.8	-2.1	0.267	65.9	66.8	-0.9	0.683	59.9	57.0	2.9	0.178
Patient and family caregiver engagement (7 questions)	72.7	74.1	-1.5	**0.098**	75.1	75.7	-0.6	0.489	71.8	73.8	-2.0	**0.040**	74.6	73.4	1.2	0.196
Helpful, courteous, and respectful office staff (2 questions)	82.9	85.3	-2.3	**0.042**	85.2	85.7	-0.5	0.667	83.8	85.1	-1.3	0.318	83.8	86.2	-2.5	**0.036**
Teamwork (1 question)	77.1	78.9	-1.8	0.212	80.1	80.2	-0.2	0.890	79.8	79.6	0.2	0.903	80.6	80.0	0.6	0.659
Patients' rating of the primary care doctors and their staff (1 question)	83.3	84.6	-1.3	0.307	84.7	84.7	0.0	0.992	84.9	83.4	1.5	0.313	86.3	86.6	-0.3	0.814

Source: CPC+ Beneficiary Survey administered to Medicare FFS beneficiaries attributed to 2017 Starter CPC+ practices and comparison practices. The PY 2 survey was administered May through August 2018 to beneficiaries in CPC+ practices and June through December 2018 to Medicare FFS beneficiaries attributed to comparison practices. The PY 3 survey was administered February through May 2019 to beneficiaries in CPC+ and comparison practices.

[65] We determined a practice to have prior transformation experience if the practice participated in CPC Classic, CMMI's Multi-payer Advanced Primary Care Practice (MAPCP) initiative, or has medical home recognition. We considered a practice to be a MAPCP participant if it participated in any year, 2011-2014 for 2017 Starters, as determined by a file from CMS. A practice was considered to have medical home recognition if it at least one of its primary care providers was listed as having recognition at some point 2014-2017 from a state, the Accreditation Association for Ambulatory Health Care (AAAHC), The Joint Commission (TJC), National Community for Quality Assurance (NCQA), or Utilization Review Accreditation Commission (URAC), as determined by the June 2016 (for 2017 Starters) NCQA PCMH file and data extracted from the websites of TJC, AAAHC, URAC and state-specific sources between October 2016 and February 2017.

Table 5.A.10d.1. ***(continued)***

Notes: Composite measures for the 10 domains of care were created from 36 survey questions. To calculate the composite measures, we first calculated beneficiary-level composite measures by averaging the nonmissing standardized responses across each question in the composite. We then ran ordinary least squares regressions on beneficiary-level composite measures to create CPC-wide composite scores.

We estimated outcomes separately for Track 1 and Track 2. All regressions controlled for baseline (pre-CPC+) beneficiary and practice characteristics, and beneficiaries' self-reported education level at the time of the survey. Appendix Table 5.A.6 lists the control variables. For all regressions, we weighted estimates using beneficiary-level nonresponse and matching weights. To account for correlation in responses within practices, our regression models used cluster-robust standard errors, clustering at the practice level.

Bolded text indicates that the finding was statistically significant at the $p<0.10$ level, using a two-tailed t-test.

[a] Sample sizes were between 2,880 beneficiaries and 3,980 beneficiaries in CPC+ practices and 4,977 beneficiaries and 6,896 beneficiaries in the comparison practices.

[b] Sample sizes were between 2,585 beneficiaries and 3,544 beneficiaries in CPC+ practices and 3,184 beneficiaries and 4,374 beneficiaries in the comparison practices.

CPC = Comprehensive Primary Care; FFS = fee-for-service; MAPCP = Multi-payer Advanced Primary Care Practice; PY = Program Year.

Table 5.A.10d.2. Predicted percentage of Medicare FFS beneficiaries attributed to CPC+ and comparison practices giving the best response to questions in the composites, by practice characteristics (PY 2 and PY 3): prior primary care transformation[66], Track 2

	Participant in CPC Classic, MAPCP, or has medical home recognition[a], PY 2				Participant in CPC Classic, MAPCP, or has medical home recognition[a], PY 3				Not a participant in CPC Classic, MAPCP, and does not have medical home recognition[b], PY 2				Not a participant in CPC Classic, MAPCP, and does not have medical home recognition[b], PY 3			
	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value
Composite measures																
Access (11 questions)	38.7	37.9	0.8	0.183	38.7	38.0	0.7	0.206	38.5	37.7	0.9	0.444	38.0	39.1	-1.1	0.301
Continuity in the doctor's office (1 question)	83.0	84.8	-1.8	**0.096**	77.7	79.4	-1.8	0.130	85.8	83.9	1.9	0.349	81.8	79.5	2.3	0.313
Continuity outside of the doctor's office (2 question)	3.4	2.6	0.8	**0.069**	2.2	2.6	-0.4	0.205	3.9	2.8	1.1	0.165	2.9	2.3	0.6	0.453
Care management (4 questions)	71.1	71.2	-0.1	0.950	70.7	70.5	0.2	0.799	71.2	69.9	1.3	0.480	71.5	67.7	3.8	**0.022**
Comprehensiveness (6 questions)	50.6	52.4	-1.8	**0.034**	52.6	52.7	-0.1	0.908	50.7	50.0	0.7	0.653	52.3	50.0	2.3	0.106
Coordination (1 question)	65.0	68.1	-3.1	**0.057**	58.3	61.6	-3.3	**0.033**	69.0	66.8	2.2	0.461	61.0	56.9	4.1	0.186
Patient and family caregiver engagement (7 questions)	73.8	75.0	-1.2	0.115	75.4	75.7	-0.3	0.651	74.7	73.4	1.3	0.383	74.4	74.4	0.0	0.977
Helpful, courteous, and respectful office staff (2 questions)	83.9	85.5	-1.6	0.105	85.5	85.5	0.0	0.993	86.2	84.0	2.2	0.216	83.4	85.3	-2.0	0.266
Teamwork (1 question)	79.9	79.6	0.3	0.786	81.0	80.5	0.4	0.680	81.0	79.8	1.2	0.608	77.4	80.5	-3.2	0.155
Patients' rating of the primary care doctors and their staff (1 question)	85.1	84.7	0.5	0.663	86.0	85.5	0.5	0.610	85.7	83.0	2.7	0.193	84.4	86.0	-1.6	0.432

Source: CPC+ Beneficiary Survey administered to Medicare FFS beneficiaries attributed to 2017 Starter CPC+ practices and comparison practices. The PY 2 survey was administered May through August 2018 to beneficiaries in CPC+ practices and June through December 2018 to Medicare FFS beneficiaries attributed to comparison practices. The PY 3 survey was administered February through May 2019 to beneficiaries in CPC+ and comparison practices.

[66] We determined a practice to have prior transformation experience if the practice participated in CPC Classic, CMMI's Multi-payer Advanced Primary Care Practice (MAPCP) initiative, or has medical home recognition. We considered a practice to be a MAPCP participant if it participated in any year, 2011-2014 for 2017 Starters, as determined by a file from CMS. A practice was considered to have medical home recognition if it at least one of its primary care providers was listed as having recognition at some point 2014-2017 from a state, the Accreditation Association for Ambulatory Health Care (AAAHC), The Joint Commission (TJC), National Community for Quality Assurance (NCQA), or Utilization Review Accreditation Commission (URAC), as determined by the June 2016 (for 2017 Starters) NCQA PCMH file and data extracted from the websites of TJC, AAAHC, URAC and state-specific sources between October 2016 and February 2017.

Table 5.A.10d.2. ***(continued)***

Notes: Composite measures for the 10 domains of care were created from 36 survey questions. To calculate the composite measures, we first calculated beneficiary-level composite measures by averaging the nonmissing standardized responses across each question in the composite. We then ran ordinary least squares regressions on beneficiary-level composite measures to create CPC-wide composite scores.

We estimated outcomes separately for Track 1 and Track 2. All regressions controlled for baseline (pre-CPC+) beneficiary and practice characteristics, and beneficiaries' self-reported education level at the time of the survey. Appendix Table 5.A.6 lists the control variables. For all regressions, we weighted estimates using beneficiary-level nonresponse and matching weights. To account for correlation in responses within practices, our regression models used cluster-robust standard errors, clustering at the practice level.

Bolded text indicates that the finding was statistically significant at the $p<0.10$ level, using a two-tailed t-test.

[a] Sample sizes were between 4,535 beneficiaries and 6,126 beneficiaries in CPC+ practices and 5,751 beneficiaries and 7,962 beneficiaries in the comparison practices.

[b] Sample sizes were between 1,027 beneficiaries and 1,389 beneficiaries in CPC+ practices and 1,931 beneficiaries and 2,691 beneficiaries in the comparison practices.

CPC = Comprehensive Primary Care; FFS = fee-for-service; MAPCP = Multi-payer Advanced Primary Care Practice; PY = Program Year.

Table 5.A.11a.1. Predicted percentage of Medicare FFS beneficiaries attributed to CPC+ and comparison practices giving the best response to questions in the composites, by patient characteristics (PY 2 and PY 3): high risk beneficiaries (HCC score in top quartile), Track 1

	High-Risk[a], PY 2				High-Risk[a], PY 3				Not High-Risk[b], PY 2				Not High-Risk[b], PY 3			
	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value
Composite measures																
Access (11 questions)	39.0	40.6	-1.6	0.141	39.7	39.9	-0.2	0.851	37.3	37.8	-0.6	0.338	38.6	37.8	0.8	0.156
Continuity in the doctor's office (1 question)	83.1	82.1	1.0	0.630	78.6	77.7	0.9	0.618	83.3	85.2	-1.9	**0.077**	80.9	80.7	0.3	0.827
Continuity outside of the doctor's office (2 question)	6.4	6.1	0.4	0.754	4.5	5.4	-0.9	0.251	2.4	2.5	0.0	0.962	2.0	2.1	-0.2	0.616
Care management (4 questions)	73.9	72.0	1.9	0.206	71.8	73.2	-1.4	0.307	70.5	70.6	-0.2	0.838	69.9	69.5	0.4	0.653
Comprehensiveness (6 questions)	53.5	52.6	0.9	0.505	53.6	53.4	0.3	0.831	50.3	51.1	-0.7	0.364	52.3	50.7	1.6	**0.044**
Coordination (1 question)	***64.2***	***69.8***	***-5.7***	***0.031***	59.9	59.7	0.2	0.940	67.0	67.2	-0.2	0.891	59.8	59.6	0.1	0.926
Patient and family caregiver engagement (7 questions)	72.4	73.8	-1.4	0.272	73.3	74.6	-1.3	0.261	72.2	74.0	-1.8	**0.014**	75.2	74.6	0.6	0.424
Helpful, courteous, and respectful office staff (2 questions)	81.5	85.5	-4.0	**0.015**	83.7	85.0	-1.3	0.359	83.7	85.1	-1.4	0.143	84.8	86.0	-1.3	0.159
Teamwork (1 question)	76.8	78.1	-1.3	0.538	78.6	78.9	-0.3	0.887	78.6	79.4	-0.8	0.498	80.7	80.2	0.4	0.698
Patients' rating of the primary care doctors and their staff (1 question)	83.1	83.5	-0.4	0.824	85.8	86.9	-1.1	0.477	84.2	84.2	0.0	0.997	85.4	85.2	0.2	0.874

Source: CPC+ Beneficiary Survey administered to Medicare FFS beneficiaries attributed to 2017 Starter CPC+ practices and comparison practices. The PY 2 survey was administered May through August 2018 to beneficiaries in CPC+ practices and June through December 2018 to Medicare FFS beneficiaries attributed to comparison practices. The PY 3 survey was administered February through May 2019 to beneficiaries in CPC+ and comparison practices. HCC scores were derived from Medicare FFS claims. Details of our methodology for calculating HCC scores are in Appendix 5.C, Section 5.C.3.

Notes: Composite measures for the 10 domains of care were created from 36 survey questions. To calculate the composite measures, we first calculated beneficiary-level composite measures by averaging the nonmissing standardized responses across each question in the composite. We then ran ordinary least squares regressions on beneficiary-level composite measures to create CPC-wide composite scores.

We estimated outcomes separately for Track 1 and Track 2. All regressions controlled for baseline (pre-CPC+) beneficiary and practice characteristics, and beneficiaries' self-reported education level at the time of the survey. Appendix Table 5.A.6 lists the control variables. For all regressions, we weighted estimates using beneficiary-level nonresponse and matching weights. To account for correlation in responses within practices, our regression models used cluster-robust standard errors, clustering at the practice level.

Bolded text indicates that the finding was statistically significant at the $p<0.10$ level, using a two-tailed t-test. ***Red shading with bold, italicized text*** indicates an unfavorable finding that is both statistically and substantially significant.

[a] Sample sizes were between 1,582 beneficiaries and 1,986 beneficiaries in CPC+ practices and 2,299 beneficiaries and 2,871 beneficiaries in the comparison practices.

[b] Sample sizes were between 3,883 beneficiaries and 5,538 beneficiaries in CPC+ practices and 5,862 beneficiaries and 8,399 beneficiaries in the comparison practices.

FFS = fee-for-service; HCC = hierarchical condition category; PY = Program Year.

Table 5.A.11a.2. Predicted percentage of Medicare FFS beneficiaries attributed to CPC+ and comparison practices giving the best response to questions in the composites, by patient characteristics (PY 2 and PY 3): high risk beneficiaries (HCC score in top quartile), Track 2

	High-Risk[a], PY 2				High-Risk[a], PY 3				Not High-Risk[b], PY 2				Not High-Risk[b], PY 3			
	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value
Composite measures																
Access (11 questions)	40.8	39.7	1.1	0.306	38.6	38.8	-0.1	0.875	38.3	37.5	0.8	0.179	38.6	38.1	0.5	0.414
Continuity in the doctor's office (1 question)	81.8	81.5	0.3	0.861	75.3	76.1	-0.8	0.677	83.8	85.3	-1.5	0.151	79.0	80.0	-1.0	0.382
Continuity outside of the doctor's office (2 question)	7.8	5.4	2.5	**0.016**	5.5	4.7	0.8	0.325	2.7	2.1	0.6	0.149	1.8	2.1	-0.4	0.236
Care management (4 questions)	75.1	73.5	1.6	0.283	73.2	71.9	1.2	0.381	70.5	70.5	-0.1	0.925	70.5	69.6	0.9	0.344
Comprehensiveness (6 questions)	51.9	53.5	-1.7	0.214	52.8	52.6	0.2	0.856	50.4	51.6	-1.3	0.116	52.5	52.2	0.4	0.657
Coordination (1 question)	64.2	66.9	-2.8	0.297	59.5	59.7	-0.2	0.934	66.1	68.2	-2.1	0.195	58.7	61.0	-2.2	0.159
Patient and family caregiver engagement (7 questions)	72.8	74.7	-1.9	0.119	73.4	74.1	-0.7	0.552	74.1	74.6	-0.5	0.492	75.6	75.7	-0.1	0.829
Helpful, courteous, and respectful office staff (2 questions)	85.2	84.5	0.8	0.627	85.4	84.0	1.4	0.362	84.2	85.3	-1.2	0.231	85.1	85.7	-0.7	0.465
Teamwork (1 question)	77.5	77.3	0.3	0.901	79.5	78.0	1.5	0.402	80.6	80.1	0.5	0.682	80.5	81.0	-0.5	0.678
Patients' rating of the primary care doctors and their staff (1 question)	84.2	84.3	-0.1	0.941	84.6	85.2	-0.5	0.737	85.4	84.3	1.1	0.319	85.9	85.6	0.3	0.783

Source: CPC+ Beneficiary Survey administered to Medicare FFS beneficiaries attributed to 2017 Starter CPC+ practices and comparison practices. The PY 2 survey was administered May through August 2018 to beneficiaries in CPC+ practices and June through December 2018 to Medicare FFS beneficiaries attributed to comparison practices. The PY 3 survey was administered February through May 2019 to beneficiaries in CPC+ and comparison practices. HCC scores were derived from Medicare FFS claims. Details of our methodology for calculating HCC scores are in Appendix 5.C, Section 5.C.3.

Notes: Composite measures for the 10 domains of care were created from 36 survey questions. To calculate the composite measures, we first calculated beneficiary-level composite measures by averaging the nonmissing standardized responses across each question in the composite. We then ran ordinary least squares regressions on beneficiary-level composite measures to create CPC-wide composite scores.

We estimated outcomes separately for Track 1 and Track 2. All regressions controlled for baseline (pre-CPC+) beneficiary and practice characteristics, and beneficiaries' self-reported education level at the time of the survey. Appendix Table 5.A.6 lists the control variables. For all regressions, we weighted estimates using beneficiary-level nonresponse and matching weights. To account for correlation in responses within practices, our regression models used cluster-robust standard errors, clustering at the practice level.

Bolded text indicates that the finding was statistically significant at the $p<0.10$ level, using a two-tailed t-test.

[a] Sample sizes were between 1,579 beneficiaries and 1,932 beneficiaries in CPC+ practices and 2,214 beneficiaries and 2,773 beneficiaries in the comparison practices.

[b] Sample sizes were between 3,983 beneficiaries and 5,583 beneficiaries in CPC+ practices and 5,468 beneficiaries and 7,880 beneficiaries in the comparison practices.

FFS = fee-for-service; HCC = hierarchical condition category; PY = Program Year.

Table 5.A.11b.1. Predicted percentage of Medicare FFS beneficiaries attributed to CPC+ and comparison practices giving the best response to questions in the composites, by patient characteristics (PY 2 and PY 3): high risk beneficiaries (HCC score in top 10 percent or has dementia), Track 1

	High-Risk[a], PY 2				High-Risk[a], PY 3				Not High-Risk[b], PY 2				Not High-Risk[b], PY 3			
	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	P-value
Composite measures																
Access (11 questions)	39.4	39.6	-0.2	0.881	39.3	39.0	0.2	0.846	37.3	38.1	-0.8	0.158	38.7	38.0	0.7	0.192
Continuity in the doctor's office (1 question)	83.6	79.2	4.4	0.116	79.2	77.6	1.6	0.546	83.2	85.3	-2.1	**0.043**	80.7	80.5	0.2	0.831
Continuity outside of the doctor's office (2 question)	6.3	6.7	-0.4	0.794	5.0	7.1	-2.1	**0.096**	2.7	2.6	0.1	0.780	2.1	2.2	-0.1	0.762
Care management (4 questions)	74.7	72.2	2.6	0.229	72.4	71.8	0.6	0.766	70.6	70.7	-0.1	0.893	70.0	69.9	0.1	0.901
Comprehensiveness (6 questions)	54.7	53.5	1.2	0.515	53.4	54.1	-0.7	0.680	50.4	51.1	-0.6	0.392	52.4	50.8	1.6	**0.033**
Coordination (1 question)	61.2	67.0	-5.8	0.126	57.2	59.7	-2.5	0.478	67.1	67.8	-0.7	0.652	60.1	59.7	0.4	0.785
Patient and family caregiver engagement (7 questions)	73.1	73.1	0.0	0.996	74.6	73.7	0.9	0.601	72.1	74.1	-2.0	**0.005**	74.9	74.7	0.2	0.714
Helpful, courteous, and respectful office staff (2 questions)	83.4	84.9	-1.5	0.468	83.4	85.2	-1.8	0.363	83.3	85.2	-1.9	**0.041**	84.7	85.9	-1.2	0.158
Teamwork (1 question)	77.4	74.7	2.7	0.369	77.3	79.5	-2.2	0.413	78.4	79.6	-1.3	0.259	80.7	80.1	0.6	0.585
Patients' rating of the primary care doctors and their staff (1 question)	83.0	82.8	0.2	0.925	85.9	86.3	-0.4	0.852	84.1	84.2	-0.1	0.929	85.4	85.4	0.0	0.984

Source: CPC+ Beneficiary Survey administered to Medicare FFS beneficiaries attributed to 2017 Starter CPC+ practices and comparison practices. The PY 2 survey was administered May through August 2018 to beneficiaries in CPC+ practices and June through December 2018 to Medicare FFS beneficiaries attributed to comparison practices. The PY 3 survey was administered February through May 2019 to beneficiaries in CPC+ and comparison practices. HCC scores were derived from Medicare FFS claims. Details of our methodology for calculating HCC scores are in Appendix 5.C, Section 5.C.3.

Notes: Composite measures for the 10 domains of care were created from 36 survey questions. To calculate the composite measures, we first calculated beneficiary-level composite measures by averaging the nonmissing standardized responses across each question in the composite. We then ran ordinary least squares regressions on beneficiary-level composite measures to create CPC-wide composite scores.

We estimated outcomes separately for Track 1 and Track 2. All regressions controlled for baseline (pre-CPC+) beneficiary and practice characteristics, and beneficiaries' self-reported education level at the time of the survey. Appendix Table 5.A.6 lists the control variables. For all regressions, we weighted estimates using beneficiary-level nonresponse and matching weights. To account for correlation in responses within practices, our regression models used cluster-robust standard errors, clustering at the practice level.

Bolded text indicates that the finding was statistically significant at the $p<0.10$ level, using a two-tailed t-test.

[a] Sample sizes were between 862 beneficiaries and 1,093 beneficiaries in CPC+ practices and 1,228 beneficiaries and 1,579 beneficiaries in the comparison practices.

[b] Sample sizes were between 4,603 beneficiaries and 6,431 beneficiaries in CPC+ practices and 6,933 beneficiaries and 9,691 beneficiaries in the comparison practices.

FFS = fee-for-service; HCC = hierarchical condition category; PY = Program Year.

Table 5.A.11b.2. Predicted percentage of Medicare FFS beneficiaries attributed to CPC+ and comparison practices giving the best response to questions in the composites, by patient characteristics (PY 2 and PY 3): high risk beneficiaries (HCC score in top 10 percent or has Dementia), Track 2

	High-Risk[a], PY 2				High-Risk[a], PY 3				Not High-Risk[b], PY 2				Not High-Risk[b], PY 3			
	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value
Composite measures																
Access (11 questions)	40.0	39.1	0.8	0.579	37.5	38.4	-0.9	0.476	38.5	37.7	0.8	0.146	38.7	38.2	0.5	0.364
Continuity in the doctor's office (1 question)	81.3	79.9	1.4	0.602	74.0	75.4	-1.4	0.643	83.7	85.2	-1.5	0.140	78.9	79.8	-0.9	0.390
Continuity outside of the doctor's office (2 question)	9.9	6.5	3.4	**0.037**	7.5	6.1	1.4	0.378	2.8	2.2	0.6	0.124	1.8	2.2	-0.4	0.206
Care management (4 questions)	75.3	73.5	1.7	0.391	71.7	71.2	0.5	0.821	70.7	70.7	0.0	0.992	70.8	69.8	0.9	0.277
Comprehensiveness (6 questions)	***51.1***	***56.1***	***-5.0***	***0.006***	51.7	53.4	-1.7	0.345	50.6	51.5	-0.9	0.240	52.6	52.1	0.5	0.496
Coordination (1 question)	64.0	65.6	-1.6	0.630	56.5	58.6	-2.1	0.577	65.9	68.2	-2.3	0.137	59.1	61.0	-1.9	0.202
Patient and family caregiver engagement (7 questions)	71.9	74.9	-3.0	**0.071**	73.4	73.8	-0.4	0.836	74.1	74.6	-0.5	0.505	75.4	75.6	-0.2	0.751
Helpful, courteous, and respectful office staff (2 questions)	83.5	84.3	-0.8	0.714	83.2	83.3	-0.2	0.939	84.4	85.3	-0.9	0.342	85.3	85.7	-0.4	0.634
Teamwork (1 question)	73.5	75.4	-2.0	0.500	75.3	79.0	-3.8	0.179	80.8	80.1	0.8	0.509	80.8	80.7	0.1	0.894
Patients' rating of the primary care doctors and their staff (1 question)	83.1	83.8	-0.7	0.774	82.6	83.9	-1.3	0.619	85.4	84.4	1.0	0.303	86.0	85.7	0.3	0.762

Source: CPC+ Beneficiary Survey administered to Medicare FFS beneficiaries attributed to 2017 Starter CPC+ practices and comparison practices. The PY 2 survey was administered May through August 2018 to beneficiaries in CPC+ practices and June through December 2018 to Medicare FFS beneficiaries attributed to comparison practices. The PY 3 survey was administered February through May 2019 to beneficiaries in CPC+ and comparison practices. HCC scores were derived from Medicare FFS claims. Details of our methodology for calculating HCC scores are in Appendix 5.C, Section 5.C.3.

Notes: Composite measures for the 10 domains of care were created from 36 survey questions. To calculate the composite measures, we first calculated beneficiary-level composite measures by averaging the nonmissing standardized responses across each question in the composite. We then ran ordinary least squares regressions on beneficiary-level composite measures to create CPC-wide composite scores.

We estimated outcomes separately for Track 1 and Track 2. All regressions controlled for baseline (pre-CPC+) beneficiary and practice characteristics, and beneficiaries' self-reported education level at the time of the survey. Appendix Table 5.A.6 lists the control variables. For all regressions, we weighted estimates using beneficiary-level nonresponse and matching weights. To account for correlation in responses within practices, our regression models used cluster-robust standard errors, clustering at the practice level.

Bolded text indicates that the finding was statistically significant at the $p<0.10$ level, using a two-tailed t-test. ***Red shading with bold, italicized text*** indicates an unfavorable finding that is both statistically and substantially significant.

[a] Sample sizes were between 854 beneficiaries and 1,080 beneficiaries in CPC+ practices and 1,184 beneficiaries and 1,512 beneficiaries in the comparison practices.

[b] Sample sizes were between 4,708 beneficiaries and 6,435 beneficiaries in CPC+ practices and 6,498 beneficiaries and 9,141 beneficiaries in the comparison practices.

FFS = fee-for-service; HCC = hierarchical condition category; PY = Program Year.

Table 5.A.11c.1. Predicted percentage of Medicare FFS beneficiaries attributed to CPC+ and comparison practices giving the best response to questions in the composites, by patient characteristics (PY 2 and PY 3): high risk beneficiaries based on having a severe mental illness[67], Track 1

	Track 1 - High-Risk[a], PY 2				Track 1 - High-Risk[a], PY 3				Track 1 - Not High-Risk [b], PY 2				Track 1 - Not High-Risk [b], PY 3			
	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value
Composite measures																
Access (11 questions)	32.9	36.2	-3.3	0.677	44.9	39.8	5.1	0.454	37.5	38.3	-0.7	0.178	38.7	38.1	0.7	0.194
Continuity in the doctor's office (1 question)	89.9	75.4	14.5	0.169	77.2	83.8	-6.6	0.621	83.3	84.7	-1.5	0.126	80.6	80.2	0.4	0.712
Continuity outside of the doctor's office (2 question)	2.4	5.1	-2.7	0.465	5.3	2.5	2.7	0.554	3.1	3.0	0.1	0.867	2.3	2.6	-0.3	0.364
Care management (4 questions)	67.1	69.8	-2.7	0.779	71.9	65.9	5.9	0.472	71.0	70.8	0.2	0.845	70.2	70.1	0.1	0.868
Comprehensiveness (6 questions)	55.0	58.0	-3.0	0.752	54.0	52.5	1.5	0.855	50.8	51.3	-0.4	0.547	52.5	51.1	1.4	**0.051**
Coordination (1 question)	66.1	68.2	-2.1	0.902	56.7	70.3	-13.6	0.436	66.4	67.7	-1.3	0.365	59.8	59.6	0.2	0.874
Patient and family caregiver engagement (7 questions)	58.7	56.5	2.3	0.838	74.4	65.1	9.3	0.261	72.3	74.0	-1.8	**0.007**	74.9	74.6	0.3	0.661
Helpful, courteous, and respectful office staff (2 questions)	76.9	76.5	0.3	0.977	81.4	89.1	-7.7	0.484	83.4	85.2	-1.9	**0.030**	84.6	85.8	-1.2	0.128
Teamwork (1 question)	71.2	59.6	11.5	0.520	84.7	76.4	8.3	0.569	78.3	79.3	-0.9	0.377	80.4	80.0	0.3	0.742
Patients' rating of the primary care doctors and their staff (1 question)	57.5	59.9	-2.4	0.882	76.9	81.8	-4.9	0.742	84.1	84.2	-0.1	0.953	85.5	85.5	0.0	0.999

Source: CPC+ Beneficiary Survey administered to Medicare FFS beneficiaries attributed to 2017 Starter CPC+ practices and comparison practices. The PY 2 survey was administered May through August 2018 to beneficiaries in CPC+ practices and June through December 2018 to Medicare FFS beneficiaries attributed to comparison practices. The PY 3 survey was administered February through May 2019 to beneficiaries in CPC+ and comparison practices. HCC scores were derived from Medicare FFS claims. Details of our methodology for calculating HCC scores are in Appendix 5.C, Section 5.C.3.

Notes: Composite measures for the 10 domains of care were created from 36 survey questions. To calculate the composite measures, we first calculated beneficiary-level composite measures by averaging the nonmissing standardized responses across each question in the composite. We then ran ordinary least squares regressions on beneficiary-level composite measures to create CPC-wide composite scores.

We estimated outcomes separately for Track 1 and Track 2. All regressions controlled for baseline (pre-CPC+) beneficiary and practice characteristics, and beneficiaries' self-reported education level at the time of the survey. Appendix Table 5.A.6 lists the control variables. For all regressions, we weighted estimates using beneficiary-level nonresponse and matching weights. To account for correlation in responses within practices, our regression models used cluster-robust standard errors, clustering at the practice level.

Bolded text indicates that the finding was statistically significant at the $p<0.10$ level, using a two-tailed t-test.

[a] Sample sizes were between 26 beneficiaries and 35 beneficiaries in CPC+ practices and 57 beneficiaries and 80 beneficiaries in the comparison practices.

[b] Sample sizes were between 5,439 beneficiaries and 7,489 beneficiaries in CPC+ practices and 8,104 beneficiaries and 11,190 beneficiaries in the comparison practices.

FFS = fee-for-service; PY = Program Year

[67] Beneficiaries with behavioral health conditions (HCCs for schizophrenia or major depressive, bipolar, and paranoid disorders, or drug/alcohol psychosis or drug/alcohol dependence) at baseline (2016).

Table 5.A.11c.2. Predicted percentage of Medicare FFS beneficiaries attributed to CPC+ and comparison practices giving the best response to questions in the composites, by patient characteristics (PY 2 and PY 3): high risk beneficiaries based on having a severe mental illness[68], Track 2

	High-Risk[a], PY 2				High-Risk[a], PY 3				Not High-Risk[b], PY 2				Not High-Risk[b], PY 3			
	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value	CPC+ practices	Comparison practices	Difference	*p*-value
Composite measures																
Access (11 questions)	38.4	37.4	1.0	0.856	43.7	37.1	6.6	0.280	38.7	37.8	0.8	0.125	38.6	38.2	0.3	0.493
Continuity in the doctor's office (1 question)	80.9	74.2	6.6	0.631	80.0	82.8	-2.8	0.807	83.5	84.8	-1.3	0.194	78.5	79.4	-1.0	0.353
Continuity outside of the doctor's office (2 question)	*0.5*	*5.5*	*-5.0*	*0.049*	5.1	4.6	0.6	0.893	3.5	2.6	0.9	**0.020**	2.3	2.5	-0.2	0.450
Care management (4 questions)	80.7	77.5	3.2	0.699	70.9	67.3	3.6	0.647	71.1	71.0	0.2	0.844	70.9	70.0	0.9	0.277
Comprehensiveness (6 questions)	54.7	67.4	-12.7	0.114	57.3	54.7	2.7	0.723	50.6	51.9	-1.3	**0.081**	52.6	52.2	0.3	0.651
Coordination (1 question)	66.7	72.8	-6.1	0.734	70.4	49.9	20.5	0.172	65.7	67.9	-2.2	0.126	58.8	60.8	-2.0	0.145
Patient and family caregiver engagement (7 questions)	73.8	63.6	10.2	0.262	72.0	65.6	6.4	0.327	73.9	74.7	-0.8	0.239	75.3	75.5	-0.3	0.665
Helpful, courteous, and respectful office staff (2 questions)	84.7	71.0	13.8	0.333	87.6	88.5	-0.9	0.908	84.3	85.3	-0.9	0.278	85.1	85.5	-0.4	0.637
Teamwork (1 question)	**95.1**	**62.2**	**32.9**	**0.004**	84.7	72.3	12.4	0.240	80.0	79.7	0.3	0.779	80.3	80.5	-0.2	0.814
Patients' rating of the primary care doctors and their staff (1 question)	73.4	64.0	9.5	0.534	84.4	78.8	5.5	0.587	85.3	84.4	0.8	0.372	85.7	85.6	0.1	0.885

Source: CPC+ Beneficiary Survey administered to Medicare FFS beneficiaries attributed to 2017 Starter CPC+ practices and comparison practices. The PY 2 survey was administered May through August 2018 to beneficiaries in CPC+ practices and June through December 2018 to Medicare FFS beneficiaries attributed to comparison practices. The PY 3 survey was administered February through May 2019 to beneficiaries in CPC+ and comparison practices.

[68] Beneficiaries with behavioral health conditions (HCCs for schizophrenia or major depressive, bipolar, and paranoid disorders, or drug/alcohol psychosis or drug/alcohol dependence) at baseline (2016).

Table 5.A.11c.2. ***(continued)***

Notes: Composite measures for the 10 domains of care were created from 36 survey questions. To calculate the composite measures, we first calculated beneficiary-level composite measures by averaging the nonmissing standardized responses across each question in the composite. We then ran ordinary least squares regressions on beneficiary-level composite measures to create CPC-wide composite scores.

We estimated outcomes separately for Track 1 and Track 2. All regressions controlled for baseline (pre-CPC+) beneficiary and practice characteristics, and beneficiaries' self-reported education level at the time of the survey. Appendix Table 5.A.6 lists the control variables. For all regressions, we weighted estimates using beneficiary-level nonresponse and matching weights. To account for correlation in responses within practices, our regression models used cluster-robust standard errors, clustering at the practice level.

Bolded text indicates that the finding was statistically significant at the $p<0.10$ level, using a two-tailed t-test. **Green shading with bolded text** indicates a favorable finding that is both statistically significant and substantially significant; ***red shading with bold, italicized text*** indicates an unfavorable finding that is both statistically and substantially significant.

[a] Sample sizes were between 40 beneficiaries and 53 beneficiaries in CPC+ practices and 54 beneficiaries and 75 beneficiaries in the comparison practices.

[b] Sample sizes were between 5,522 beneficiaries and 7,462 beneficiaries in CPC+ practices and 7,628 beneficiaries and 10,578 beneficiaries in the comparison practices.

FFS = fee-for-service; PY = Program Year.

5.A.6. The Medicare Health Care Opinion Survey

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[BARCODE]
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The Medicare Health Care Opinion Survey

This survey is sponsored by the Centers for Medicare & Medicaid Services (CMS). Mathematica Policy Research is sending you this survey as part of an important national study. By completing this survey, you will help improve the quality of primary care nationwide. The survey should take you only about 15-20 minutes to complete.

Your Privacy is Protected. All of your personal information will be kept private and confidential. Mathematica Policy Research will not share your personal information or individual responses with anyone.

Your Participation is Voluntary. You may choose to answer this survey or not. Your choice will not affect the health care you get or your insurance coverage.

What to Do When You're Done. Once you finish the survey, please put it in the prepaid envelope that was sent with the survey, seal the envelope, and put the envelope in the mail.

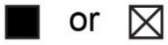
What to Do If You Have Questions. If you have any questions, please call us toll-free at 1-833-278-3076 or send an email to MedicareSurvey@mathematica-mpr.com.

Si prefiere la encuesta en español, por favor póngase en contacto con Mathematica por teléfono (sin cargo) al 1-833-278-3076 o por correo electrónico a MedicareSurvey@mathematica-mpr.com.

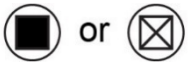
Primary Care Doctor's Office
[PRACTICENAME] [PRACTICEADDRESS1] [PRACTICEADDRESS2] [PRACTICECITY], [PRACTICESTATE] [PRACTICEZIP] OR [SECONDPRACADD1] [SECONDPRACADD2] [SECONDPRACCITY], [SECONDPRACSTATE] [SECONDPRACZIP]

Survey Instructions

- Please use a black or blue ball point pen.
- Answer each question by completely filling in the box to the left of your answer or marking the box with an "X".



- If you want to change an answer, fill in the box for the correct answer completely or mark the box with an "X" and circle the correct answer as well.



- You are sometimes told to skip over some questions in this survey. When this happens you will see an arrow with a note that tells you what question to answer next, like this:

☒ Yes → **If Yes, go to #7 on page 3**

☐ No

This Primary Care Doctor's Office

This is a survey about health care you received from **primary care doctors and their staff**. The person you got care from at this doctor's office might be a physician (MD or DO), a nurse practitioner (NP), physician assistant (PA), or other staff that work with them.

Primary care doctors **treat preventive and wellness needs, common illnesses** (such as a cold or the flu), **and ongoing conditions** (such as diabetes or high blood pressure). Primary care doctors do not do surgery and do not treat just one kind of health problem such as a heart condition.

1. In the last 6 months, did you get **any kind of health care** from the **primary care doctor's office listed on the cover page**? You may know this doctor's office by another name.

[1] ☐ Yes
[2] ☐ No → **If No, go to #44 on page 11**

2. Patients can get health care in different ways. How did you get care in the last 6 months **from this primary care doctor's office?**

Mark one or more.

[1] ☐ Had a scheduled appointment at this doctor's office
[2] ☐ Had a same-day appointment or walk-in visit at this doctor's office
[3] ☐ Received help from this doctor's office to fill prescriptions, set up medical tests, or schedule appointments
[4] ☐ Discussed your health with your doctor or someone from this doctor's office via phone, email, text messaging, or a patient portal
[5] ☐ None of the above

3. Did you get **any other kinds of care** from this doctor's office in the last 6 months?

Mark one or more.

[1] ☐ Your doctor or someone from this doctor's office came to see you in the hospital
[2] ☐ Your doctor or someone from this doctor's office came to see you at another location besides this doctor's office or the hospital to provide health care (such as at your home or a senior center)
[3] ☐ Had a video appointment with your doctor or someone from this doctor's office
[4] ☐ Attended a group medical appointment arranged by this doctor's office with other patients who have similar medical issues
[5] ☐ None of the above

As you answer the questions in this survey, please think about **all of the ways you got health care** in the last 6 months **from primary care doctors and their staff who work at this doctor's office.**

Contacting This Primary Care Doctor's Office

4. In the last 6 months, did you contact this doctor's office to get care for an illness, injury, or condition that **needed care right away**?

[1] ☐ Yes
[2] ☐ No → **If No, go to #6**

5. In the last 6 months, when you contacted this doctor's office for **care you needed right away**, how often did you get care as soon as you needed?

[1] ☐ Never
[2] ☐ Sometimes
[3] ☐ Usually
[4] ☐ Always

6. In the last 6 months, did you make any appointments for a **check-up or routine care** with this doctor's office?

[1] ☐ Yes
[2] ☐ No → **If No, go to #8**

7. In the last 6 months, when you made an appointment for a **check-up or routine care** with this doctor's office, how often did you get care as soon as you needed?

[1] ☐ Never
[2] ☐ Sometimes
[3] ☐ Usually
[4] ☐ Always

8. In the last 6 months, did you contact this doctor's office with a health question **during regular office hours**?

[1] ☐ Yes
[2] ☐ No → **If No, go to #10**

9. In the last 6 months, when you contacted this doctor's office **during regular office hours,** how often did you get an answer to your health question that same day?

[1] ☐ Never
[2] ☐ Sometimes
[3] ☐ Usually
[4] ☐ Always

10. Has this doctor's office given you information about **what to do if you need care during evenings, weekends, or holidays**?

[1] ☐ Yes
[2] ☐ No

11. In the last 6 months, did you contact this doctor's office with a health question **outside of regular office hours**, for example, on evenings, weekends, or holidays?

[1] ☐ Yes
[2] ☐ No ~~If~~ **No, go to #13 on page 5**

12. In the last 6 months, when you contacted this doctor's office **outside of regular office hours**, how often did you get an answer to your health question as soon as you needed?

- [1] ☐ Never
- [2] ☐ Sometimes
- [3] ☐ Usually
- [4] ☐ Always

13. In the last 6 months, did you use **email, a patient portal, or text messaging** to contact this doctor's office with a health question?

- [1] ☐ Yes
- [2] ☐ No ~~If~~ **No, go to #15**

14. In the last 6 months, when you used **email, a patient portal, or text messaging** to contact this doctor's office with a health question, how often did you get an answer to your health question as soon as you needed?

- [1] ☐ Never
- [2] ☐ Sometimes
- [3] ☐ Usually
- [4] ☐ Always

Your Care from This Primary Care Doctor's Office

15. In the last 6 months, how often did your appointment(s) with this doctor's office start **within 15 minutes** of your appointment time?

- [1] ☐ Never
- [2] ☐ Sometimes
- [3] ☐ Usually
- [4] ☐ Always
- [5] ☐ Not applicable, did not have scheduled appointment(s) with this doctor's office in the last 6 months

16. In the last 6 months, did you **take any prescription medicine**?

- [1] ☐ Yes
- [2] ☐ No → **If No, go to #18 on page 6**

17. In the last 6 months, did your doctor or someone from this doctor's office ask you about **all the prescription medicines you were taking**?

- [1] ☐ Yes
- [2] ☐ No

18. In the last 6 months, did you have a **blood test, x-ray, or other test** that was ordered by your doctor or someone from this doctor's office?

[1] ☐ Yes
[2] ☐ No ~~If~~ **No, go to #20**

19. In the last 6 months, when you had a blood test, x-ray, or other test that was ordered by your doctor or someone from this doctor's office, how often did you **get your test results?**

[1] ☐ Never
[2] ☐ Sometimes
[3] ☐ Usually
[4] ☐ Always

20. In the last 6 months, how often did people from this doctor's office, including your doctor, explain medical things in a way that was **easy to understand**?

[1] ☐ Never
[2] ☐ Sometimes
[3] ☐ Usually
[4] ☐ Always

21. In the last 6 months, how often did people from this doctor's office, including your doctor, **listen carefully to you**?

[1] ☐ Never
[2] ☐ Sometimes
[3] ☐ Usually
[4] ☐ Always

22. In the last 6 months, how often did people from this doctor's office, including your doctor, seem to **know the important information about your medical history**?

[1] ☐ Never
[2] ☐ Sometimes
[3] ☐ Usually
[4] ☐ Always

23. In the last 6 months, how often did people from this doctor's office, including your doctor, **show respect for what you had to say**?

[1] ☐ Never
[2] ☐ Sometimes
[3] ☐ Usually
[4] ☐ Always

24. In the last 6 months, how often did people from this doctor's office, including your doctor, **spend enough time with you**?

[1] ☐ Never
[2] ☐ Sometimes
[3] ☐ Usually
[4] ☐ Always

25. In the last 6 months, did your doctor or someone from this doctor's office ask you if there are **things that make it hard for you to take care of your health**?

[1] ☐ Yes
[2] ☐ No

26. In the last 6 months, did your doctor or someone from this doctor's office ask you if you had any **problems with physical pain or discomfort**?

[1] ☐ Yes
[2] ☐ No

27. In the last 6 months, did your doctor or someone from this doctor's office ask you if there was a period of time when you felt **sad, empty, or depressed**?

[1] ☐ Yes
[2] ☐ No

28. In the last 6 months, did your doctor or someone from this doctor's office talk with you about **things in your life that worry you or cause you stress**?

[1] ☐ Yes
[2] ☐ No

29. In the last 6 months, did your doctor or someone from this doctor's office ask you about any **non-medical problems you might need help with**? These might include things like problems paying for or finding a place to live, not having enough food, lack of reliable transportation, or trouble paying utility bills.

[1] ☐ Yes
[2] ☐ No

30. In the last 6 months, did your doctor or someone from this doctor's office ask you if you have any problems with **abuse or violence at home or in your neighborhood**?

[1] ☐ Yes
[2] ☐ No

31. An **advance care plan** describes a patient's wishes for end-of-life care in case the patient becomes too sick to make his or her own decisions. In an advance care plan, patients can choose family members or friends to make medical decisions for them, including health care that patients may not want.

Advance care plans are often recorded in a document such as an **advance directive, a do not resuscitate (DNR) order, health care power of attorney, or a living will.**

Do you have any kind of advance care plan?

[1] ☐ Yes
[2] ☐ No
[3] ☐ I don't know

32. Has your doctor or someone from this doctor's office **asked you about your end-of-life care wishes or creating an advance care plan?**

[1] ☐ Yes
[2] ☐ No
[3] ☐ I don't know

Your Health Care From Specialists

33. Specialists are doctors like surgeons, heart doctors, eye doctors, skin doctors, and other doctors who specialize in one area of health care.

In the last 6 months, did you get **any health care from a specialist**?

[1] ☐ Yes
[2] ☐ No → **If No, go to #35 on page 9**

34. Remember, when we say **"this doctor's office"**, we are referring to the primary care doctor's office listed on the cover page.

In the last 6 months, how often did people from this doctor's office, including your doctor, seem **informed and up-to-date about the care you got from specialists**?

[1] ☐ Never
[2] ☐ Sometimes
[3] ☐ Usually
[4] ☐ Always

Follow Up After Emergency Room and Hospital Care

The questions below ask about health care you got from the **primary care doctors and their staff** from the doctor's office listed on the cover page, after going to an emergency department or being in a hospital.

35. In the last 6 months, have you gone to an emergency room or emergency department for care? Please do not include visits to an urgent care center.

[1] ☐ Yes
[2] ☐ No ~~If~~ **No, go to #37**

36. Did your doctor or someone from this doctor's office contact you to discuss your health needs **within one week** after your most recent emergency room or emergency department visit?

[1] ☐ Yes
[2] ☐ No

37. In the last 6 months, have you been a patient in a hospital overnight or longer?

[1] ☐ Yes
[2] ☐ No ~~If~~ **No, go to #39**

38. Did your doctor or someone from this doctor's office contact you to discuss your health needs **within 3 days** after your most recent hospital stay?

[1] ☐ Yes
[2] ☐ No

This Primary Care Doctor's Office As A Whole

39. In the last 6 months, how often did the primary care doctors and their staff from this doctor's office **work well together** to care for you?

[1] ☐ Never
[2] ☐ Sometimes
[3] ☐ Usually
[4] ☐ Always

40. When you saw a primary care doctor from this office in the last 6 months, how often were these visits with **your regular doctor**? A primary care doctor might be a physician (MD or DO), nurse practitioner (NP), or physician assistant (PA).

- [1] ☐ Never
- [2] ☐ Sometimes
- [3] ☐ Usually
- [4] ☐ Always

41. In the last 6 months, how often were clerks and receptionists at this doctor's office as **helpful** as you thought they should be?

- [1] ☐ Never
- [2] ☐ Sometimes
- [3] ☐ Usually
- [4] ☐ Always

42. In the last 6 months, how often did clerks and receptionists at this doctor's office **treat you with courtesy and respect**?

- [1] ☐ Never
- [2] ☐ Sometimes
- [3] ☐ Usually
- [4] ☐ Always

43. Using any number from 0 to 10, where 0 is the worst care possible and 10 is the best care possible, what number would you use to rate the care you have received **from the primary care doctors and their staff from this doctor's office**?

- ☐ 0 Worst level of care possible
- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7
- ☐ 8
- ☐ 9
- ☐ 10 Best level of care possible

About You

44. In general, how would you rate your **overall** health?

[1] ☐ Excellent
[2] ☐ Very good
[3] ☐ Good
[4] ☐ Fair
[5] ☐ Poor

45. In general, how would you rate your overall **mental or emotional** health?

[1] ☐ Excellent
[2] ☐ Very good
[3] ☐ Good
[4] ☐ Fair
[5] ☐ Poor

46. What is the **highest** grade or level of school that you have completed?

Mark one only.

[1] ☐ 8th grade or less
[2] ☐ Some high school, but did not graduate
[3] ☐ High school graduate or GED
[4] ☐ Some college or 2-year degree
[5] ☐ 4-year college graduate
[6] ☐ Advanced degree (master's, professional, or doctoral degree)

47. Are you of Hispanic or Latino origin or descent?

[1] ☐ Yes, Hispanic or Latino
[2] ☐ No, not Hispanic or Latino

48. What is your race?

Mark one or more.

[1] ☐ White
[2] ☐ Black or African American
[3] ☐ Asian
[4] ☐ Native Hawaiian or Other Pacific Islander
[5] ☐ American Indian or Alaskan Native
[6] ☐ Other

Thank you!!

Please return the completed survey in the postage-paid envelope.

If you no longer have the envelope, you can mail your survey to:

Medicare Health Care Opinion Survey
5900 Baker Rd STE 100
Minnetonka, MN 55345-9893

If you have any questions or want to know more about this study, please call us toll-free at 1-833-278-3076 or send an email to MedicareSurvey@mathematica-mpr.com.

5.B. Attribution methodology

In this Appendix, we explain beneficiary attribution (Section 1), describe each step of the attribution approach we use for CPC+ and comparison practices (Section 2), and discuss how the methodology has changed over time (Section 3). We then compare how our evaluation attribution process differs from CMS's payment attribution (Section 4). Finally, we explore similarities between our evaluation attribution sample and CMS's payment attribution sample (Section 5). We updated the reported number of attributed beneficiaries, by quarter or year, based on the latest attribution run for this report.

5.B.1. What is beneficiary attribution?

Attribution is a methodology used to identify the population of beneficiaries under the care of a particular practitioner, practice, or health system. CPC+ provides each participating practice site with enhanced and alternative payments for their Medicare fee-for-service (FFS) beneficiaries. A practice site is composed of a unique grouping of practitioners and billing numbers (described in more detail below). To determine the amount of payments practices receive, CMS uses attribution to measure the size and acuity of the Medicare FFS population receiving regular, continuous care from the practice. The CPC+ payment attribution process uses Medicare administrative data (claims and enrollment data) to identify the Medicare FFS beneficiaries associated with CPC+ practices.[69,70]

As a part of the evaluation of CPC+, we use a similar claims-based attribution process to assign Medicare beneficiaries to all primary care practice sites serving Medicare beneficiaries in a given quarter. We run our own attribution so we can attribute Medicare beneficiaries to both CPC+ and comparison practices using an identical methodology. We assign eligible Medicare beneficiaries to practice sites for each quarter of the time period we are analyzing. For the third annual report, this period includes 4 baseline quarters in 2016 and 12 intervention quarters in 2017, 2018, and 2019 for the 2017 Starters.[71] Although we use a process similar to CMS payment attribution, there are a few key differences that we highlight in Section 5.B.4.

5.B.2. How do we do attribution?

Like the CMS payment attribution method, attribution for the CPC+ evaluation uses Medicare administrative data to assign Medicare FFS beneficiaries to CPC+ and comparison practice sites. The CPC+ evaluation attribution process consists of five steps. First, we identify a pool of primary care practices that compete for beneficiaries in the attribution process. Second, because we use Medicare claims, which report the practitioners who provided the service rather than the

[69] See CMS's CPC+ Payment Methodologies at https://innovation.cms.gov/Files/x/cpcplus-methodology.pdf for details on CPC+ payment attribution (Chapter 2). In Section 5.B.4 below, we summarize the differences between the payment and evaluation attribution processes.

[70] Starting in 2019, CMS incorporated Voluntary Alignment, a method by which beneficiaries confirm their primary care practitioner, into CPC+ attribution methodology.

[71] After attribution, beneficiaries are assigned to the first practice they are attributed to in that period (i.e., the baseline or the intervention period).

practice, we group practitioners into the practices identified in the first step. Third, we identify the set of beneficiaries who are eligible for attribution. Fourth, we identify the set of primary care services that we consider in the attribution process. Fifth, we use the information from the previous four steps to attribute eligible Medicare beneficiaries to a single practice in each quarter.

Below we describe each of these steps in detail.

Step 1: Identify a pool of primary care practices

To develop a frame of primary care practices that compete for beneficiaries in the attribution process, we start with a roster of all practices in the United States with at least one practitioner (defined as a physician, nurse practitioner, or physician assistant) with a primary care specialty (defined as family practice, general practice, geriatrics, or internal medicine). We purchase yearly rosters from IQVIA, a commercial health care data vendor that maintains and verifies lists of practitioners who work in practices throughout the country, including practices' names and addresses along with the name, specialty, and National Provider Identifier (NPI) of each practitioner at the practice site.[72] We augment the IQVIA data with practitioner taxonomy and Medicare specialty codes and fill in missing NPIs by linking the practitioner-level IQVIA data to the National Plan and Provider Enumeration System (NPPES). We then identify CPC+ practices within the roster of IQVIA practices, using a combination of address, name, and practitioner matching. If we cannot identify a CPC+ practice in the IQVIA roster, we augment the IQVIA data by appending CPC+ practice and practitioner data from CMS.

Step 2: Group practitioners into practice sites

Two key inputs in attribution are a roster of practitioners working at practice sites and the information they use to bill Medicare for services provided at those practice sites. In the CMS payment attribution method for CPC+, a practice is defined by the combinations of Taxpayer Identification Number (TIN) (or CMS Certification Number (CCN) for critical access hospitals) and NPIs identified for each practitioner at the practice site. Participating CPC+ practices submit this information in monthly rosters. Each service in the Medicare claims data includes (1) the TIN or CCN and (2) the NPI of the practitioner who rendered the service. CMS determines whether the TIN (or CCN) and NPI combination on the claim match a TIN (or CCN) and NPI combination in a practitioner-practice site roster. If so, the visit is associated with that practice in the CPC+ payment attribution algorithm. Otherwise, CMS assigns that visit to the individual practitioner identified as the single TIN-NPI or CCN-NPI combination.

To facilitate attribution for the evaluation, we proceed with three substeps to construct a roster of practitioners working at all CPC+ and potential comparison practices and their associated TINs (or CCNs) and NPIs.

[72] The purchased yearly rosters were based on SK&A data for the baseline period, PY 1, and PY 2 of CPC+. Starting in 2019, IQVIA discontinued the SK&A data and replaced it with OneKey data. For PY 3, the purchased yearly rosters are based on the OneKey database.

Substep 1: Create initial roster of NPIs from yearly rosters

As a starting point, we use practitioner rosters we purchased from IQVIA for years 2016 through 2019, which provide the practices' roster of practitioners in that year (we use the 2016 roster for the period 2014 through 2016).[73] The rosters connect a unique practice ID to a list of practitioners in each year. Although we had extensive information about CPC+ practices from their applications, for matching purposes, we opted to identify CPC+ practice and practitioner characteristics using the same data source (IQVIA) as we used for the potential comparison practices, both at baseline and over time. This approach removes bias that could result from using different data sources for the two groups, such as more frequent or thorough updates to practitioner rosters in the CPC+ data than in IQVIA data. We found approximately 80 percent overlap between the practitioners in CPC+ rosters and in the rosters we created from IQVIA data. This finding suggests that, although IQVIA data are not perfectly capturing CPC+ practitioners, our rosters include a high proportion of them. We explore this topic more extensively in Section 5.B.5.

Substep 2: Assign TINs to each practice in roster

Because the IQVIA data do not include the practice or practitioner TINs used in the payment attribution method, we use claims data to assign TINs to each practice.[74] To do so, we use an algorithm that picks the TIN most frequently billed in Medicare claims data for primary care services by the NPIs of primary care practitioners that the IQVIA roster indicates are located at a practice.[75] We start by assigning a single TIN to a practice in each year over the four-year period from 2015 through 2019.[76] We then maintain all TINs previously associated with a practice, resulting in practices with multiple TINs at a given time. Additionally, we backdate the start date of each TIN by one calendar year to ensure we correctly associate claims billed by a practice at some point during the year prior to the practice's new TIN.[77]

[73] Our attribution process uses a two-year lookback period, so we need practitioner rosters for 2014 onward.

[74] For CPC+ applicants, we examined the overlap between the assigned TINs and reported TINs: for 95 percent of applicants, at least one assigned TIN was also on the CPC+ application. Using the assigned TINs in attributing beneficiaries to CPC+ practices (rather than using TINs on the CPC+ application) increases the risk of misattributing beneficiaries to CPC+ practices (if we assigned an incorrect or invalid TIN to that practice).

[75] In practices where at least one practitioner is found to practice only at that practice per the IQVIA data, we limit practitioners used in TIN assignment to these "single-site" practitioners. For practices where there are no single-site practitioners, we use all primary care practitioners associated with the practice in TIN assignment.

[76] We decided not to do TIN assignment for 2014, because we would have had to use a very out-of-date roster (one from October 2016). We were concerned that this would cause a mis-specification of the TIN. Since we maintain all TINs previously associated with the practice, we did not want to include a potentially mis-specified TIN that would be included in all subsequent years. Note, however, that we backdate the TIN assigned in 2015 to 2014.

[77] Specifically, we backdate assigned TINs in this way to avoid cases where the practice switched ownership (and so the TIN changed) midyear. Because we use a plurality approach to assigning TINs to a year, if we did not backdate TINs (for example, by forcing only one TIN to be active during a year) we would not assign the correct practice on up to 50 percent of the claims for that switching year.

Substep 3: Unique NPI/TIN assignment

In some instances, the same NPI and TIN combination occurs at multiple practices identified in the IQVIA data at the same time (approximately 18 percent of all practice-practitioner observations share the same NPI and TIN in the 2019 roster). This occurs when a practitioner works in more than one practice site within a health care system (if the practice sites share the same billing TIN). In these cases, we cannot distinguish which practice provided care for a beneficiary. To reconcile duplicate NPI–TIN combinations before attribution, we assign the NPI to one practice using the following hierarchy of rules: (1) if the duplicate occurs between a CPC+ practice and a comparison practice, we assign the duplicate to the CPC+ practice; (2) ascending practice size, as measured by number of primary care practitioners (that is, we assign the NPI to the smaller practice); and (3) random assignment, if the duplicate occurs among practices in the same research group (CPC+ or potential comparison) and of the same size.[78]

This process results in a master practitioner file with a unique crosswalk between NPIs-TINs and their associated practice IDs in each year. We use this crosswalk to map each Medicare service to a particular practice.

Step 3: Identify Medicare beneficiaries eligible for attribution

We start with the list of beneficiaries who had at least one primary care visit (see Step 4 for definition of primary care visits) to any NPI in our master practitioner file (created in Step 2). We then limit the pool of beneficiaries to those who meet the eligibility criteria. To be eligible for evaluation attribution in a given quarter, beneficiaries must meet the following criteria at the start of the quarter, as indicated by the Medicare enrollment database (EDB):[79,80]

1. Be enrolled in both Medicare Part A and Part B,
2. Have Medicare as their primary payer,
3. Not be covered under a Medicare Advantage or other Medicare health plan,
4. Not be incarcerated,
5. Be alive.

These criteria ensure that we can reliably measure beneficiary outcomes in the Medicare FFS data unlike, for example, beneficiaries enrolled in a Medicare Advantage plan.

[78] Consistent with CMS's attribution approach, we prioritize the smaller practice to avoid dropping any practices altogether.

[79] For example, beneficiaries must meet all eligibility criteria on January 1, 2017, to be eligible for evaluation attribution in the first quarter of 2017 (January 1, 2017–March 31, 2017).

[80] The EDB provides information, by month, for beneficiaries enrolled in Medicare, including the parts of Medicare in which they were enrolled—Part A, Part B, or Part C (a health maintenance organization)—whether Medicare was their primary payer of medical bills, whether they were incarcerated, and the date they died, if applicable.

Step 4: Identify primary care claims used in attribution

We next narrow the universe of all billed Medicare services to the primary care services used in beneficiary attribution. There are four criteria for a billed service that determine whether we use it in attribution for a given quarter: (1) the type of claim, (2) date of the claim, (3) type of service, and (4) practitioner. A service must meet all four criteria to be included in the attribution process.

1. Type of claim

For attribution, we use national Medicare FFS Physician and Outpatient claims. Most visits are in the Physician file, except claims submitted by critical access hospitals, which are in the Outpatient file.

2. Date of the claim

We use primary care services that occurred during a 24-month "lookback" period in the attribution process. For each quarter, the lookback period is the 24-month period that ended immediately before the quarter started. For example, we use claims from January 2015 to December 2016 to attribute beneficiaries to CPC+ practices for the first quarter of 2017. Table 5.B.1 lists the lookback periods we used for each quarter in the annual report. Claims for attribution were pulled on May 3, 2018, for the first through fourth quarters of 2016, and on March 20, 2020, for the first quarter of 2017 through fourth quarter of 2019.

Table 5.B.1. Lookback periods for annual report quarterly beneficiary attribution

Attribution quarter	CPC+ period for 2017 Starters	Lookback period
2016 Q1	Baseline	Jan. 2014–Dec. 2015
2016 Q2	Baseline	Apr. 2014–Mar. 2016
2016 Q3	Baseline	July 2014–June 2016
2016 Q4	Baseline	Oct. 2014–Sept. 2016
2017 Q1	Intervention	Jan. 2015–Dec. 2016
2017 Q2	Intervention	Apr. 2015–Mar. 2017
2017 Q3	Intervention	July 2015–June 2017
2017 Q4	Intervention	Oct. 2015–Sept. 2017
2018 Q1	Intervention	Jan. 2016–Dec. 2017
2018 Q2	Intervention	Apr. 2016–Mar. 2018
2018 Q3	Intervention	July 2016–June 2018
2018 Q4	Intervention	Oct. 2016–Sept. 2018
2019 Q1	Intervention	Jan. 2017–Dec. 2018
2019 Q2	Intervention	Apr. 2017–Mar. 2019
2019 Q3	Intervention	July 2017–June 2019
2019 Q4	Intervention	Oct. 2017–Sept. 2019

Q = quarter

3. Type of service

Next, we limit claims to eligible primary care services using the Current Procedural Terminology (CPT) code reported on the claim. Table 5.B.2 lists the CPT codes of services that we consider to be related to primary care, following the definition CMS uses for CPC+ payment attribution (Table 5.B.4 in Section 5.B.4 below describes the similarities and differences between the attribution approach for the evaluation and the one used by CMS for payment).[81] A subset of eligible primary care services are related to chronic care management (CCM); these claims receive precedence in the attribution algorithm (described below).

Table 5.B.2. Primary care services eligible for attribution

Type of service	Service	CPT codes
All primary care	Office/outpatient visit evaluation and management (E&M)	99201–99205 99211–99215
	Home care	99324-99328 99334–99337 99339–99345 99347–99350
	Welcome to Medicare and Annual Wellness visits	G0402, G0438, G0439
	Advance care planning	99497
	Collaborative care model	G0502–G0504[a] 99492, 99493, 99494[b]
	Cognition and functional assessment for patient with cognitive impairment	G0505[a], 99483[b]
	Outpatient clinic visit for assessment and management (CAHs only)	G0463
	Transitional care management services	99495–99496
CCM-related service	CCM services	99490, 99491[c]
	Complex CCM services	99487, 99488[d]
	Assessment/care planning for patients requiring CCM services	G0506[a]
	Care management services for behavioral health conditions	G0507[a], 99484[b]
	Prolonged services without face-to-face contact	99358[a]

[a] Added effective January 1, 2017.

[b] Added effective January 1, 2018.

[c] Added effective January 1, 2019.

[d] Discontinued effective January 1, 2017.

CAH = critical access hospital; CCM = chronic care management, CPT = Current Procedural Terminology.

[81] See CMS's CPC+ Payment Methodologies at: https://innovation.cms.gov/Files/x/cpcplus-methodology.pdf.

4. Practitioner

Only claims that have a practitioner who is one of the following are included in the attribution process:

- A practitioner in IQVIA data who is part of a practice with at least one practitioner with a primary care specialty (see Steps 1 and 2 for more details).
- A practitioner who is not in IQVIA data but has a primary or secondary primary care specialty determined by the National Plan and Provider Enumeration System (NPPES; see Table 5.B.3 for the list of primary care specialty codes that we and CMS use).
- Any practitioner if the claim is for a CCM service (lower half of Table 5.B.2).

Additionally, we limit claims to services that are reported in the physician (carrier) claims or are from critical access hospitals in the outpatient claims. Like CMS's payment attribution approach, this process excludes claims from federally qualified health centers (FQHCs) and rural health clinics (RHCs).[82]

[82] This restriction means that in both payment and evaluation attribution, even if beneficiaries have most of their visits at an FQHC or RHC, they would not be attributed to a practice that is an FQHC or RHC.

Table 5.B.3. Primary care practitioner specialties

Primary care specialty	Taxonomy code
Family Medicine	**207Q00000X**
Adult Medicine	207QA0505X
Geriatric Medicine	207QG0300X
Hospice and Palliative Medicine	207QH0002X
General Practice	**208D00000X**
Internal Medicine	**207R00000X**
Geriatric Medicine	207RG0300X
Hospice and Palliative Medicine	207RH0002X
Clinical Nurse Specialist	**364S00000X**
Acute Care	364SA2100X
Adult Health	364SA2200X
Chronic Care	364SC2300X
Community Health/Public Health	364SC1501X
Family Health	364SF0001X
Gerontology	364SG0600X
Holistic	364SH1100X
Women's Health	364SW0102X
Nurse Practitioner	**363L00000X**
Acute Care	363LA2100X
Adult Health	363LA2200X
Community Health	363LC1500X
Family	363LF0000X
Gerontology	363LG0600X
Primary Care	363LP2300X
Women's Health	363LW0102X
Physician Assistant	**363A00000X**
Medical	363AM0700X

Source: CMS's CPC+ Payment Methodologies, at https://innovation.cms.gov/Files/x/cpcplus-methodology.pdf.

Notes: Blue shading indicates a specialty category. The non-shaded rows are sub-specialties of the prior blue shaded category.

Step 5: The attribution algorithm

After we identify beneficiaries eligible for attribution and pull all eligible primary care services (as determined by type of claim, date of the claim, the type of service, and the practitioner), we apply the CPC+ payment attribution algorithm used by CMS. There are three parts to the attribution algorithm:

1. Attribution based on CCM-related billing

If a beneficiary's ***most recent*** eligible primary care visit in the 24-month lookback period was for CCM-related services, we attribute the beneficiary to the practice that provided that CCM-related service.[83]

2. Attribution based on Annual Wellness Visits or Welcome to Medicare visits

Starting in the first quarter of 2018, if a beneficiary is not attributed on the basis of CCM-related billing, and the beneficiary had an Annual Wellness Visit or a Welcome to Medicare visit in the 24-month lookback period, we attribute the beneficiary to the practice that provided the most recent Annual Wellness Visit or a Welcome to Medicare visit.[84]

3. Attribution based on plurality of eligible primary care services

If a beneficiary is not attributed on the basis of Annual Wellness Visits, Welcome to Medicare visit, or CCM-related billing (including cases in which a beneficiary had CCM billed, but the most recent visit was not for CCM-related services), we count the number of eligible primary care visits the beneficiary received from each practice that provided such services. We then attribute the beneficiary to the practice that provided the plurality (that is, the largest share) of eligible primary care visits during the lookback period. If a beneficiary has the same number of eligible primary care visits at more than one practice, we attribute the beneficiary to the practice where the beneficiary had the most recent visit. If two or more of these practices share the same most recent visit date, we attribute the beneficiary to a practice that is on our IQVIA practitioner roster over a primary care NPI that is not on the roster.[85] We break any further ties randomly.

5.B.3. Changes in attribution methodology across annual reports and across quarters

1. We update data and rerun attribution for quarters in the previous annual report that had updates to the input data (for example, we did this for the 2017 and 2018 quarters in the third

[83] Because CPC+ care management (indicated by the care management fee) and the CCM are duplicative services, it is important to note that CPC+ practices cannot bill for CCM-related services for their CPC+ payment-attributed beneficiaries. CPC+ practices are free to bill for CCM-related services for non-payment-attributed beneficiaries, which may result in future attribution to the CPC+ practice.

[84] We include the Annual Wellness Visit and Welcome to Medicare visit attribution criteria to the attribution algorithm for the first quarter of 2018 onward, to align with the same change CMS made to the CPC+ payment attribution algorithm.

[85] Although, in a tie, CMS payment attribution gives preference to CPC+ practices, we did not want to favor CPC+ practices over comparison practices.

annual report). Other than the data changes, the attribution methodology stays the same between reports for a given quarter.

Data changes from the second to the third annual report include:

- Backdating TINs from the 2019 TIN assignment to 2018. This impacted 2018 Quarters 2 through 4, for which we used 2018 claims in the lookback period.
- Update to the backdating of TINs from the 2018 TIN assignment to 2017. This impacted 2017 Quarters 2 through 4, for which we used 2017 claims in the lookback period.
- Additional runout of claims, which affected attribution for all quarters in 2017 and 2018.

These data changes mean that 2017 and 2018 quarters could show slightly different attribution samples in going from the second to the third annual reports.[86]

2. We alter the attribution approach by quarter to reflect relevant changes in CMS's attribution approach, for example, adding the Annual Wellness Visit criteria starting in the first quarter of 2018.

In addition, annual updates to the Health Care Common Procedure Coding System (HCPCS) or other codes CMS uses and changes in the practitioner roster will affect each quarter's attribution differently, depending on the portion of that year that is in the lookback period for a quarter. For example, adding G0506 (assessment/care planning for patients requiring CCM services) as a CCM service starting on January 1, 2017, affected quarters from the second quarter of 2017 onward, since the second quarter of 2017 is the first quarter that contains 2017 in its lookback period.

[86] The number of attributed beneficiaries in the CPC+ and comparison group changed by less than 1 percent. For example, for 2018Q2, the number of beneficiaries attributed to CPC+ practices decreased slightly from 1,845,009, for the second annual report, to 1,844,365 for the third annual report.

5.B.4. How does attribution differ between the CPC+ evaluation and CMS payment?

Our attribution method for the evaluation identifies Medicare beneficiaries assigned to any practice each quarter using roughly the same claims-based attribution algorithm that CMS uses to attribute beneficiaries for CPC+ payments. However, our attribution approach for the evaluation differs from CMS's attribution approach in four key ways:

A. The evaluation practitioner rosters come from IQVIA data for all practices (including CPC+ practices)

For payment attribution, CMS uses CPC+ practitioner rosters (lists of participating practitioners that practices participating in CPC+ submit to CMS) to determine the composition of CPC+ practices and their NPIs and TINs. However, analogous information about practice composition and TINs is not available for comparison practices. Therefore, to maintain consistency in identifying practice composition across CPC+ and comparison practices for the purposes of the evaluation, we use IQVIA's roster to obtain information on NPIs affiliated with a practice. Also, for both CPC+ and comparison practices, we assign TINs to each practice using an algorithm that picks the TIN that was most frequently billed in Medicare claims for primary care services by the NPIs at that practice.

Because we use IQVIA practitioner rosters for all practices, we group non-CPC+ practitioners into primary care practices, whereas payment attribution generally defines non-CPC+ practices as individual practitioners using single TIN-NPI or CCN-NPI combinations (because information regarding how they are grouped as actual practices is not available). The exception is that payment attribution defines practices that applied for CPC+ but were not accepted for CPC+ as practice sites using the practices' application rosters. The evaluation approach allows all non-CPC+ primary care practices in the frame, as well as any individual primary care practitioners not identified in IQVIA data, to compete with CPC+ practices for beneficiaries. This process results in attributing fewer beneficiaries to CPC+ practices than the payment attribution process but likely leads to a more comparable attribution across CPC+ and non-CPC+ practices, because non-CPC+ practices compete for beneficiaries on equal footing with CPC+ practices.

B. The evaluation approach applies fewer restrictions to our definition of an attribution-eligible Medicare beneficiary

In CMS's payment attribution methodology, CMS excludes from attribution: (1) beneficiaries with end-stage renal disease (ESRD) or those enrolled in hospice when they are first attributed (although beneficiaries with ESRD or hospice enrollment can be attributed if they were attributed to a CPC+ practice in an earlier quarter), (2) beneficiaries who are in a long-term care institution, and (3) beneficiaries enrolled in any other program that includes a Medicare FFS shared savings opportunity, except SSP.[87] However, for the evaluation, we do not apply any of these three exclusions in identifying attributed beneficiaries, because CMS expects CPC+ to affect all beneficiaries attributed to the practice, not just those for whom CMS calculates

[87] In 2017, 2018, and 2019, the excluded programs included Next Generation ACO, Comprehensive ESRD Care, the Financial Alignment Demonstration, and the Independence at Home Practice Demonstration. Excluded programs may change as CMS launches new initiatives.

payments. In other words, for the evaluation, we want to assess impacts on all beneficiaries who received the plurality of their care from a CPC+ practice relative to similar beneficiaries attributed to comparison practices. Therefore, we think it is appropriate to apply only the eligibility criteria that pertain to the observability of the beneficiary's outcomes in Medicare FFS claims. CMS applies the same eligibility criteria in identifying attributed beneficiaries for payments, although the timing of these checks differs, as we describe below.

C. The evaluation's two-year lookback period begins immediately prior to the start of the quarter

For payment attribution, CMS uses a two-year claims lookback period that ends three months before the start of the quarter, because CMS needs the list of attributed beneficiaries before the start of the quarter to calculate the care management fees and other CPC+ payments, such as the Comprehensive Primary Care Payment for beneficiaries attributed to each CPC+ practice. For the impact analysis, however, the three-month gap between the end of the lookback period and the beginning of the quarter is unnecessary. Our objective is to identify the appropriate sample of attributed beneficiaries in both CPC+ and comparison practices, without the need for calculating payments in real time. Therefore, the two-year claims lookback period for attribution in the impact analysis ends the day before the start of the quarter.

The difference in the claims lookback period also leads to a difference between CMS's approach and the evaluation in the timing of the above-mentioned Medicare FFS eligibility checks. Specifically, CMS checks for eligibility one month before the start of the quarter, and we apply these eligibility criteria at the beginning of the quarter. For example, beneficiaries had to meet all eligibility criteria on December 1, 2017, to be eligible for CMS's payment attribution in the first quarter of 2018 (January 1, 2018–March 30, 2018) but needed to meet the Medicare FFS eligibility criteria as of January 1, 2018, for attribution to the evaluation sample.

D. CMS adjusted its payment attribution methodology in 2018 to include an annual wellness criterion and in 2019 to include voluntary assignment

Starting with the first quarter of 2018, CMS included the Annual Wellness Visit and Welcome to Medicare visit criteria in its payment attribution process. Although we included this change in our attribution algorithm starting in the first quarter of 2018, it resulted in an additional discrepancy between the evaluation attribution for the fourth quarter of 2017 and payment attribution for the first quarter of 2018, the two quarters with identical claims lookback under each approach. Our attribution for 2017 Quarter 4 (Q4) covers the same lookback period as CMS's payment attribution for 2018 Q1. Because we do not include the Annual Wellness Visit criterion for the 2017 quarters, this could result in additional differences in attribution results between the evaluation sample for 2017 Q4 and payment sample for 2018 Q1, the two quarters with identical claims lookback periods under each attribution algorithm.

Starting with the first quarter of 2019, CMS included an additional criterion based on voluntary assignment in its attribution process, as follows:

- If the beneficiary voluntarily attests that an eligible practitioner is the beneficiary's primary care physician, attribute the beneficiary to that practitioner's practice.

- For remaining beneficiaries, if the most recent primary care service was a CCM-service, attribute beneficiaries to the practice with the most recent CCM-related billing.
- Attribute remaining beneficiaries to the practice with the most recent Annual Wellness Visits or Welcome to Medicare Visits.
- Attribute all remaining beneficiaries to practices on the basis of the plurality of eligible primary care visits.

Because we do not include the voluntary assignment criterion, this could have resulted in additional differences between the evaluation and payment samples in quarters 2018 Q4 to 2019 Q4.[88] However, our preliminary analysis indicates that the extent of this additional discrepancy is very small, as fewer than half of one percent of beneficiaries voluntarily attest to a practitioner. We are unable to replicate the voluntary assignment criterion for the comparison group, so we do not include it in our attribution process for CPC+ or comparison practices.

The similarities and differences between CMS's approach and the evaluation's approach for beneficiary attribution are summarized in Table 5.B.4.

[88] We compare 2018 Q4 of the evaluation attribution sample and 2019 Q1 of the payment attribution sample because they cover the same lookback period. Therefore, including voluntary assignment to payment attribution in 2019 Q1 impacts the overlap between the evaluation's sample for 2018 Q4 as well.

Table 5.B.4. Similarities and differences between beneficiary attribution for payment versus evaluation through 2019

	Payment attribution	Evaluation attribution
Similarities between payment and evaluation attribution processes		
Frequency of attribution	Quarterly	Same as payment attribution.
Observability criteria for beneficiary eligibility	Be enrolled in Medicare Part A and Part B. Not be covered under a Medicare Advantage or other Medicare health plan. Not be incarcerated. Be alive.	Same as payment attribution.
Criteria used to identify eligible services for attribution	Evaluation and management HCPCS codes.	Same as payment attribution.
Attribution algorithm for 2017 quarters	If the most recent primary care service was a CCM service, attribute beneficiaries to the practice with most recent CCM-related billing. Attribute all remaining beneficiaries to practices on the basis of the plurality of eligible primary care visits.	Same as payment attribution.
Attribution algorithm for 2018 quarters	If the most recent primary care service was a CCM service, attribute beneficiaries to the practice with most recent CCM-related billing. If the most recent visit was not a CCM service, and the beneficiary had an Annual Wellness Visit or a Welcome to Medicare visit, attribute the beneficiary to the practice that had most recent Annual Wellness Visit or Welcome to Medicare visit. Attribute all remaining beneficiaries to practices on the basis of the plurality of eligible primary care visits.	Same as payment attribution.
Differences between payment and evaluation attribution processes		
Attribution algorithm for 2019 quarters	If beneficiaries voluntarily attest that an eligible practitioner is their primary care physician, attribute the beneficiaries to that practitioner's practice. For the remaining beneficiaries, if the most recent primary care service was a CCM service, attribute the beneficiaries to the practice with the most recent CCM-related billing. If the most recent visit was not a CCM service, and the beneficiaries had an Annual Wellness Visit or a Welcome to Medicare visit, attribute the beneficiaries to the practice that had the most recent Annual Wellness Visit or Welcome to Medicare visit. Attribute all remaining beneficiaries to practices on the basis of the plurality of eligible primary care visits.	Same as payment attribution, except we cannot approximate voluntary attestation.

Table 5.B.4 (continued)

	Payment attribution	Evaluation attribution
Time period for conducting attribution	Intervention quarters.	Baseline and intervention quarters.
Source for roster of practices and their practitioners	CPC+ practitioner rosters.	IQVIA.
Source for TINs	CPC+ practitioner rosters.	TIN assignment process based on claims.
Practices/practitioners with whom CPC+ practices compete for beneficiaries	Practices rejected from CPC+ and single primary care NPIs not on CPC+ rosters.	All primary care practices from IQVIA roster and single primary care NPIs not on IQVIA roster.
Additional criteria for beneficiary eligibility	Cannot have end-stage renal disease and cannot be enrolled in hospice when they are first attributed. Cannot be in a long-term care institution. Cannot be enrolled in program that includes a Medicare FFS shared savings opportunity, except SSP.	Can have end-stage renal disease or be enrolled in hospice. Can be in a long-term care institution. Can be enrolled in program that includes a Medicare FFS shared savings opportunity.
Time frame for evaluating eligibility criteria	Three months before the start of the quarter for 2017Q1–2017Q2. Otherwise, one month before start of quarter.	Day of the start of quarter.
Lookback period for claims used in quarter's attribution process	Two-year period that ends three months before the start of the quarter.	Two-year period that ends immediately before the start of the quarter.
Tie-breaking for practices with the most visits that have the same number of visits and same date of most recent visit	Preference given to CPC+ practices over all other practices and NPIs.	No preference given to CPC+ practices relative to comparison practices (all practices on IQVIA roster are given preference over all other single primary care NPIs not on IQVIA roster).

CCM = Chronic Care Management; FFS = fee-for-service; HCPCS = Health Care Common Procedure Coding System; NPI = National Provider Identifier; Q = quarter; SSP = Medicare Shared Savings Program; TIN = Tax Identification Number.

5.B.5. How similar are the evaluation attribution samples to CMS's payment attribution samples?

Given the differences in attribution methodology between CPC+ payment and the CPC+ evaluation, the evaluation is unlikely to attribute 100 percent of the same beneficiaries to CPC+ practices as CMS does for payment attribution. The biggest concern is the difference between using the practitioner rosters and using IQVIA data and TIN assignment—because including different sets of practitioners within practices could lead to large differences in the beneficiaries attributed to the practices.

If there are large differences between the payment attribution sample and the evaluation sample, that could mean that the beneficiaries in our evaluation sample are not actually under the care of

CPC+ practices—and thus they are not expected to be impacted by CPC+.[89] This would lead to attenuation in the impact estimates.

Therefore, it is important to track how well the Medicare beneficiary sample used in the evaluation and the Medicare beneficiary sample used by CMS for payments to CPC+ practices align.

To do this, we implement the following analyses:

First, we calculate the overlap of practitioners assigned to CPC+ practices based on the practitioner roster submitted to CMS and those on the practitioner rosters we develop using data purchased each year from IQVIA to support patient attribution for the evaluation. We used data from IQVIA's SK&A database for the baseline period and the first two years of CPC+, and data from IQVIA's OneKey database starting in PY 3. When we construct our master practice-practitioner file, we use the practice location and practice address to identify practices participating in CPC+ in the data received from IQVIA. However, even though the two data sources might indicate the same practice by practice name and location, there might be important differences in the list of practitioners between the two rosters that would affect beneficiary attribution.

To check the overlap of practitioners across the two rosters, we merge CPC+ program data with IQVIA data by practitioner NPI and report (1) the percentage of practitioners in CPC+ rosters who were found in the IQVIA rosters of these practices and (2) the percentage of practitioners in IQVIA rosters for these practices who were found in the CPC+ rosters. We limit CPC+ rosters to practitioners marked as actively participating in CPC+ to remove practitioners who may have moved to another location. In Table 5.B.5, we compare CPC+ practitioner rosters to IQVIA practitioner rosters at four time points: one month before CPC+ began (December 2016), month 12 of CPC+ (December 2017), month 24 of CPC+ (December 2018), and month 36 of CPC+ (December 2019). We found 74.3 to 81.0 percent of active practitioners in the CPC+ rosters appeared in the SK&A rosters (Table 5.B.5) between baseline and PY 2 of CPC+, with the percentage overlap declining over time. IQVIA's switch to using the OneKey database for the rosters improved the overlap rate to 84.7 percent in PY 3.[90]

The percentage of IQVIA practitioners found as active practitioners in CPC+ rosters declined over time from 82.5 percent at baseline to 64.4 percent by PY 3. This decline over time is partly due to practices withdrawing or being terminated from CPC+. Those practices and their practitioners are removed (marked inactive) from the CPC+ roster but remain part of the intervention sample given the evaluation's intent-to-treat approach.

[89] It is also possible that the CPC+ payment sample might include beneficiaries for whom the practices are not truly responsible; however, once beneficiaries become attributed to a CPC+ practice, that practice has an incentive to make sure they receive high quality care.

[90] We expect that this increase in number of practitioners in the CMS roster who are found in the IQVIA rosters is due to the OneKey database capturing more practitioners by bringing in data from other databases and not just relying on phone verification (which is what the SK&A database used).

Note that we do not see a strong decline in the percentage of beneficiaries in the evaluation sample who are also in the payment sample (Table 5.B.5). It remains above 90 percent throughout the intervention period. This makes us less concerned about the decline in the percentage of practitioners in the IQVIA sample who are also in the CPC+ roster, because the beneficiary overlap is what matters for our beneficiary-level impact analysis.

Table 5.B.5. CMS and IQVIA primary care practitioner roster comparison

Compared rosters	Before CPC+ began (Baseline)	One year after CPC+ began (PY 1)	Two years after CPC+ began (PY 2)	Three years after CPC+ began (PY 3)
Number of practices	2,865[a]	2,888	2,888	2,888
Unique practitioners				
Number of practitioners in CPC+ roster	12,950	13,342	13,182	13,049
Number of practitioners in IQVIA roster	12,712	13,299	13,820	17,167
Percentage of practitioners in the CPC+ roster also in the IQVIA roster	81.0	78.1	74.3	84.7
Percentage of practitioners in the IQVIA roster also in the CPC+ roster	82.5	78.4	70.9	64.4

Notes: All duplicate NPIs were removed from both rosters. The baseline comparison is based on December 2016 data; the PY 1 comparison uses December 2017 data; the PY 2 comparison uses December 2018 data; the PY 3 comparison uses December 2019 data. Baseline, and PY 1 and 2 are based on SK&A data, while PY 3 is based on OneKey data. The IQVIA practitioner roster is restricted to primary care practitioners. We do not restrict the CMS rosters since they should already be restricted to primary care practitioners. The IQVIA data rows includes 148 practices that we were unable to find in the IQVIA data, but for which we supplemented the IQVIA data with CPC+ roster data.

[a] We were unable to find either SK&A or CMS's CPC+ roster information for 23 practices at baseline. Once the intervention began, we added these practices using the CMS roster from February 2017.

PY = Program Year.

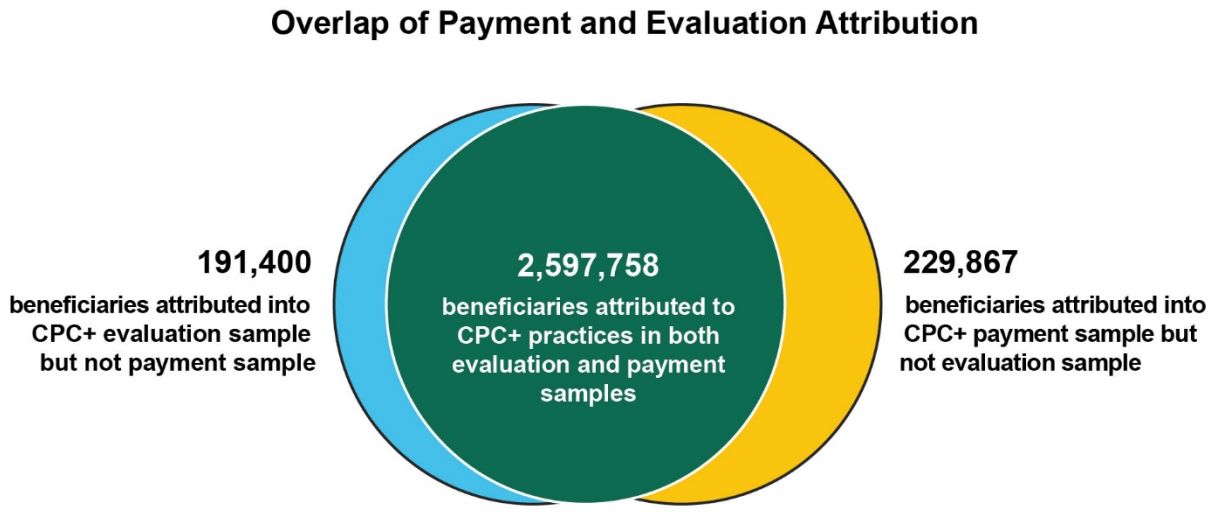
Second, we calculate the overlap in beneficiaries attributed to CPC+ practices in the payment and evaluation samples. Due to the differences in the lookback period for a specific calendar quarter (see difference C above in Section 5.B.4), we compare each evaluation sample to the subsequent quarter's payment sample. For example, we compare the evaluation sample from 2017 Q1 (January–March 2017) to the payment sample from 2017 Q2 (April–June 2017). This ensures we are comparing attribution from quarters that use the same lookback period in the payment and evaluation samples. In addition to all the intervention quarters, CMS only ran payment attribution for baseline quarters 2016 Q1 and Q4, so we are unable to compare our attribution for 2016 Q2 and Q3 to the equivalent payment attribution sample.

We found substantial overlap between the sample of beneficiaries ever attributed to CPC+ practices by CMS and by the evaluation over the first three years of the intervention. As we show in Figure 5.B.1, 2,597,758 Medicare beneficiaries were ever attributed to CPC+ practices in both the evaluation sample and the sample CMS used for payment; 229,867 beneficiaries were ever attributed to the CPC+ payment sample but never to the evaluation sample; and 191,400 were

ever attributed to the CPC+ evaluation sample but never to the payment sample. More specifically, Table 5.B.6 shows that 90 percent or more of the beneficiaries attributed to 2017 Starter CPC+ practices in our evaluation sample for the first 12 CPC+ quarters were also attributed to the payment attribution sample in the equivalent quarter. Also, 86 to 90 percent of beneficiaries attributed to the payment attribution sample by CMS each quarter were also attributed to CPC+ practices for the evaluation in the equivalent quarter.

Third, using CMS's payment eligibility criteria, we calculate the number of beneficiaries we attribute to CPC+ practices who would have been eligible for payment attribution. This involves additionally limiting the sample to beneficiaries who are not receiving hospice, do not have ESRD, are not institutionalized, and are not enrolled in any other program that includes a Medicare FFS shared savings opportunity, except SSP. Table 5.B.6, column 5, reports the number of beneficiaries in the evaluation sample for each quarter, and column 6 reports the number of beneficiaries in the evaluation sample under CMS's payment eligibility rules. This difference is approximately 40,000 or 2.5 percent of the evaluation sample in a given year.

Figure 5.B.1. Attribution of Medicare FFS beneficiaries during PY 1 through PY 3



Source : Comparison of attributed Medicare FFS beneficiaries in Mathematica's evaluation sample for the first three program years (January 2017 through December 2019) and those in CMS's payment sample for the 2nd through the 13th program quarters (April 2017– March 2020), which used the same set of two-year lookback periods. We used Medicare FFS beneficiary lists provided by CMS to define the payment sample.

FFS = fee-for-service; PY = Program Year.

Table 5.B.6. Beneficiaries attributed to 2017 Starter CPC+ practices, by quarter

Mathematica attribution quarter	Comparison to payment quarter	Beneficiaries in both payment and evaluation samples	Beneficiaries in payment sample	Beneficiaries in evaluation sample	Beneficiaries in evaluation sample under payment eligibility rules	Percentage of beneficiaries in payment sample who are in evaluation sample	Percentage of beneficiaries in evaluation sample who are in payment sample
2016 Q1	2016 Q2	1,489,022	1,655,920	1,651,432	1,609,642	90%	90%
2016 Q2	NA	NA	NA	1,720,593	1,680,865	NA	NA
2016 Q3	NA	NA	NA	1,773,509	1,734,138	NA	NA
2016 Q4	2017 Q1	1,638,668	1,820,621	1,810,383	1,770,994	90%	91%
2017 Q1	2017 Q2	1,607,043	1,795,086	1,767,439	1,723,511	90%	91%
2017 Q2	2017 Q3	1,647,250	1,847,515	1,795,295	1,755,187	89%	92%
2017 Q3	2017 Q4	1,676,565	1,894,700	1,816,139	1,776,977	88%	92%
2017 Q4	2018 Q1[a]	1,668,424	1,937,859	1,833,634	1,794,859	86%	91%
2018 Q1	2018 Q2	1,692,514	1,907,212	1,826,664	1,784,426	89%	93%
2018 Q2	2018 Q3	1,707,502	1,930,223	1,844,365	1,803,384	88%	93%
2018 Q3	2018 Q4	1,716,965	1,950,103	1,856,681	1,815,803	88%	92%
2018 Q4	2019 Q1[b]	1,711,262	1,955,435	1,865,477	1,824,614	88%	92%
2019 Q1	2019 Q2[b]	1,645,359	1,897,910	1,783,642	1,744,308	87%	92%
2019 Q2	2019 Q3[b]	1,664,117	1,915,740	1,812,736	1,776,860[c]	87%	92%
2019 Q3	2019 Q4[b]	1,678,391	1,922,162	1,837,495	1,803,972[c]	87%	91%
2019 Q4	2020 Q1[b]	1,680,879	1,917,936	1,857,918	1,826,602[c]	88%	90%

Source: Comparison of attributed Medicare FFS beneficiaries in Mathematica's evaluation sample for the first three program years (January 2017 through December 2019) and those in CMS's payment sample for the 2nd through the 13th program quarters (April 2017– March 2020), which used the same set of two-year lookback periods. We used Medicare FFS beneficiary lists provided by CMS to define the payment sample.

[a] In 2018, CMS changed its attribution rules to prioritize practices in which beneficiaries had their most recent Annual Wellness Visit, which results in additional differences between the evaluation attribution for 2017 Q4 and the payment attribution for 2018 Q1, the two quarters with the same claims lookback period under each attribution algorithm. Starting in 2018 Q1, we incorporated this criterion into the evaluation attribution rules as well.

[b] In 2019, CMS changed its attribution rules to prioritize practices in which beneficiaries had voluntarily assigned themselves, which results in additional differences in attribution.

[c] The MDS is current through 2018, so we are unable to adequately identify beneficiaries who would be ineligible for attribution due to institutionalization during the prior year for the second through the fourth quarter of 2019. Note that on average in the previous quarters, approximately 27,000 beneficiaries (1.5 percent of attributed beneficiaries) were ineligible due to institutionalization within the year.

NA = not available; Q = quarter.

5.C. Specification of measures used in the Medicare impact analysis

In this Appendix, we define the key measures used in this report that are based on Medicare claims and enrollment information. First, we define and discuss the Medicare claims-based outcome measures used in the impact analysis. Next, we describe non-outcome measures based on Medicare claims and enrollment data that we used as control variables in the regression analysis or for other analyses. We also describe updates or changes to outcomes since the second annual report. All updates or changes are applied to all measurement years.

5.C.1. Medicare claims-based outcome measures

Table 5.C.1 summarizes the outcome measures we used in the annual impact analysis in this report. We classified the claims-based outcome measures into groups by Medicare expenditures, service utilization, and three of the five CPC+ functions (improvements in planned care and population health, continuity of care, and comprehensiveness of care). Relative to the second annual report, we added new outcome measures, which are listed along with their motivation in Table 5.C.2.

For each outcome, we show the hypothesized direction of impact in Table 5.C.1. For some measures, the expected direction of effect is indeterminate, because there are multiple mechanisms that could either increase or decrease the outcome, and it is not clear which mechanism would or should outweigh the other. For example, ambulatory specialist visits could increase or decrease, depending on the extent to which more effective care management and follow-up after hospitalizations by CPC+ practices reduce the need for specialist visits or result in more referrals to specialists.

Table 5.C.1. Medicare claims-based outcome measures for the third annual report to CMS

	Hypothesized direction of impact
Medicare Parts A and B expenditures (PBPM)	
Excluding enhanced payments[a]	↓
Including CPC+ CMFs[b]	↓ or →
Including CPC+ CMFs, PBIPs, and shared savings payments to SSP ACOs[b]	↓ or →
Monthly Medicare expenditures by service category (PBPM)[c]	
Inpatient: Expenditures for both acute inpatient care (short-stay acute and CAHs) and non-acute inpatient care (e.g., inpatient rehabilitation services)	↓
Acute inpatient: short-stay acute and CAH expenditures[d]	↓
Inpatient rehabilitation facility expenditures	↓
Outpatient: Outpatient facility expenditures including those for ED visits, observation stays, and other outpatient services (e.g., outpatient surgery, imaging, outpatient rehabilitation, and services provided by RHCs and FQHCs)	↓
Expenditures for outpatient ED visits including observation stays[e]	↓
Physician and non-physician (noninstitutional) services: Expenditures including physician services and other services provided by ambulance providers, independent clinical laboratories, and freestanding ambulatory surgical centers[f]	↑ or ↓
Ambulatory visits with primary care practitioners: Expenditures for visits with a primary care practitioner in non-institutional settings (e.g., office, home, hospital outpatient department, FQHC, RHC, CAH, etc.)	↑ or ↓
Expenditures for ambulatory visits with primary care practitioners at assigned practice[g]	↑ or ↓
Ambulatory visits with specialists: Expenditures for visits with a specialist in non-institutional settings: (e.g., office, home, hospital outpatient department, FQHC, RHC, or CAH)	↑ or ↓
SNF expenditures	↓
Home health expenditures	↑ or ↓
Hospice: Expenditures for hospice providers in both institutional and home settings	↑
DME: Expenditures for DME, such as wheelchairs, home oxygen, and home hospital beds	↑ or ↓
Annualized service use (per 1,000 beneficiaries per year)	
Number of hospitalizations (short-stay acute hospitals and CAHs)	↓
Total number of ED visits (including observation stays, outpatient ED visits, and ED visits resulting in a hospitalization)[h]	↓
Number of outpatient ED visits (including observation stays)	↓
Number of primary care substitutable outpatient ED visits[i]	↓
Number of potentially primary care preventable outpatient ED visits[i]	↓
Total number of UCC visits	↓
Number of primary care substitutable UCC visits	↓
Number of primary care ambulatory visits (including visits to FQHCs, RHCs, and CAHs)[j]	↑ or ↓
Number of specialist ambulatory visits (including visits to FQHCs, RHCs, and CAHs)[j]	↑ or ↓
Other service use	
Percentage of index discharges that had a 30-day all-cause unplanned readmission[k]	↓
Percentage of beneficiaries receiving hospice services	↑
Days of hospice use for beneficiaries receiving hospice services in the measurement year[l]	↑

Table 5.C.1 *(continued)*

	Hypothesized direction of impact
Planned care and population health	
Among Medicare FFS beneficiaries ages 18–75 who had diabetes, percentage who received:[m]	
Hemoglobin A1c testing	↑
Retinal eye exam	↑
Medical attention for nephropathy	↑
Composite measure for receiving all three tests (HbA1c testing, eye exam, and medical attention for nephropathy)	↑
Composite measure for receiving none of the three tests	↓
Among female Medicare FFS beneficiaries ages 52–74, percentage who received:[n]	
Breast cancer screening	↑
Continuity of care	
Percentage of primary care ambulatory visits provided at a beneficiary's assigned practice[g,o]	↑ or ↓
Among beneficiaries with qualifying ambulatory visits in the measurement year:[p]	
Percentage of visits with UPC[q]	↑
rBBI[r]	↓
Comprehensiveness of care (measured at the NPI level) [s,t]	
Involvement in patient conditions	↑
New problem management	↑

[a] Expenditures for traditional services in PY 3 include QPP payment adjustments in 2019 that are based on performance in 2017. QPP payment adjustments include MIPS adjustments, which are applied directly (as a percentage of the charges on the claims) to physician and outpatient claims in 2019, and lump-sum incentive payments that are paid out to eligible practitioners who participated in Advanced APMs in 2017 and are calculated based on applicable physician and outpatient claims in 2018 for these practitioners. For Track 2 practices, Medicare Parts A and B expenditures *without* enhanced payments include the base CPCPs, but not the 10 percent comprehensiveness supplement. We include CPCPs in Part B spending, because Track 2 practices agreed to lower Part B payment for evaluation and management services in exchange for CPCPs.

[b] For Track 2 practices, Medicare Parts A and B expenditures *with* enhanced payments include the base CPCPs, as well as the 10 percent comprehensiveness supplement.

[c] The sum of expenditures by service category does not equal the total expenditures for traditional services without enhanced payments, because the total expenditures include lump-sum incentive payments that are not applied at the claim level and are instead paid out directly to eligible practitioners who participated in Advanced APMs in 2017.

[d] Acute inpatient care includes short-stay acute hospital admissions and admissions to CAHs. Expenditures on non-acute hospital admissions other than those for inpatient rehabilitation, such as psychiatric hospital admissions, are included in inpatient expenditures but not shown separately.

[e] Expenditures, with QPP payment adjustments, for outpatient ED visits include professional and facility fees, as well as payments for observation stays.

[f] Expenditures, with QPP payment adjustments, for Part B noninstitutional services include (1) ambulatory primary care visits, (2) ambulatory specialist visits, and (3) non-ambulatory physician visits as well as services provided by other noninstitutional providers (the third category is not shown separately).

[g] We define the assigned practice for the baseline period as the first practice to which a beneficiary was attributed to during the baseline period, and the assigned practice for the intervention period as the first practice that the beneficiary was attributed to during the intervention period.

[h] Includes ED/observation stays that led to a psychiatric hospitalization.

[i] The sum of primary care substitutable outpatient ED visits and potentially primary care preventable outpatient ED visits is less than total outpatient ED visits, because total outpatient ED visits include those for other care needs, such as injuries, mental health, drugs, and alcohol.

[j] Ambulatory visits with primary care practitioners and specialists include office-based visits and visits at home, as well as visits in other settings, such as FQHCs, RHCs, and CAHs.

[k] The readmissions outcome is per index discharge.

[l] Measure is calculated only for beneficiaries who had at least one day of hospice use during the measurement year.

Table 5.C.1 *(continued)*

[m] This measure required that beneficiaries be continuously enrolled and not have hospice services in the measurement year.

[n] This measure required that beneficiaries be continuously enrolled during the measurement year and back to October 1 two years prior and not have hospice services in the measurement year.

[o] Due to the intent-to-treat (ITT) approach for beneficiary assignment, we expect to see a decrease in visits to practitioners affiliated with the beneficiary's assigned practice. This effect occurs because we continue to assign the beneficiary to the first practice the beneficiary was ever attributed to in the intervention period, regardless of whether the beneficiary continued to receive care at that practice.

[p] The continuity of care measures are calculated for beneficiaries who were in the ITT sample at the beginning of the year and were FFS eligible for the full program year and had qualifying ambulatory visits in the program year. Qualifying ambulatory visits are (1) office or other outpatient visit for E&M; (2) ophthalmological services: medical examination and evaluation; and (3) new enrollee and annual wellness visits.

[q] Beneficiaries had to have one or more qualifying ambulatory visits to be included in the percentage of visits with the UPC measure.

[r] Beneficiaries had to have four or more qualifying ambulatory visits to be included in the rBBI measure.

[s] The comprehensiveness of care measures are defined at the practitioner (NPI) level.

[t] In the first annual report, we also examined effects of CPC+ on the percentage of beneficiaries who received advance care planning. However, we decided to drop this outcome from all subsequent reports because of concerns that the billing codes for these services were not being regularly reported in Medicare claims data.

ACO = accountable care organization; APM = Alternative Payment Model; CAH = Critical Access Hospital; CMF = care management fee; CPCP = Comprehensive Primary Care Payment; DME = durable medical equipment; ED = emergency department; FFS= fee for service; FQHC = Federally Qualified Health Center; MIPS = Merit-based Incentive Payment System; PBIP = Performance Incentive Payment; PBPM = per beneficiary per month; QPP = Quality Payment Program; rBBI = reversed Bice-Boxerman index; SSP = Medicare Shared Savings Program; RHC = Rural Health Clinic; SNF = skilled nursing facility; UCC = urgent care center; UPC = usual provider of care.

Table 5.C.2. Motivation for new CPC+ outcome measures

Outcomes by domain	Why is the outcome important to CPC+?
Medicare expenditure outcomes	
Monthly Medicare expenditures (PBPM)	
Medicare Part A and B expenditures including QPP payments[a]	• Captures incentive payments from the QPP (MIPS and APM) in the estimated effects of CPC+ on Medicare expenditures to give a full view of costs to Medicare.
Monthly Medicare expenditures by service category (PBPM)	
Inpatient rehabilitation facility (IRF) expenditures	• Captures changes in non-acute hospitalizations; measure could indicate whether CPC+ increased IRF stays while reducing acute hospitalizations
Expenditures for outpatient ED visits, including observation stays	• Assesses changes in a combined measure of ED expenditures, including both facility and professional charges; measure could indicate whether reductions in ED use from CPC+ translate into savings
Expenditures for ambulatory visits with primary care practitioners at assigned and non-assigned practice	• Measures the continuity of the beneficiary's care with a primary care practice (which is one of the goals of CPC+) in terms of proportion of primary care expenditures for ambulatory visits that are spent at the assigned practice.
Service use outcomes	
Primary care substitutable ED visits	• Deepens our understanding of changes in all-cause ED visits; measure could indicate whether CPC+ improved access to primary care
Potentially primary care preventable outpatient ED visits	• Deepens our understanding of changes in all-cause ED visits; measure could indicate whether CPC+ improved the quality of primary care
Total UCC visits	• Captures an increasingly important setting of health care—UCCs can substitute for both primary care and ED use
Primary care substitutable UCC visits	• Deepens our understanding of changes in all-cause UCC visits; measure could indicate whether CPC+ improved access to primary care
Days of hospice use for beneficiaries receiving hospice services	• Measures whether CPC+ alters end-of-life care
Claims-based quality-of-care outcomes	
Continuity of care	
Percentage of primary care ambulatory visits at assigned practice	• Measures continuity of the beneficiary's care with a primary care practice
Percentage of E&M ambulatory visits with the usual provider of care across all types of practitioners	• Measures continuity of the beneficiary's care by capturing the share of visits with the practitioner seen most often across all types of practitioners
Reversed Bice-Boxerman Continuity-of-Care Index across all types of practitioners	• Measures fragmentation of the beneficiary's care (the inverse of continuity) across all types of practitioners
Comprehensiveness of care	
Involvement in patient conditions	• Assesses the primary care physician's involvement in the care of the patient's conditions (relative to other physicians caring for that patient) by measuring the percentage of beneficiaries seen in a given year for whom the physician had the greatest involvement in the patient's conditions.
New problem management	• Assesses the extent to which the primary care physician manages a patient's new symptom or problem instead of referring the patient to another practitioner

Table 5.C.2 *(continued)*

[a] QPP payment adjustments are based on practitioner performance two years before. They are applicable for both CPC+ and comparison practices. There are two adjustments: 1) MIPS adjustments, which are applied directly to physician and outpatient claims (as a percentage of the charges on the claims), and 2) lump sum incentive payments to eligible practitioners who participated in Advanced APMs in 2017 (calculated based on 2018 claims for these practitioners). Since the first QPP adjustments were paid in 2019 (two years after the start of QPP), there are no QPP payments for PY 1 or PY 2.

APM = Alternative Payment Model; ED = emergency department; E&M = evaluation and management; MIPS = Merit-based Incentive Payment System; QPP = Quality Payment Program; UCC = urgent care center.

A. Medicare expenditures

In this section, we describe the expenditure outcomes we examined in the impact analysis. First, we present expenditure measures for Medicare Parts A and B, then we discuss Medicare expenditures by service category.

A.1. Medicare expenditures for Part A and Part B services

CMS theorized that changes in care delivery made by CPC+ practices would ultimately result in a reduction in overall Medicare expenditures great enough to offset CMS's enhanced payments. Therefore, we analyzed Medicare expenditures for fee-for-service (FFS) beneficiaries with and without CMS's enhanced payments. All Medicare expenditures exclude third-party and beneficiary liability payments. We provide detailed descriptions for the three Medicare Part A and Part B expenditures measures below. But first we describe the adjustments included in expenditures without enhanced payments and also what counts as enhanced payments.

Medicare expenditures without enhanced payments include Medicare Part A and Part B payments as well as Quality Payment Program (QPP) payments. Starting in 2019, QPP payments include claims-based adjustments for the Merit-based Incentive Payment System (MIPS) that are negative or positive adjustments to physician fees and Critical Access Hospital (CAH) claims and Advanced Alternative Payment Model (APM) incentive payments based on 2017 performance. The MIPS adjustments are included in the payment amount in the 2019 Medicare claims. APM incentive payments are NPI-level payments paid directly to eligible practitioners. We use an NPI-level payment file we received from CMS and a list of NPIs affiliated with each practice. We used random assignment to assign NPIs working at multiple practices to a unique practice and aggregated the NPI level payments to the practice level.[91] For Track 2 practices, CMS also provided alternative payments, in the form of CPCPs, which shifted a portion of the payments practices receive for services from FFS to prospective payments. As these are payments *for services*, they are included in the Medicare expenditure measures without enhanced payments.

Enhanced payments are made *in addition to traditional payments for services and the QPP payments described in the previous paragraph.* As our goal is to estimate impacts for Medicare expenditures for FFS beneficiaries, we do not include enhanced payments from other (non-Medicare) payers in our calculations. Medicare enhanced payments include CMS's CPC+ care management fees (CMFs) for Medicare FFS beneficiaries as well as CMS's payments for rewarding performance. Payments for rewarding performance are: (1) a comprehensiveness supplement for practices participating in Track 2, which is equal to 10 percent of their share of payments (for services) that are made prospectively; (2) prospectively paid and retrospectively

[91] The proportion of NPIs that worked at multiple practices is 5.2 percent and accounted for 6.5 percent of APM incentive payments.

reconciled Performance-based Incentive Payments (PBIPs) for practices not participating in the Medicare Shared Savings Program (SSP); and (3) shared savings payments to Accountable Care Organizations (ACOs) for practices participating in SSP.

As described below, the three measures of Medicare Part A and Part B expenditures that we include in our impact analysis are: (1) expenditures without enhanced payments; (2) expenditures that include CMFs and the comprehensiveness supplement; and (3) expenditures that include the CMFs, the comprehensiveness supplement, PBIPs, and shared savings payments.

Medicare expenditures for all Part A and Part B services, without enhanced payments, in dollars per beneficiary per month.[92] This measure reflects Medicare expenditures for Part A and Part B covered services during the baseline or intervention period. It includes Medicare payments for inpatient, outpatient, and physician and non-physician services, as well as skilled nursing facilities (SNFs), home health, hospice services, and durable medical equipment (DME) services. Medicare Parts A and B expenditures also include QPP payments and exclude third-party and beneficiary liability payments. The sum of expenditures by service category does not equal the total expenditures for traditional services without enhanced payments, because the total expenditures include lump-sum incentive payments that are not applied at the claim level and instead paid out directly to eligible practitioners who participated in Advanced APMs in 2017.

To obtain the per beneficiary per month (PBPM) amount, we summed Part A and Part B payments for the months a beneficiary was eligible for Medicare FFS during the year and then divided the payments by the number of months the beneficiary was eligible for Medicare FFS. For Track 2 practices, we also included the base CPCPs (but not the 10 percent comprehensiveness supplement). We calculated this PBPM for Track 2 by dividing the total CPCPs to a practice during the reporting period, minus any adjustments or debits (due to retrospective changes in Medicare FFS eligibility of attributed beneficiaries or duplicative billing of services) or recoupments due to early withdrawal from the model, by the total number of Medicare FFS eligible beneficiary-months among beneficiaries assigned to that practice during the period.[93]

Medicare expenditures for all Part A and Part B services, including the CMFs and the comprehensiveness supplement, in dollars PBPM. We added the following payments to the expenditures measure (in dollars PBPM):

[92] We do not include Part D expenditures, because Medicare makes prospective payments to Part D prescription drug plans that are not directly related to each individual prescription filled by a beneficiary. That is, changes in beneficiaries' prescription use do not affect their PBPM Medicare expenditures.

[93] CMS paid practices in Track 1 and Track 2 average care management fees of $15 and $28, respectively, per month per attributed CPC+ beneficiary in Medicare FFS. These fees were higher than the average fees per month received of $13 and $25 PBPM for Track 1 and Track 2 practices, respectively, in our analysis sample, because (1) our ITT sample follows beneficiaries even after they are no longer attributed to a CPC+ practice and therefore the practice is no longer receiving CMFs for the Medicare FFS beneficiary, and (2) the list of practitioners and the attribution approach we use for the evaluation is slightly different from those used by CMS for payment. This slight discrepancy between average CMS payments and average payments in our ITT sample applies to PBIPs as well as Track 2 CPCPs. Therefore, all our calculated PBPM payment amounts (for CMFs and PBIPs in both tracks, and CPCPs in Track 2) for the analysis sample are lower than the CMS-reported numbers for the intervention sample.

- The net care management fees (after accounting for debits and recoupments)
- The 10 percent comprehensiveness supplement, for Track 2 practices only

Starting in PY 1 (2017), CPC+ practices in both tracks received CMFs from CMS, in addition to usual payments for services, to support their participation in CPC+. CMFs are paid to practices at regular intervals—most commonly at the beginning of each quarter or month—for each patient a payer partner attributes to a practice.

Medicare expenditures for all services, including the CMFs, the comprehensiveness supplement, PBIPs, and SSP payments, in dollars PBPM. We added enhanced payments to the expenditures measure directly above. Specifically, we added the following:

- The final, reconciled PBIP (after recoupments for not meeting quality or utilization targets) for the year received by non-SSP practices
- The shared savings payments earned by their SSP ACO for the SSP practices

For each practice, we divided the CMFs, the 10 percent comprehensiveness supplement, and the PBIPs by the total number of Medicare FFS eligible beneficiary-months in the practice during the reporting period to get the PBPM amounts. There were three steps for adjusting Medicare expenditures for SSP ACO payments. First, we identified the beneficiaries in our sample that were part of an SSP ACO (as determined by the beneficiary level participation data available through MDM). Next, we divided the total shared savings payments earned by their SSP ACO during the reporting period by the total number of Medicare FFS eligible beneficiary-months in that ACO during the period to get a PBPM amount. Lastly, we added this PBPM amount to the average monthly expenditure calculated for these beneficiaries. For example, if an ACO received $500,000 in shared savings and had 50,000 Medicare FFS beneficiary months associated with it for that year (e.g., 5,000 beneficiaries with an average of 10 months of Medicare FFS coverage leading to 50,000 beneficiary months), then we first calculated the PBPM amount of shared savings as $10 PBPM. If only 500 of those beneficiaries in the ACO were also attributed to a CPC+ or comparison practice, then for each of those 500 beneficiaries in our analysis sample, we added $10 PBPM to their claims-based PBPM Medicare expenditures amount for that year.

A.2. Medicare expenditures by service category

In addition to analyzing total expenditures, we also report Medicare expenditures for specific services. We exclude enhanced CPC+ payments when examining measures for each service category. However, MIPS adjustments are included in Part B expenditures and expenditures for CAHs in the outpatient file. We create measures for Medicare expenditures stratified by type of Part A or Part B service for the service categories below:

- Inpatient facility expenditures include Part A payments for both acute and non-acute hospitalizations. Short-stay, or acute care hospitalizations and CAH claims, are the most frequent (more than 90 percent of the inpatient claims). Non-acute hospitalizations, are primarily psychiatric or rehabilitation hospitals or units.

- Outpatient facility Part A payments include, but are not limited to, hospital outpatient departments (including emergency rooms), Rural Health Clinics (RHCs) and Federally Qualified Health Centers (FQHCs), renal dialysis facilities, outpatient rehabilitation facilities, comprehensive outpatient rehabilitation facilities, and community mental health centers.
- Part B expenditures for services provided by physicians or non-physicians are expenditures for services provided by professional providers, including physicians, physician assistants (PAs), clinical social workers, nurse practitioners (NPs), and clinical nurse specialists (CNSs). Part B expenditures also include some organizational providers, such as freestanding facilities. Examples of these organizational providers include independent clinical laboratories, ambulance providers, freestanding ambulatory surgical centers, and freestanding radiology centers.
- Home health expenditures include both Part A and Part B expenditures paid to Medicare home health agency providers.
- Skilled nursing facility expenditures include Medicare Part A payments for inpatient stays for nursing care, rehabilitation, and other related health services for patients who need nursing care but do not require hospitalization.
- Hospice expenditures are Part A payments to Medicare certified hospices providers.
- Durable medical equipment expenditures include both Part A and Part B Medicare payments for Medicare-covered equipment. DME prescribed by a primary care practitioner is covered by Part B, while DME received during a SNF or hospital inpatient stay is paid through Medicare Part A.

In addition, we created a few specific expenditure categories within these broad service categories above for services, such as acute inpatient, inpatient rehabilitation facilities, outpatient emergency department, and ambulatory visits with primary care practitioners and specialists. We describe these more granular expenditure outcomes below.

Acute hospitalization expenditures. We created two subset outcomes of inpatient expenditures. The first is short-stay acute inpatient/CAH expenditures. We categorized an inpatient stay as a short-stay acute inpatient hospital stay when the third through sixth digits of the provider number are equal to 0001 through 0899. If the third and fourth digits of the provider number are equal to 13, then it is a CAH stay.

Inpatient rehabilitation facility expenditures. The second subset of inpatient expenditures is Medicare payments for inpatient rehabilitation facilities (IRFs). IRF claims are identified using the provider number values 3025 through 3099 in the third through sixth digit or if there is a value of R or T in the third position. Note that IRF expenditures are a subset of the non-acute hospitalization component of total inpatient expenditures. The remaining expenditures for other non-acute facilities are not reported separately.

Outpatient ED (including observation stays) expenditures. We created an outpatient facility and professional expenditures measure for emergency department (ED) claims that is a subset of total hospital outpatient department expenditures. To identify outpatient ED visits for this expenditure measure, we use the approach described in the service utilization section below, with

one exception: expenditures are not restricted to one ED stay per day, to ensure we include all expenditures associated with these services. We used a two-step process to identify professional expenditures associated with outpatient facility ED claims. First, we identified professional claims with a place of service code equal to 2, which indicates ED or an evaluation and management service provided in the ED (CPT code equal to 99281-99285) or during an observation stay (CPT code equal to 99217-99220 or 99224-99226). Next, we linked these professional claims to outpatient facility ED claims and retained professional claims with dates of service overlapping or one day before or after the dates of service in an outpatient facility ED claim for the same beneficiary.

Medicare expenditures for ambulatory visits. We also identified expenditures for ambulatory visits using carrier claims and FQHC, RHC, and CAH claims from the outpatient file. Note that visits associated with the carrier file do not include potential facility fees. We created two categories of ambulatory visit expenditures: (1) ambulatory visits with primary care practitioners and (2) ambulatory visits with specialists. Note that we made additions to the specialty categories in this report to maintain consistency with other outcomes such as comprehensiveness and fragmentation of care that use specialty designations. These additions were made to the specialty lists for all measurement years. Section B.4 provides details on these changes. These additions had a minimal impact on primary care practitioner expenditures but did increase specialist expenditures in each year by 5 to 6 percent. For ambulatory services provided by primary care practitioners, we further calculated expenditures for services provided by primary care practitioners at the beneficiary's assigned practice versus at other practices.

B. Service use

We evaluated impacts on a range of service use outcomes for Medicare FFS beneficiaries, so that CMS might consider the patterns of effects across these domains along with any observed impacts on Medicare expenditures without and with CMS's enhanced payments. These selected measures of Medicare service use include the number of acute hospitalizations, ED visits, urgent care center (UCC) visits, ambulatory visits, and other service use, such as 30-day unplanned readmissions.

B.1. Acute hospitalizations

Number of hospitalizations at short-stay acute hospitals and CAHs per 1,000 beneficiaries per year. This measure is the annualized hospitalization rate per 1,000 beneficiaries of all short-stay acute hospital and CAH admissions. Transfers between acute/CAH facilities are counted as a single admission. Multiple claims for acute admissions from traditional acute care hospitals and CAHs that represent transfers between hospitals are combined into a single record, so that they count as one admission.

B.2. ED visits

Number of ED visits per 1,000 beneficiaries per year. We created an overall ED visit measure that combines ED visits leading to a hospitalization with outpatient ED visits (and observation stays). Note that an observation stay, by definition, does not always lead to an inpatient admission. In addition, we reported the outpatient ED visits separately. We describe the methodology for identifying the two components of this measure below.

ED visits that lead to a hospitalization are identified in the inpatient file and include acute, critical access, or psychiatric hospital stays that have a claim with a revenue center line item equal to 045X or 0981 (emergency room care) or 0762 (treatment or observation room). These visits are not shown separately.

Outpatient ED visits are identified in the outpatient department file using revenue center line items equal to 045X or 0981 (emergency room care), 0762 (treatment or observation room), or 0760 (treatment or observation room—general classification). We counted a visit as an observation stay if it was longer than eight hours and had a corresponding Health Care Common Procedure Coding System (HCPCS) code of G0378 (hospital observation services per hour). If the procedure code on the line item of the ED claim was equal to 70000 through 79999 or 80000 through 89999, we excluded it; this exclusion was intended to exclude claims in which only radiological or pathology/laboratory services were provided. We then capped the number of any type of visit (observation stays, emergency room visits, and ED visits) to one per day.

Outpatient ED visits, including observation stays, per 1,000 beneficiaries per year. In addition to the total ED visit measure, we also examined outpatient ED utilization separately. This measure is the annualized number of emergency room visits and observation stays (combined to create ED visits) that do not lead to a hospitalization, per 1,000 beneficiaries.

Primary care substitutable ED visits per 1,000 beneficiaries per year and potentially primary care preventable outpatient ED visits per 1,000 beneficiaries per year. These measures are subsets of the outpatient ED visits identified above. The construction of these measures aligns with the New York University Emergency Department Algorithm (NYU EDA), the measure most commonly used to identify primary care treatable ED visits. To this algorithm, we applied the "patch" developed by Johnston et al. (2017) that updates the algorithm with ICD-9 and ICD-10 codes added since 2001. This algorithm assigns all ED visits identified for the outpatient ED visit measure above the probability of the visit being in each of the following categories: (1) nonemergent; (2) emergent but treatable in a primary care setting; (3) emergent/ED care required but preventable or avoidable if appropriate ambulatory care had been received; and (4) emergent/ED care required and not preventable or avoidable. If there are multiple ED claims with the same from date, we keep only the first claim to appear in the file.

- We calculated the probability of a visit being primary care substitutable by summing the probabilities that the visit is nonemergent or emergent but treatable in a primary care setting (NYU Categories 1 and 2).
- We calculated the probability of a visit being potentially primary care preventable by summing the probabilities for the categories in which the visit is emergent and ED care is required (Categories 3 and 4).

We summed these probabilities across all ED visits to estimate the total number of primary care substitutable ED visits and the total number of potentially primary care preventable ED visits.

B.3. Urgent care center visits

Total UCC visits per 1,000 beneficiaries per year. This measure includes UCC visits identified in the carrier claims file based on a place of service equal to 20 and outpatient hospital file

services with a revenue code of 516 or 526. If there are multiple UCC visits with the same initial date of service, we counted only the first UCC claim to appear in the file.

Primary care substitutable UCC visits per 1,000 beneficiaries per year. Like the parallel ED visit measure described above, the construction of this measure aligns with the NYU EDA. To the NYU EDA, we applied the "patch" developed by Johnston et al. (2017). We used this algorithm to assign all UCC visits identified for the total UCC visit count measure above the probability of the visit being in each of the following categories: (1) nonemergent; (2) emergent but treatable in a primary care setting; (3) emergent/ED care required but preventable or avoidable if appropriate ambulatory care had been received; and (4) emergent/ED care required and not preventable or avoidable. If there are multiple UCC claims with the same from date, we keep only the first claim to appear in the file. We calculated the probability of a UCC visit being primary care substitutable by summing the probabilities that the visit is in the nonemergent or emergent but treatable in a primary care setting categories. We summed these probabilities across all UCC visits to estimate the total number of primary care substitutable UCC visits.

B.4. Ambulatory visits, including visits to FQHCs, RHCs, and CAHs

We created two measures of number of ambulatory visits: annualized visits per 1,000 beneficiaries to (1) primary care practitioners and (2) specialists. Specialties were grouped into primary care practitioners and specialists as defined by Healthcare Provider Taxonomy Codes reported in the National Plan and Provider Enumeration System (NPPES) (taxonomy codes are listed in Table 5.C.3 for primary care practitioners and in Table 5.C.4 for specialists). Multiple claims with the same practitioner on the same day are counted as one visit, and multiple claims with different practitioners on the same day are counted as separate visits. We discuss the criteria for identifying ambulatory visits and updates to the methodology since our second annual report below:

- To identify a practitioners' specialty, we use only the primary taxonomy code from the NPPES, rather than both the primary and secondary taxonomy codes (a change implemented in the second annual report).
- To ensure consistency across measures that use specialty designations, we identified new specialties for primary care practitioners and specialists. The specialty designations are now the same across the measures of ambulatory visits, continuity/fragmentation of care, and comprehensiveness of care.
    - The specialties that are considered primary care now include three additional pediatric specialties and one public health/general preventive medicine specialty. The addition of these four new specialties does not impact the rates of ambulatory visits but does make the list of specialties more comprehensive.
    - As noted above, we identified additional specialties (e.g., anesthesiologists; internists with specialty designations such as addiction medicine, clinical cardiac electrophysiology, and gastroenterology; and physical medicine and rehabilitation practitioners specializing in pain medicine) for inclusion in the specialist category. These additions increased the rate of visits to specialists by 5 to 6 percent in all measurement years relative to findings published in the second annual report.

- Types of ambulatory visits now include telephonic and online assessments and management, and remote monitoring. With the expansion of telehealth, online, and remote monitoring codes in 2019, we retrospectively added previously existing codes and incorporated them into our measure. Table 5.C.5 provides a complete list of visits for office-based evaluation and management, nursing home and home care, care management services (including behavioral health), health and behavior assessments, and psychotherapy—as defined by HCPCS/Current Procedural Terminology (CPT) and revenue center codes. Table 5.C.6 explains the codes.
- Add-on services are counted in the expenditures but not in utilization measures as a separate service (creating a more precise count of actual ambulatory visits). For example, CPT code 99354 is for prolonged physician services in an office or outpatient setting billed on the same day as the companion evaluation and management codes (e.g., office or other outpatient E&M visits). See the Ambulatory Visit Indicator column in Table 5.C.6 for the complete list of visits identified as "add-on" services.
- Certain services qualify only if they have a non-inpatient place of service to limit to services in ambulatory settings only (primarily, newly added behavioral health services). Table 5.C.6 identifies procedure codes subject to these additional criteria in the Place of Service Indicator column.
- Ambulatory visits on the outpatient file are included only if they were provided at an FQHC, RHC, or CAH, to avoid double-counting services that would appear in the physician bills on the carrier file.
- The CPT Editorial Panel instituted several procedure code updates during our analytic time period. Therefore, we updated our specifications to reflect codes as they were added, deleted, or replaced. We included new procedure codes as they were implemented or updated them when they were replaced. These changes are tracked in Table 5.C.7.

Number of ambulatory visits to primary care practitioners (including visits to FQHCs, RHCs, and CAHs) per 1,000 beneficiaries per year. This measure is the number of annualized ambulatory visits per 1,000 beneficiaries to primary care practitioners, including NPs, CNSs, and PAs. Table 5.C.3 lists specialty taxonomy codes. Codes for ambulatory visits are listed in Table 5.C.5 and explained in Table 5.C.6.

Number of ambulatory visits to specialists (including visits to FQHCs, RHCs, and CAHs) per 1,000 beneficiaries per year. This measure is the number of annualized ambulatory visits per 1,000 beneficiaries to specialists, including surgeons, psychiatrists, and emergency medicine practitioners. Table 5.C.4 lists specialty taxonomy codes. New additions to the specialist list (noted above) align this measure with the fragmentation of care work. We exclude non-specialist taxonomies, such as laboratories, ambulance, chiropractor, and physical therapy. To identify the number of specialist ambulatory visits, we use the same criteria we use to identify ambulatory visits to primary care practitioners. Codes for ambulatory visits are listed in Table 5.C.5 and explained in Table 5.C.6.

Number of non face-to-face ambulatory visits to primary care or specialist practitioners (including visits to FQHCs, RHCs, and CAHs) per 1,000 beneficiaries per year. We identified a subset of ambulatory visits as non face-to-face using three selection criteria:

1. Ambulatory visit procedure codes such as telephone and online E&M; telephone and online assessment and management; chronic care remote patient monitoring; and virtual check-ins. These codes are in green shaded rows for easy identification in Table 5.C.6.
2. Ambulatory visits with a modifier value of 95, GT, GQ, or G0 indicating a telehealth visit.
3. Ambulatory visits identified on the carrier file that have the place of service equal to 02 (telehealth).

Table 5.C.3. Primary care taxonomy codes

Medicare practitioner-type description	Practitioner taxonomy code	Practitioner taxonomy description
Physician/Family Practice	207Q00000X	Physicians/Family Medicine
	207QA0000X	Physicians/Family Medicine, Adolescent Medicine**
	207QA0505X	Physicians/Family Medicine, Adult Medicine
	207QG0300X	Physicians/Family Medicine, Geriatric Medicine
Physician/Internal Medicine	207R00000X	Physicians/Internal Medicine
	207RA0000X	Physicians/Internal Medicine, Adolescent Medicine**
	207RG0300X	Physicians/Internal Medicine, Geriatric Medicine
Physician/Pediatrics[a]	208000000X	Physicians/Pediatrics**
	2080A0000X	Physicians/Pediatrics, Adolescent Medicine**
	2080P0006X	Physicians/Pediatrics, Developmental/Behavioral Pediatrics***
	2080P0008X	Physicians/Pediatrics, Neurodevelopmental Disabilities***
	2083B0002X	Physicians/Pediatrics, Preventative Medicine***
Nurse Practitioner	363L00000X	Nurse Practitioner
	363LA2100X	Nurse Practitioner, Acute Care
	363LA2200X	Nurse Practitioner, Adult Health
	363LC1500X	Nurse Practitioner, Community Health
	363LF0000X	Nurse Practitioner, Family
	363LG0600X	Nurse Practitioner, Gerontology
	363LP0200X	Nurse Practitioner, Pediatrics**
	363LP2300X	Nurse Practitioner, Primary Care
	363LW0102X	Nurse Practitioner, Women's Health
Certified Clinical Nurse Specialist	364S00000X	Clinical Nurse Specialist
	364SA2100X	Clinical Nurse Specialist, Acute Care
	364SA2200X	Clinical Nurse Specialist, Adult Health
	364SC1501X	Clinical Nurse Specialist, Community Health/Public Health
	364SC2300X	Clinical Nurse Specialist, Chronic Care
	364SF0001X	Clinical Nurse Specialist, Family Health
	364SG0600X	Clinical Nurse Specialist, Gerontology
	364SH1100X	Clinical Nurse Specialist, Holistic
	364SP0200X	Clinical Nurse Specialist, Pediatrics**
	364SW0102X	Clinical Nurse Specialist, Women's Health
Physician Assistant	363A00000X	Physician Assistant
	363AM0700X	Physician Assistant, Medical
Physician/Undefined Physician Type	208D00000X	General Practice
	2083P0901X	General Practice, Public Health & General Preventive Medicine***
Federally Qualified Health Center	261QF0400X	Ambulatory Health Care Facilities/FQHC
Rural Health Clinic	261QR1300X	Ambulatory Health Care Facilities/Clinic Center, Rural Health

Source: Centers for Medicare & Medicaid Services. "Crosswalk Medicare Provider/Supplier to Healthcare Provider Taxonomy." Baltimore, MD: CMS. Available at https://data.cms.gov/Medicare-Enrollment/CROSSWALK-MEDICARE-PROVIDER-SUPPLIER-to-HEALTHCARE/j75i-rw8y. Accessed May 8, 2020.

Table 5.C.3 ***(continued)***

Notes: Descriptions annotated with two asterisks (**) are categories added since our first annual report; three asterisks (***) indicate categories that have been added since our second annual report. To ensure consistency across measures that use specialty designations, we identified new specialties for primary care practitioners. The specialty designations remain the same across the measures of ambulatory visits, continuity/fragmentation of care, and comprehensiveness of care measures. Taxonomy code 207QH0002X (Hospice and Palliative Medicine) was removed and added to specialist care in the second annual report.

[a] This Physician/Pediatrics specialty will become more relevant for analyses of the Medicaid population, but it will also capture some beneficiaries in the Medicare population.

Table 5.C.4. Specialist care taxonomy codes

Medicare practitioner-type description	Practitioner taxonomy code	Practitioner taxonomy description
Surgery	208600000X	Physicians/Surgery
	2086S0120X	Physicians/Surgery/Pediatric Surgery
	2086S0122X	Physicians/Surgery/Plastic and Reconstructive Surgery
	2086S0105X	Physicians/Surgery/Surgery of the Hand
	2086S0102X	Physicians/Surgery/Surgical Critical Care
	2086X0206X	Physicians/Surgery/Surgical Oncology
	2086S0127X	Physicians/Surgery/Trauma Surgery
	2086S0129X	Physicians/Surgery/Vascular Surgery
	208G00000X	Physicians/Thoracic
	204F00000X	Physicians/Transplant Surgery
	208C00000X	Physicians/Colon & Rectal Surgery
	207T00000X	Physicians/Neurological Surgery
	204E00000X	Physicians/Oral & Maxillofacial Surgery
	207X00000X	Physicians/Orthopedic Surgery
	207XS0114X	Physicians/Orthopedic Surgery/Adult Reconstructive Orthopedic Surgery
	207XX0004X	Physicians/Orthopedic Surgery/Foot and Ankle Surgery
	207XS0106X	Physicians/Orthopedic Surgery/Hand Surgery
	207XS0117X	Physicians/Orthopedic Surgery/Orthopedic Surgery of the Spine
	207XX0801X	Physicians/Orthopedic Surgery/Orthopedic Trauma
	207XP3100X	Physicians/Orthopedic Surgery/Pediatric Orthopedic Surgery
	207XX0005X	Physicians/Orthopedic Surgery/Sports Medicine
	208200000X	Physicians/Plastic Surgery
	2082S0099X	Physicians/Plastic Surgery/Plastic Surgery Within the Head & Neck
	2082S0105X	Physicians/Plastic Surgery/Surgery of the Hand
	2086H0002X	Physicians/Surgery/Hospice and Palliative Medicine***
Allergy/Immunology/ Otolaryngology	207K00000X	Physicians/Allergy and Immunology
	207KA0200X	Physicians/Allergy and Immunology/Allergy
	207KI0005X	Physician/Allergy and Immunology/Allergist***
	207Y00000X	Physicians/Otolaryngology
	207YS0123X	Physicians/Otolaryngology/Facial Plastic Surgery
	207YX0602X	Physicians/Otolaryngology/Otolaryngic Allergy
	207YX0905X	Physicians/Otolaryngology/Otolaryngology/Facial Plastic Surgery
	207YX0901X	Physicians/Otolaryngology/Otology &Neurotology
	207YP0228X	Physicians/Otolaryngology/Pediatric Otolaryngology
	207YX0007X	Physicians/Otolaryngology/Plastic Surgery within the Head & Neck
	207YS0012X	Physicians/Otolaryngology/Sleep Medicine***
Anesthesiology	207L00000X	Physicians/Anesthesiology
	207LC0200X	Physicians/Anesthesiology/Critical Care Medicine
	207LP3000X	Physicians/Anesthesiology/Pediatric Anesthesiology
	207RC0000X	Physicians/Internal Medicine, Cardiovascular Disease

Table 5.C.4 *(continued)*

Medicare practitioner-type description	Practitioner taxonomy code	Practitioner taxonomy description
	207LA0401X	Physician/Anesthesiology, Addiction Medicine***
	207LH0002X	Physician/Anesthesiology, Hospice and Palliative Medicine***
	207LP2900X	Physician/Anesthesiology, Pain Medicine***
Dermatology	207N00000X	Physicians/Dermatology
	207NI0002X	Physicians/Dermatology, Clinical & Laboratory Dermatological Immunology
	207ND0101X	Physicians/Dermatology, MOHS-Micrographic Surgery
	207ND0900X	Physicians/Dermatology, Dermapathology
	207NP0225X	Physicians/Dermatology, Pediatric Dermatology
	207NS0135X	Allopathic &Osteopathic Physicians/Dermatology, Procedural Dermatology
Obstetrics & Gynecology	207V00000X	Physicians/Obstetrics & Gynecology
	207VB0002X	Physicians/Obstetrics & Gynecology, Bariatric Medicine
	207VC0200X	Physicians/Obstetrics & Gynecology, Critical Care Medicine
	207VF0040X	Physicians/Obstetrics & Gynecology, Female Pelvic Medicine and Reconstructive Surgery
	207VX0201X	Physicians/Obstetrics & Gynecology, Gynecologic Oncology
	207VG0400X	Physicians/Obstetrics & Gynecology, Gynecology
	207VM0101X	Physicians/Obstetrics & Gynecology, Maternal & Fetal Medicine
	207VX0000X	Physicians/Obstetrics & Gynecology, Obstetrics
	207VE0102X	Physicians/Obstetrics & Gynecology, Reproductive Endocrinology
	207VH0002X	Physicians/Obstetrics & Gynecology, Hospice and Palliative Medicine***
Ophthalmology	207W00000X	Physicians/Ophthalmology
	207WX0009X	Physicians/Ophthalmology, Glaucoma Specialist
	207WX0107X	Physicians/Ophthalmology, Retina Specialist
	207WX0108X	Physicians/Ophthalmology, Uveitis and Ocular Inflammatory Disease
	207WX0109X	Physicians/Ophthalmology/Neuro-ophthalmology
	207WX0110X	Physicians/Ophthalmology/Pediatric Ophthalmology and Strabismus Specialist
	207WX0120X	Physicians/Ophthalmology, Cornea and External Diseases Specialist
	207WX0200X	Physicians/Ophthalmic Plastic and Reconstructive Surgery
	1223S0112X	Physicians/Ophthalmology, Dental Providers/Dentist, Oral & Maxillofacial Surgery
Pathology	207ZP0101X	Physicians/Pathology, Anatomic Pathology
	207ZP0102X	Physicians/Pathology, Anatomic Pathology & Clinical Pathology
	207ZP0104X	Physicians/Pathology, Chemical Pathology
	207ZC0006X	Physicians/Pathology, Clinical Pathology
	207ZP0105X	Physicians/Pathology, Clinical Pathology/Laboratory Medicine
	207ZC0500X	Physicians/Pathology, Cytopathology
	207ZD0900X	Physicians/Pathology, Dermapathology
	207ZF0201X	Physicians/Pathology, Forensic Pathology

Table 5.C.4 *(continued)*

Medicare practitioner-type description	Practitioner taxonomy code	Practitioner taxonomy description
	207ZH0000X	Physicians/Pathology, Hematology
	207ZI0100X	Physicians/Pathology, Immunopathology
	207ZM0300X	Physicians/Pathology, Medical Microbiology
	207ZP0007X	Physicians/Pathology, Molecular Genetic Pathology
	207ZN0500X	Physicians/Pathology, Neuropathology
	207ZP0213X	Physicians/Pathology, Pediatric Pathology
Physical Medicine & Rehabilitation	208100000X	Physicians/Physical Medicine & Rehabilitation
	2081H0002X	Physicians/Physical Medicine & Rehabilitation, Hospice and Palliative Medicine
	2081N0008X	Physicians/Physical Medicine & Rehabilitation, Neuromuscular Medicine
	2081P2900X	Physicians/Physical Medicine & Rehabilitation, Pain Medicine
	2081P0010X	Physicians/Physical Medicine & Rehabilitation, Pediatric Rehabilitation Medicine
	2081P0004X	Physicians/Physical Medicine & Rehabilitation, Spinal Cord Injury Medicine
	2081S0010X	Physicians/Physical Medicine & Rehabilitation, Sports Medicine
	2081P0301X	Physicians/Physical Medicine & Rehabilitation, Brain Injury
Urology	208800000X	Physicians/Urology
	2088P0231X	Physicians/Urology, Pediatric Urology
	2088F0040X	Female Pelvic Medicine & Reconstructive Surgery
Internal Medicine	207RN0300X	Physicians/Internal Medicine, Nephrology
	207RP1001X	Physicians/Internal Medicine, Pulmonary Disease
	207RI0200X	Physicians/Internal Medicine, Infectious Disease
	207RE0101X	Physicians/Internal Medicine, Endocrinology, Diabetes & Metabolism
	207RR0500X	Physicians/Internal Medicine, Rheumatology
	207RC0200X	Physicians/Internal Medicine, Critical Care Medicine
	207RH0000X	Physicians/Internal Medicine, Hematology
	207RH0003X	Physicians/Internal Medicine, Hematology & Oncology
	207RX0202X	Physicians/Internal Medicine, Medical Oncology
	207RA0201X	Physicians/Internal Medicine, Allergy & Immunology***
	207RA0401X	Physicians/Internal Medicine, Addiction Medicine***
	207RB0002X	Physicians/Internal Medicine, Bariatric Medicine***
	207RC0001X	Physicians/Internal Medicine, Clinical Cardiatric Electrophysiology***
	207RG0100X	Physicians/Internal Medicine, Gastroenterology***
	207RH0002X	Physicians/Internal Medicine, Hospice and Palliative Medicine***
	207RH0005X	Physicians/Internal Medicine, Hypertension Specialist***
	207RI0001X	Physicians/Internal Medicine, Clinical & Laboratory Immunology***
	207RI0008X	Physicians/Internal Medicine, Hepatology***
	207RI0011X	Physicians/Internal Medicine, Interventional Cardiology***
	207RM1200X	Physicians/Internal Medicine, Magnetic Resonance Imaging (MRI)***

Table 5.C.4 *(continued)*

Medicare practitioner-type description	Practitioner taxonomy code	Practitioner taxonomy description
	207RS0010X	Physicians/Internal Medicine, Sports Medicine***
	207RS0012X	Physicians/Internal Medicine, Sleep Medicine***
	207RT0003X	Physicians/Internal Medicine, Transplant Hepatology***
Eye & Vision	152W00000X	Eye and Vision Service Providers/Optometrist
	152WC0802X	Eye and Vision Service Providers/Optometrist, Corneal and Contact Management
	152WL0500X	Eye and Vision Service Providers/Optometrist, Low Vision Rehabilitation
	152WX0102X	Eye and Vision Service Providers/Optometrist, Occupational Vision
	152WP0200X	Eye and Vision Service Providers/Optometrist, Pediatrics
	152WS0006X	Eye and Vision Service Providers/Optometrist, Sports Vision
	152WV0400X	Eye and Vision Service Providers/Optometrist, Vision Therapy
Podiatric Medicine	213E00000X	Podiatric Medicine & Surgery Service Providers/Podiatrist
	213ES0103X	Podiatric Medicine & Surgery Service Providers/Podiatrist, Foot & Ankle Surgery
	213ES0131X	Podiatric Medicine & Surgery Service Providers/Podiatrist, Foot Surgery
	213EG0000X	Podiatric Medicine & Surgery Service Providers/Podiatrist, General Practice
	213EP1101X	Podiatric Medicine & Surgery Service Providers/Podiatrist, Primary Podiatric Medicine
	213EP0504X	Podiatric Medicine & Surgery Service Providers/Podiatrist, Public Medicine
	213ER0200X	Podiatric Medicine & Surgery Service Providers/Podiatrist, Radiology
	213ES0000X	Podiatric Medicine & Surgery Service Providers/Podiatrist, Sports Medicine
Psychiatry & Neurology	2084A0401X	Physicians/Psychiatry & Neurology
	2084A2900X	Physicians/Psychiatry & Neurology/Neurocritical Care
	2084P0802X	Physicians/Psychiatry & Neurology, Addiction Psychiatry
	2084B0002X	Physicians/Psychiatry & Neurology, Bariatric Medicine
	2084P0804X	Physicians/Psychiatry & Neurology, Child & Adolescent Psychiatry
	2084N0600X	Physicians/Psychiatry & Neurology, Clinical Neurophysiology
	2084D0003X	Physicians/Psychiatry & Neurology, Diagnostic Neuroimaging
	2084F0202X	Physicians/Psychiatry & Neurology, Forensic Psychiatry
	2084P0805X	Physicians/Psychiatry & Neurology, Geriatric Psychiatry
	2084H0002X	Physicians/Psychiatry & Neurology, Hospice & Palliative Medicine
	2084P0005X	Physicians/Psychiatry & Neurology, Neurodevelopmental Disabilities
	2084N0400X	Physicians/Psychiatry & Neurology, Neurology
	2084N0402X	Physicians/Psychiatry & Neurology, Neurology with Special Qualifications in Child Neurology
	2084N0008X	Physicians/Psychiatry & Neurology, Neuromuscular Medicine
	2084P0301X	Psychiatry & Neurology/Respiratory, Developmental, Rehabilitative and Restorative Service , Brain Injury Medicine

Table 5.C.4 *(continued)*

Medicare practitioner-type description	Practitioner taxonomy code	Practitioner taxonomy description
	2084P2900X	Physicians/Psychiatry & Neurology, Pain Medicine
	2084P0800X	Physicians/Psychiatry & Neurology, Psychiatry
	2084P0015X	Physicians/Psychiatry & Neurology, Psychosomatic Medicine
	2084S0010X	Physicians/Psychiatry & Neurology, Sports Medicine
	2084V0102X	Physicians/Psychiatry & Neurology, Vascular Neurology
	2084B0040X	Physicians/Psychiatry & Neurology, Behavioral Neurology & Neuropsychiatry***
	2084S0012X	Physicians/Psychiatry & Neurology, Sleep Medicine***
Radiology/Nuclear Medicine	2085R0001X	Physicians/Radiology, Radiation Oncology
	2085R0202X	Physicians/Radiology, Diagnostic Radiology
	1223X0008X	Oral and Maxillofacial Radiology***
	2085B0100X	Physician/Radiology/Body Imaging***
	2085D0003X	Physician/Radiology/Diagnostic Neuroimaging***
	2085N0700X	Physician/Radiology/Neuroradiology***
	2085N0904X	Physician/Radiology/Nuclear Radiology***
	2085P0229X	Physician/Radiology/Pediatric Radiology***
	2085R0203X	Physician/Radiology/Therapeutic Radiology - Radiation Therapist***
	2085R0204X	Physician/Radiology/Vascular & Interventional Radiology***
	2085R0205X	Physician/Radiology/Radiological Physics***
	2085U0001X	Physician/Radiology/Diagnostic Ultrasound***
	207U00000X	Physicians/Nuclear Medicine***
	207UN0901X	Physicians/Nuclear Medicine, Nuclear Cardiology***
	207UN0902X	Physicians/Nuclear Medicine, Nuclear Imaging & Therapy***
	207UN0903X	Physicians/Nuclear Medicine, In Vivo & In Vitro Nuclear Medicine***
Emergency Medicine	207P00000X	Physicians/Emergency Medicine
	207PE0004X	Physicians/Emergency Medicine, Emergency Medical Services
	207PH0002X	Physicians/Emergency Medicine, Hospice and Palliative Medicine
	207PP0204X	Physicians/Emergency Medicine, Pediatric Emergency Medicine
	207PS0010X	Physicians/Emergency Medicine, Sports Medicine
	207PE0005X	Physicians/Emergency Medicine, Undersea and Hyperbaric Medicine
	207PT0002X	Physicians/Emergency Medicine, Medical Toxicology***
Other	261QM1300X	Ambulatory Health Care Facilities/Clinic/Center, Multi-Specialty
	207RA0001X	Physicians/Advanced Heart Failure and Transplant Cardiology
	207QH0002X	Physicians/Family Medicine, Hospice and Palliative Medicine***
	204C00000X	Physicians/Neuromusculoskeletal Medicine, Sports Medicine***
	207QA0401X	Physicians/Family Medicine, Addiction Medicine***
	207QB0002X	Physicians/Family Medicine, Bariatric Medicine***

Table 5.C.4 *(continued)*

Medicare practitioner-type description	Practitioner taxonomy code	Practitioner taxonomy description
	207QS0010X	Physicians/Family Medicine, Sports Medicine***
	207QS1201X	Physicians/Family Medicine, Sleep Medicine***
	2080H0002X	Physicians/Pediatrics, Hospice and Palliative Medicine***
	2080N0001X	Physicians/Pediatrics, Neonatal-Perinatal Medicine***
	2080P0201X	Physicians/Pediatrics, Pediatric Allergy & Immunology***
	2080P0202X	Physicians/Pediatrics, Pediatric Cardiology***
	2080P0203X	Physicians/Pediatrics, Pediatric Critical Care Medicine***
	2080P0204X	Physicians/Pediatrics, Pediatric Emergency Medicine***
	2080P0205X	Physicians/Pediatrics, Pediatric Endocrinology***
	2080P0206X	Physicians/Pediatrics, Pediatric Gastroenterology***
	2080P0207X	Physicians/Pediatrics, Pediatric Hematology-Oncology***
	2080P0208X	Physicians/Pediatrics, Pediatric Infectious Diseases***
	2080P0210X	Physicians/Pediatrics, Pediatric Nephrology***
	2080P0214X	Physicians/Pediatrics, Pediatric Pulmonology***
	2080P0216X	Physicians/Pediatrics, Pediatric Rheumatology***
	2080S0010X	Physicians/Pediatrics, Sports Medicine***
	2080S0012X	Physicians/Pediatrics, Sleep Medicine***
	2080T0004X	Physicians/Pediatrics, Pediatric Transplant Hepatology***
	2083A0100X	Physicians/Preventive Medicine, Aerospace Medicine***
	2083P0011X	Physicians/Preventive Medicine, Undersea and Hyperbaric Medicine***
	2083P0500X	Physicians/Preventive Medicine, Preventive Medicine/Occupational Environmental Medicine***
	2083S0010X	Physicians/Preventive Medicine, Sports Medicine***
	2083X0100X	Physicians/Preventive Medicine, Occupational Medicine***
	208VP0000X	Physicians/Pain Medicine, Pain Medicine***
	208VP0014X	Physicians/Pain Medicine, Interventional Pain Medicine***

Source: Centers for Medicare & Medicaid Services. “Crosswalk Medicare Provider/Supplier to Healthcare Provider Taxonomy.” Baltimore, MD: CMS. Available at https://data.cms.gov/Medicare-Enrollment/CROSSWALK-MEDICARE-PROVIDER-SUPPLIER-to-HEALTHCARE/j75i-rw8y. Accessed May 8, 2020.

Notes: Descriptions annotated with three asterisks (***) are categories added since our second annual report. These new specialist categories were added to ensure consistency across measures. The specialty designations are now the same across the measures of ambulatory visits, continuity/fragmentation of care, and comprehensiveness of care measures.

Table 5.C.5. Ambulatory visit HCPCS/CPT codes and revenue center codes

Place of service	HCPCS/CPT codes	Revenue center codes
Office/outpatient, home; Federally Qualified Health Center; Critical Access Hospital; Rural Health Clinic	99201–99205, 99211–99215, 99324–99328, 99334–99337, 99339–99345, 99347–99350, 99354–99355, 99358–99359, 99415–99416, 99381-99387; 99391-99397, 98966-98968[a], 99441-99443[a], 98969[a], 99444[a], 99453-99454, 99457, 99461, 99483–99484, 99487, 99489–99491, 99492–99498, 99091, 90785, 90791–90792, 90832, 90834, 90837, 90833, 90836, 90838–90840, 90845–90847, 90849, 90853, 96150–96155, 96160–96161, 97151-97158, G0076-G0087, G2011, G2012, G0402, G0438, G0439, G0502–G0507, G0513–G0514, G9978-G9986, G9987	n.a.
Federally Qualified Health Center only	G0466–G0468, G0469–G0470	n.a.
Critical Access Hospital only	G0463	
Federally Qualified Health Center or Rural Health Clinic only	G0511, G0512, G0071	0521, 0522, 0527, 0528

Sources: American Medical Association. “CPT, Professional Edition.” 2016–2019; American Medical Association. “HCPCS Level II, Professional Edition.” 2016–2019.

Note: For the third annual report, we expanded the list to include new procedure codes in 2019.

[a] These CPT codes existed prior to 2016 and will not be shown in Table 5.C.7 (code changes instituted by the CPT Editorial Panel during the analytic time period). They were added to the list for the third annual report to align with new online and telephonic assessment and E&M codes the CPT Editorial Panel added in 2019.

HCPCS/CPT = Health Care Common Procedure Coding System/Current Procedural Terminology; n.a. = not applicable.

Table 5.C.6. Detailed description of the HCPCS/CPT codes and revenue center codes used to identify ambulatory visits

HCPCS/CPT codes	HCPCS/CPT code description	Ambulatory visit indicator[a]	Place of service indicator[b]
99201–99205, 99211–99215	Evaluation and Management (E&M): office or outpatient	1	
99324–99337	Evaluation and Management (E&M): domiciliary, rest home, or custodial care	1	
99339–99340	Evaluation and Management (E&M): domiciliary, rest home, or home care plan oversight	1	
99341–99345, 99347–99350	Evaluation and Management (E&M): home services	1	
99354–99355	Prolonged E&M or Psychotherapy Service w/Direct Patient Contact	0	Yes
99358–99359	Prolonged E&M Service w/o Direct Patient Contact	0	Yes
99415–99416	Prolonged E&M Service w/Direct Patient Contact w/physician supervisor	0	Yes
99381-99387; 99391-99397	Preventive Medicine Services	1	
98966-98968 99441-99443	Telephone assessment & management Telephone E&M	1	
98969 99444	Online assessment & management Online E&M	1	
99453-99454	Chronic Care Remote Patient Monitoring Codes	1	
99457	Remote physiologic monitoring treatment management services	1	
99461	Initial care per day, for E&M of normal newborn infant seen in other than hospital or birthing center	1	
99483	Cognitive Assessment	1	
99484	General Behavioral Health Integration Care Management	1	
99487	Complex Chronic Care Management Services	1	
99489	Additional 30 min	0	
99490	Chronic Care Management	1	
99491	Chronic care management services, provided personally by a physician or other qualified health care professional	1	
99492–99493	Psychiatric Collaborative Care Management (CoCM)	1	
99494	Additional 30 min	0	
99495–99496	Transitional Care Management Services	1	
99497	Advanced directive counseling and discussion	1	
99498	Each additional 30 min	0	Yes
99091	Remote Physiologic Patient Monitoring	1	
90785	(Psych) Interactive complexity (in addition to primary procedure)	0	Yes
90791–90792	Psychiatric diagnostic evaluation	1	Yes
90832, 90834, 90837	Psychotherapy	1	Yes
90833, 90836, 90838	Psychotherapy in conjunction w/E&M code	0	Yes
90839	Psychotherapy for crisis	1	Yes
90840	Each additional 30 min	0	Yes

Table 5.C.6 *(continued)*

HCPCS/CPT codes	HCPCS/CPT code description	Ambulatory visit indicator[a]	Place of service indicator[b]
90845–90847	Other psychotherapy	1	Yes
90849	Multiple family	1	Yes
90853	Group psychotherapy	1	Yes
96150–96151	Health and Behavior Assessment/Intervention	1	Yes
96152–96155	Health & behavior intervention, each 15 minutes	1	Yes
96160–96161	Administration of health risk assessment	0	
97151-97158	Adaptive Behavior Therapy assessment and treatment codes	1	
G0076- G0087	Care management home visit	1	
G2011	Alcohol and/or substance abuse structured assessment and brief intervention	1	
G2012	Virtual check-in by a physician or other qualified health care professional who can report E&M services	1	
G0402	Initial exam for Medicare enrollment	1	
G0438–G0439	Counseling, Wellness, and Screening Services	1	
G0502–G0503	Initial or subsequent psychiatric collaborative care management	1	
G0504	Initial or subsequent psychiatric collaborative care management, each additional 30 minutes	0	
G0505	Cognition and functional assessment using standardized instruments with development of recorded care plan for the patient with cognitive impairment	1	
G0506	Comprehensive assessment and care planning for patients needing chronic care	1	
G0507	Care management services for behavioral health conditions	1	
G0513–G0514	Prolonged Preventive Services	0	
G9978-G9986	Remote in-home visit for the E&M of a patient	1	
G9987	Bundled payments (BPCI advanced) model home visit for patient assessment	1	
Critical Access Hospital only			
G0463	Hospital OP clinic visit	1	
Federally Qualified Health Center only			
G0466–G0467	FQHC visit	1	
G0468	FQHC visit with AWV or IPPE	1	
G0469–G0470	FQHC mental health visit - new patient	1	
Rural Health Clinic/Federally Qualified Health Center only			
G0071	Non face-to-face communication between RHC/FQHC practitioner and patient in lieu of an office visit	1	
G0511	General Care Management	1	
G0512	Psychiatric collaborative care management	1	

Revenue center codes	Revenue center code description	Ambulatory visit indicator[a]	Place of service indicator[b]
Rural Health Clinic/Federally Qualified Health Center only			
0521	Clinic visit by member to RHC/FQHC	1	
0522	Home visit by RHC/FQHC practitioner	1	

Table 5.C.6 *(continued)*

Revenue center codes	Revenue center code description	Ambulatory visit indicator[a]	Place of service indicator[b]
0527	RHC/FQHC Visiting Nurse Service(s) to a member's home when in a home health shortage area	1	
0528	Visit by RHC/FQHC practitioner to other non-RHC/FQHC site (e.g., scene of accident)	1	

Sources: American Medical Association. "CPT, Professional Edition." 2016–2019; American Medical Association. "HCPCS Level II, Professional Edition." 2016–2019.

Notes: This table has been updated to include newly effective codes in 2019. It reflects CPT/HCPCS code changes instituted by the CPT Editorial Panel during the analytic time period (see Table 5.C.7 below). The CPT Editorial Panel comprises 17 members, 11 of whom are physicians, responsible for maintaining the CPT code set for the American Medical Association. Procedure codes used in the identification of non-face-to-face ambulatory visits are shaded in **green**.

[a] Procedure codes with an ambulatory visit indicator of one are included in the visit counts. Indicators with a value of zero indicate add-on services and are not counted as a separate visit.

[b] Some procedure codes that are included in our ambulatory visit definition are also provided in non-ambulatory settings. These services have a place of service indicator equal to "yes" and are counted in our visit and expenditure calculations only if the place of service is not an institutional setting. This excludes services with place of service = 21 (Inpatient Hospital), 51 (Inpatient Psychiatric Facility), 55 (Residential Substance Abuse Treatment Facility), 56 (Psychiatric Residential Treatment Center), or 61 (Comprehensive Inpatient Rehabilitation Facility).

AWV = Annual Wellness Visit; BPCI = Bundled Payments for Care Improvement; CoCM = Collaborative Care Model; FQHC = Federally Qualified Health Center; HCPCS/CPT = Health Care Common Procedure Coding System/Current Procedural Terminology; IPPE = Initial Preventive Physical Examination; OP = Outpatient; RHC = Rural Health Clinic.

Table 5.C.7. Ambulatory HCPCS/CPT code changes instituted by the CPT Editorial Panel[a] during the analytic time period

HCPCS/CPT codes	HCPCS/CPT code description	Year added	Year replaced
99497	Advance directive counseling and discussion	2016	
99498	Each additional 30 minutes	2016	
96160–96161	Administration of health risk assessment	2017	
99487	Complex Chronic Care Management Services	2017	
99489	Additional 30 minutes	2017	
99490	Chronic Care Management	2017	
G0502–G0503	Initial or subsequent psychiatric collaborative care management (CoCM)	2017	Deleted in 2018 and replaced with 99492–99494
G0504	Initial or subsequent psychiatric collaborative care management, each additional 30 minutes	2017	Deleted in 2018 and replaced with 99494
G0505	Cognition and functional assessment using standardized instruments with development of recorded care plan for the patient with cognitive impairment	2017	Deleted in 2018 and replaced with 99483
G0506	Comprehensive assessment and care planning for patients needing chronic care	2017	
G0507	Care management services for behavioral health conditions	2017	Deleted in 2018 and replaced with 99484
99091	Remote Physiologic Patient Monitoring	2018	
99483	Cognitive Assessment	2018	
99484	General Behavioral Health Integration Care Management	2018	
99492–99494	Psychiatric Collaborative Care Management	2018	
99453-99454	Chronic Care Remote Patient Monitoring Codes	2019	
99457	Remote physiologic monitoring treatment management services	2019	
99491	Chronic care management services, provided personally by a physician or other qualified health care professional	2019	
97151-97158	Adaptive Behavior Therapy assessment and treatment codes	2019	
G0076- G0087	Care management home visit	2019	
G2011	Alcohol and/or substance abuse structured assessment and brief intervention	2019	
G2012	Virtual check-in by a physician or other qualified health care professional who can report E&M services	2019	
G9978-G9986	Remote in-home visit for the E&M of a patient	2019	
G9987	Bundled payments (BPCI advanced) model home visit for patient assessment	2019	
Rural Health Clinic/Federally Qualified Health Center only			
G0511	General Care Management	2018	
G0512	Psychiatric Collaborative Care Management	2018	
G0071	Non face-to-face communication between RHC/FQHC practitioner and patient in lieu of an office visit	2019	

Sources: American Medical Association. “CPT, Professional Edition.” 2016–2019; American Medical Association. “HCPCS Level II, Professional Edition.” 2016–2019.

[a] The CPT Editorial Panel comprises 17 members, 11 of whom are physicians, responsible for maintaining the CPT code set for the American Medical Association.

BPCI = Bundled Payments for Care Improvement; CoCM = Collaborative Care Model; HCPCS/CPT = Health Care Common Procedure Coding System/Current Procedural Terminology.

B.5. Other service use

In addition to the annualized service use measures described above, we examined three additional Medicare service outcomes measures: unplanned 30-day readmissions, percentage of beneficiaries using hospice service, and days of hospice use for beneficiaries receiving hospice services. We describe these measures in more detail below.

Unplanned readmissions within 30 days of a hospital index discharge. For calculating the 30-day readmission rate, we used a slightly different time period definition than for the other measures. We looked at all eligible inpatient discharges during the last month of the previous year and the first 11 months of the current year,[94] and calculated the proportion of these index discharges that were followed by an unplanned hospitalization within 30 days of the discharge. An unplanned readmission is defined as any hospitalization that does not continue care (examples of planned admissions include recurring admissions for chemotherapy and planned admission for transplant surgery).

For an index discharge to qualify for inclusion in the readmission measure, the beneficiary must (1) be enrolled in Medicare FFS Part A and not in a health maintenance organization (HMO), (2) be enrolled in Medicare FFS Part A during the month following discharge, (3) be alive at discharge, and (4) not be discharged against medical advice. In addition, certain inpatient stays were excluded from the universe of index discharges, including discharges with lengths of stay longer than one year; stays at cancer hospitals exempt from the Prospective Payment System; and stays for psychiatric conditions, rehabilitation, or cancer. Our definition of this measure is based on the Yale readmission measure developed by the Yale New Haven Health Services Corporation/Center for Outcomes Research & Evaluation (YNHHSC/CORE 2019) that is used in the Hospital Readmission Reduction Program under Section 3025 of the Affordable Care Act.[95]

[94] We examine all index discharges during the last month of the previous year and the first 11 months of the current year to ensure that the relevant outcome "readmission within 30 days" is observed within the analysis period with adequate claims runout. One minor disadvantage is that, for the first intervention year, some readmissions are measured in the last month of the baseline (December 2016), before the CPC+ intervention began, which would dilute any observed effect on readmissions in Year 1. However, this factor affects only 1 out of 13 months (12 months of index discharges plus one additional month to observe 30 day readmissions post index discharge) of observed readmissions in Year 1, and should not discernibly change the Year 1 effect, especially because we do not expect the intervention to have sizable effects in Year 1. We considered the alternative of including index discharges over all 12 months of a calendar year. However with this approach, we would not be able to observe all possible 30-day readmissions without expanding the analysis period into the first month of the following year, which for the fifth year of CPC+ would include a month after the intervention ended. Also, it would lead to limited claims runout of only two months for that last month of readmissions in each measurement period.

[95] Additional information about the Yale readmission measure is available at QualityNet, "Measure Methodology Reports: Readmissions Measures," https://www.qualitynet.org/dcs/ContentServer?cid=1219069855841&pagename=QnetPublic%2FPage%2FQnetTier4&c=Page.

After we identify the index discharge and qualifying readmissions, we apply these beneficiary eligibility criteria to the readmission: (1) enrolled in Medicare Part B with Medicare as the primary payer in the month of the admission and the month following the admission and (2) enrolled in Medicare Parts A and B, not in an HMO, with Medicare as the primary payer in the month of the discharge. If beneficiaries did not meet these criteria, we did not include them in our readmission measure.

Although we analyze our main readmission outcome at the discharge level, we also conduct a sensitivity test examining the measure of unplanned readmission at the beneficiary level (for motivation and details, see Appendix 5.D). Unlike the discharge level outcome, all beneficiaries in the ITT sample are included in the beneficiary-level analysis. This binary measure takes the value 1 if the beneficiary had a qualifying readmission in the observation period (after applying the eligibility criteria, as explained above), and 0 otherwise.

Any use of hospice services. This measure is the percentage of beneficiaries who received any hospice services in the year. Beneficiaries are identified as having hospice services if they have a hospice claim in the year.

Number of days of hospice use among beneficiaries who received any hospice service during the year. This measure is the number of days a beneficiary spent in hospice care in a given year including days that were reported on denied claims when these claims did not overlap with dates of service on approved claims. We include denied claims to comprehensively account for the services beneficiaries received. To identify the number days of hospice care, we sorted hospice claims by beneficiary identification number, from date, and through date. Next, we combined claims with overlapping dates of service into a single span of service. Then, we calculated the days in each span by calculating the difference between the through date and the from date on the span and adding one. Finally, for each beneficiary and month, we summed the days in the spans with through dates in the month.

C. Planned care and population health

We constructed a total of six claims-based measures under the planned care and population health domain. Five of these were for Medicare FFS beneficiaries ages 18 to 75 with diabetes, and one was for breast cancer screening among women ages 52 through 74. We restricted the five diabetes measures to beneficiaries with continuous Medicare FFS Part A and B enrollment during the 12-month performance period (that is, the year for which the measure is being defined). The breast cancer screening measure required continuous Medicare FFS Part A and Part B enrollment during the 27-month measurement period.

We constructed all six screening measures using the 2018 specifications obtained from the Healthcare Effectiveness Data and Information Set (HEDIS; available at http://www.ncqa.org/hedis-quality-measurement/hedis-measures/hedis-2018), with a few minor modifications as noted in Table 5.C.8. Given that we do not have access to more recent versions of the HEDIS specifications, we conducted our own review of recent procedure code and diagnosis code changes and updated the HEDIS value data sets (VDS) as needed. The review identified additions to three data sets: (1) two CPT codes for HbA1c testing; (2) three diabetic retinal screening codes; and (3) three procedure codes for identifying beneficiaries with end-

stage renal disease (ESRD) in applying our algorithm.[96] In addition, we did not use prescription drug data in constructing these measures.[97] In Table 5.C.8, we summarize the measure specifications and note deviations from the approach in the HEDIS specifications.

[96] The new procedure codes are 3051F, 3052F for HbA1c testing; 2023F, 2025F, 2033F for diabetic retinal testing; and 5A1D70Z, 5A1D80Z, 5A1D90Z for evidence of ESRD.

[97] For our first annual report, we conducted a sensitivity analysis to test whether the HEDIS measures included here are sensitive to the removal of CPT-II codes that are included in the HEDIS specifications and are not separately payable under the Medicare physician fee schedule. Overall, removing these codes had only a minor impact on the HEDIS Comprehensive Diabetes Care measure: the performance rate decreased by only 0.04 percent for the composite measure and by 0.01 or 0.02 percent for the components measures.

Table 5.C.8. Measures based on 2018 HEDIS specifications used for the planned care and population health domain

Measure	Measure numerator	Measure denominator
HbA1c testing	Beneficiaries had an HbA1c test performed during the measurement year.	• Beneficiaries had to be continuously enrolled in FFS Medicare during the measurement year • Beneficiaries ages 18–75 with diabetes (Type 1 or Type 2), defined as having one of the following during the measurement year or the prior year: – Two face-to-face encounters in an outpatient setting or non-acute inpatient setting on different dates of service, with a diagnosis of diabetes. – One face-to-face encounter in an acute inpatient setting, with a diagnosis of diabetes. • Beneficiaries with gestational or steroid-induced diabetes during the measurement year or the prior year were excluded. Notes: We modified the HEDIS “continuously enrolled” criteria by: • Requiring enrollment each month, rather than allowing a 45-day gap in enrollment.(HEDIS considers a beneficiary to have continuous enrollment if the beneficiary had no more than one gap in enrollment of up to 45 days during the measurement year.) • Expanding the criteria for enrollment to match our eligibility criteria for the CPC+ evaluation—a beneficiary is Medicare FFS eligible in a month if the beneficiary is eligible for Part A and Part B with Medicare being the primary payer, not enrolled in an HMO in the month, and alive during any part of the month. We modified the HEDIS denominator by: • Using a broad range of E codes for identification of diabetes diagnoses (E10-E13). • Removing 99420 from the Outpatient VDS (new codes 96160 and 96161 are not included). • Not including code 99483 from the Outpatient VDS.

Table 5.C.8 *(continued)*

Measure	Measure numerator	Measure denominator
Eye exam (retinal) performed	Beneficiaries had an eye exam during the measurement year, defined as having one of the following: • A retinal or dilated eye exam by an eye care professional (optometrist or ophthalmologist) in the measurement year. • A negative retinal or dilated eye exam (negative for retinopathy) by an eye care professional in the year prior to the measurement year. Notes: We modified the HEDIS measure by: Not including eye enucleation in the numerator. Adding ICD-9 codes for diabetes without complications for prior year identification of retinal exams, because analogous ICD-10 codes were added to the HEDIS measure in 2017.	Same as above
Medical attention for nephropathy	Beneficiaries had a nephropathy screening or monitoring test OR evidence of nephropathy during the measurement year, defined as having one of the following during the measurement year: • A nephropathy screening or monitoring test • Evidence of treatment for nephropathy or ACE/ARB therapy • Evidence of Stage 4 chronic kidney disease • Evidence of end-stage renal disease • Evidence of kidney transplant • A visit with a nephrologist	Same as above
Composite diabetes care measure for receiving all three tests	Beneficiaries received all three tests during the measurement year—an HbA1c test, an eye exam, and medical attention for nephropathy.	Same as above
Composite diabetes care measure for not receiving any of the three tests	Beneficiaries did not receive any of the three tests during the measurement year—an HbA1c test, an eye exam, and medical attention for nephropathy.	Same as above

Table 5.C.8 *(continued)*

Measure	Measure numerator	Measure denominator
Breast cancer screening	Beneficiaries with one or more mammograms any time on or between October 1 two years prior to the start of the measurement year and December 31 of the measurement year.	• Beneficiaries had to be continuously enrolled during the measurement year and for the 15 months prior to the measurement year. • Women ages 52–74 as of December 31 of the measurement year. • Beneficiaries who had a bilateral mastectomy or a right and a left unilateral mastectomy were excluded. We used claims back to 2013 to identify these exclusions. Note: This measure incorporated the same deviations from HEDIS for the continuously enrolled criteria.

Source: National Committee for Quality Assurance (NCQA). "HEDIS Volume 2: Technical Specifications." 2016–2018.

ACE = Angiotensin-converting–enzyme; ARB = angiotensin-receptor blockers; HbA1c = Hemoglobin A1c test; HEDIS = Healthcare Effectiveness Data and Information Set; ICD-9 = International Classification of Diseases Version 9; ICD-10 = International Classification of Diseases Version 10; VDS = HEDIS value data set.

D. Continuity of care

We created three outcomes measures to examine continuity of care, and we describe those measures in greater detail below. The first is based on ambulatory visits with primary care practitioners (defined earlier in this section) and further examines whether those services are provided at the beneficiary's assigned practice. The next two (percentage of visits with the usual provider of care [UPC] and Reverse Bice-Boxerman Index [rBBI]) are based on a slightly narrower set of ambulatory visits to both primary care and specialist practitioners (we refer to these as "qualifying visits") and measure the percentage of those visits with the most frequently seen practitioner and the dispersion of those visits across all practitioners. Beneficiaries were required to meet three criteria to be included in the percentage of visits with the UPC and rBBI continuity of care measures: (1) be in the intent-to-treat (ITT) sample at the beginning of the year; (2) be enrolled in Medicare FFS for the full year; and (3) receive qualifying ambulatory visits in the measurement year.

Percentage of primary care ambulatory visits provided at a beneficiary's assigned practice. For the beneficiaries we identified as having ambulatory visits (Table 5.C.5) with a primary care practitioner (Table 5.C.3), we further examined the percentage of primary care ambulatory visits that were provided by practitioners affiliated with the beneficiary's assigned practice.

Percentage of visits with the usual provider of care. The percentage of visits with the UPC measures the proportion of qualifying ambulatory visits with the most frequently seen ambulatory practitioner (Breslau and Reeb 1975; Pollack et al. 2016). Note that the most frequently seen practitioner could have any specialty (e.g., primary care or specialist). UPC was created for beneficiaries with one or more qualifying ambulatory visits. We used a modified version of the National Committee for Quality Assurance's definition of ambulatory visits to identify beneficiaries with office or other outpatient visits (such as to rural health clinics and critical access hospitals) for E&M; ophthalmological services for medical examination and evaluation; or new enrollee and annual wellness visits (Kern et al. 2017; NCQA 2015). A description of these visit codes can be found in Table 5.C.9. The formula for the measure is:

$$\max\left(\frac{n_i}{N}\right) \text{over all } i \text{ practitioners}$$

where n_i is the number of ambulatory visits to practitioner *i* (NPI) during the measurement period, and N is the total number of all ambulatory visits the beneficiary had during the measurement period.

Reversed Bice-Boxerman Index. The Bice-Boxerman Continuity of Care Index (COCI) identifies the number of practitioners providing ambulatory services to a beneficiary and the percentage of care provided by each practitioner. The index is created for each beneficiary and is calculated by taking the number of visits to each individual practitioner divided by the total number of visits the beneficiary had overall. A description of the qualifying ambulatory visits is found in Table 5.C.9. This index weights both the frequency of ambulatory visits to each practitioner and the dispersion of visits between practitioners. Index values range from just greater than 0 (visits made to many practitioners) to 1 (all visits made to the same practitioner).

BBI is defined as

$$\left(\sum n_i^2 - N\right) / \left[N\left(N-1\right)\right],$$

where n_i is the number of visits that the beneficiary had with the ith practitioner, and N is the total number of all ambulatory visits the beneficiary had during the measurement period.

We required beneficiaries to have at least four ambulatory visits to qualify for inclusion in the rBBI, because measures of continuity may not be reliable if they are based on three or fewer visits (Nyweide et al. 2013). To measure fragmentation, we reversed raw BBI scores, calculating 1 minus BBI, for beneficiaries who had at least four ambulatory visits. On this rBBI index, higher scores reflect more fragmentation (many providers with a relatively low proportion of ambulatory visits by each provider). Thus, beneficiaries with an rBBI of 0 have no fragmentation of care (all their qualifying visits were to the same provider).

Measuring both the UPC and rBBI is useful, because the UPC facilitates interpretation. Measuring the percentage of visits with the UPC alongside the rBBI can make the findings more transparent, as the difference between two UPC scores (e.g., 30 percent of visits vs. 50 percent of visits with the most frequently seen provider) is easier to interpret than the clinical difference between two rBBI scores (e.g., 0.9 vs. 0.7).

Table 5.C.9. Procedure codes used for the selection of qualifying ambulatory visits for the UPC and rBBI measures

HCPCS/CPT codes	Description
99201-99205; 99211-99215	Office or other outpatient visit for E&M
92002, 92004, 92012, 92014	Ophthalmological services: medical examination and evaluation
G0402, G0438, G0439	New enrollee and annual wellness visits

E. Comprehensiveness of care

We developed two NPI level measures intended to gauge the comprehensiveness of care provided by primary care physicians. These measures are slight modifications of those originally developed by O'Malley et al. (2019). Comprehensiveness is the extent to which a primary care physician meets the large majority of their patient's physical and common mental health care needs. These measures are created for primary care physicians only. Thus, we exclude approximately one-third of CPC+ and comparison group providers from this measure because they are nurse practitioners, physician assistants, or physician specialists.[98] We identify a primary care physician based on the physician's NPI in the Medicare Data on Provider Practice and Specialty (MD-PPAS) file being assigned to a taxonomy code in one of the following

[98] We estimated the comprehensiveness of primary care physicians rather than nurse practitioners (NPs) and physician assistants (PAs), because of the low prevalence of NPs and PAs serving as a patient's usual practitioner in our sample, and the difficulty of discerning all services independently provided by NPs/PAs because they commonly bill "incident to" services under a physician's NPI.

specialties: 01 (general practice), 08 (family practice), 11 (internal medicine), 37 (pediatric medicine), or 38 (geriatric medicine). We describe the development of these measures here.

Involvement in patient conditions. For each physician, this measure calculates the percentage of beneficiaries seen in a given year for whom the physician had the greatest involvement in the patient's conditions. To be included in the analysis, a beneficiary must be eligible for Part A and Part B with Medicare being the primary payer, not enrolled in an HMO, and alive during any part of the analysis period. To calculate this measure, we first identify all beneficiaries seen by a CPC+ or comparison group primary care physician in a given year. We identify all the diagnoses for which the beneficiaries were seen by any physician (both primary care and specialists) for an E&M service, truncated to the first four digits for ICD-10 codes, and we count the total number of these unique diagnosis codes. Next, for each physician and beneficiary combination, we count the total number of the beneficiary's unique diagnoses on E&M service claims for which the physician billed in the year. We look across the physicians who treated the beneficiary, identify the physician who billed for the plurality of the beneficiary's diagnosis codes, and assign that physician as the most comprehensive for that beneficiary. If multiple physicians billed for the same share of a beneficiary's diagnoses, then we designate all those physicians as the most comprehensive for that beneficiary. Finally, for each physician, we calculate the share of the beneficiaries treated by the physician for whom the physician was the most comprehensive physician.

New problem management. This measure assesses the extent to which a physician manages a patient's new symptom or problem instead of referring them to (or the patient seeking) a specialist. The measure focuses on management of the 20 most common reasons for visits to primary care in the Medicare population aged 65 and over.[99]

We calculate this measure annually. For each year, for each beneficiary receiving office-based E&M services from a CPC+ or comparison group primary care physician based on the performing physician NPI, we select the first claim indicating office-based E&M services (HCPCS code = 99201 to 99205 or 99211 to 99215) with each condition in Table 5.C.10 based on the diagnosis codes associated with the condition. We call this the index claim for the beneficiary and condition in the analysis year. We exclude index claims for beneficiaries who are not eligible for the analysis for at least 20 months in the 24 months prior to the index claim thru date and for at least 10 months of the 12 months following the index claim through date. To be eligible for the analysis in a particular month, a beneficiary must be eligible for Part A and Part B with Medicare being the primary payer, not enrolled in an HMO, and alive during any part of the month. Because we want to analyze only "new" problems, we also exclude index claims for which the beneficiary had the same diagnosis on any E&M service (identified based on Berenson-Eggers Type of Service (BETOS) codes M1A, M1B, M2A, M2B, M2C, M3, M4A, or M4B, or HCPCS codes G0438 or G0439) performed by any provider in the 24 months prior to the index claim "thru date". After these exclusions, we end up with an output file including index

[99] The 20 most common reasons for visits to primary care in the Medicare population aged 65 and older are migraine, headache, urinary tract infection, gastrointestinal symptoms, skin disorders, back problems, hypertension, hyperlipidemia, diabetes, depression, anxiety, arthritis and localized joint syndromes, obesity, asthma, ill-defined conditions, upper respiratory conditions, ischemic heart disease, congestive heart failure, chronic obstructive pulmonary disease, and thyroid disorders.

claims for all beneficiaries who saw a CPC+ or comparison practice physician for a "new" condition in the year. Next, for each index claim, we identify all office-based E&M services with the same beneficiary and condition in the 12 months following the thru date of the index claim and use these claims to calculate the index physician's share of claims for the "new" condition. Then, separately for each of the 20 conditions, we calculate the average across all physicians of share of services performed by the index claim physician.

Finally, for each physician, we calculate a new problem management score. First, we calculated the average share of services the physician provided in the following 12 months for all their "new" condition index claims. To account for differences across physicians in the mix of conditions, we also calculated the predicted value, which is the average of the physician averages with the same mix of conditions. We calculated the new problem management as the ratio of the physician's own average and the predicted average.

Table 5.C.10. Diagnosis codes for new problem management measure

Condition	ICD-9 Codes[a]	ICD-10 Codes[b]
Migraine	346	G43
Headache	7840	G441 R51
Urinary Tract Infection	5990	N390
Gastrointestinal symptoms—includes GERD, acute gastritis without hemorrhage, Infectious colitis, enteritis, and gastroenteritis, salmonella gastroenteritis	0030 0090 0091 53011 53012 5589 578	A020 A09 K209 K210 K523 K5283 K5289 K529 K920-K922
Skin disorders	680-709	B781 E08628 E09628 E832 I7023-I7025 I7033-I7035 I7043-I7045 I7053-I7055 I7063-I7065 I7073-I7075 K122 L00-L05 L080 L088 L10-L14 L20-L30 L40-L43 L440-L443 L448 L449 L45 L49-L60 L62-L68 L70-L75 L80-L88 L89000-L89004 L89009-L89014 L89019-L89024 L89029 L89100-L89104 L89109-L89114 L89119-L89124 L89129-L89134 L89139-L89144 L89149-L89154 L89159 L89200-L89204 L89209-L89214 L89219-L89224 L89229-L89304 L89309-L89314 L89319-L89324 L89329 L8940-L8945 L89500-L89504 L89509-L89514 L89519-L89524 L89529 L89600-L89604 L89609-L89614 L89619-L89629 L89810-L89814 L89819 L89890-L89894 L89899 L8990-L8995 L90-L93 L940-L945 L948 L949 L95 L97-L99
Back problems (new onset low back pain)	724	M432 M438X9 M4800 M4804-M4808 M532X7 M532X8 M533 M5380 M5384-M5388 M539 M5403-M5409 M5414-M5417 M543-M546 M5489 M549 M62830 M9922-M9929 M9932-M9939 M9942-M9949 M9952-M9959 M9962-M9969 M9972-M9979
Hypertension	401	I10 I160 I161 I169
Hyperlipidemia, lipid disorders	272	E7130 E7521 E7522 E7524 E753 E755 E756 E770 E771 E778-E786 E7870 E7879 E788 E789 E881 E882 E8889
Diabetes	249-250	E08-E11 E13
Depression	296.2 311, 309	F320-F325 F329 F431 F432 F438 F439 F930 F948
Anxiety	300	F341 F40 F41 F42 F422 F423 F428 F429 F44 F450-F452 F458 F459 F481 F488 F489 F6811 F6813 F688 F99 R452 R455 R456
Arthritis and localized joint syndromes	710-716	A1801 A1802 A5216 E08610 E08618 E09610 E09618 E106 E116 E136 M00-M02 M042 M048 M049 M05-M07 M080 M082 M083 M084 M088 M089 M11 M120 M121 M125 M128 M129 M13-M19 M32-M34 M350 M351 M352 M355 M358 M359 M36
Obesity	278	E65 E6601 E6609 E661 E662 E663 E668 E669 E670 E671 E672 E673 E678 E68
Asthma	493	J440 J441 J449 J4520 J4521 J4522 J4530 J4531 J4532 J4540 J4541 J4542 J4550 J4551 J4552 J45901 J45902 J45909 J45990 J45991 J45998
Symptoms, signs, and ill-defined conditions	780–799, except 7840 (7840 is used for headache)	B349 E035 E0781 E0852 E0952 E1052 E1152 E1352 E790 G4700 G4710 G4730 G479 G933 I7036 I7046 I7056 I7066 I7076 I7301 I96 K522 K5229 K5289 N23 N393 N394 O28 P09 R000 R002 R008 R009 R01 R03-R05 R0600-R0602 R0609 R061-R069 R07 R090 R092 R093 R0982 R0989 R10 R110 R1110 -R1112 R1114 R112 R12 R13-R23 R25 R260 R261 R2681 R2689 R269 R27 R290-R293 R295 R296 R298 R299 R30 R32-R35 R360 R369 R39 R400 R401 R4020 R40211 R40212 R40221 R40222 R40231 R40232 R40234 R403 R404 R410-R414 R4181 R4182 R4184 R4189 R419 R42 R43 R440 R442-R449 R450 R453 R454 R4583 R4584 R4586-R4589 R46 R47 R480-R482 R488 R489 R49 R50 R52-R57 R59-R64 R6521 R680 R681 R683 R688 R69-R71 R73-R79 R800 R801 R803 R808 R809 R81-R94 R97 R99 R8299 R938
Upper respiratory conditions (not including asthma)	460–477	J00 J01 J028 J029 J038 J039 J04-J06 J20 J21 J30-J33 J342 J35-J37

Table 5.C.10 *(continued)*

Condition	ICD-9 Codes[a]	ICD-10 Codes[b]
Ischemic heart disease	413, 414	I201 I208 I209 I251 I253 I2541 I2542 I255 I256 I2570-I2573 I2575 I2576 I2579 I2581-I2584 I2589 I259
CHF	428	I50
Obstructive airway diseases Or COPD, Asthma	491	J41 J42 J44
Thyroid disorder	246	E034 E041 E070 E071 E0789 E079 E35

Source: American Medical Association. "ICD-10-CM: The Complete Official Codebook." 2015–2019.

[a] We include all ICD-9 codes that *start with* these codes. ICD-9 codes were used for Medicare billing prior to October 1, 2015. They were needed in this analysis to identify whether the beneficiary had the same diagnosis on any E&M service in the 24 months prior to the index claim.

[b] We include all ICD-10 codes that *start with* these codes. ICD-10 codes were used for Medicare billing starting October 1, 2015.

CHF = congestive heart failure; COPD =chronic obstructive pulmonary disease; GERD = Gastroesophageal reflux disease.

F. Mortality

We constructed the following mortality measures for Medicare FFS beneficiaries attributed in the first quarter of the intervention:

- 12-month mortality: percentage who died within 12 months (by the end of PY 1)
- 24-month mortality: percentage who died within 24 months (by the end of PY 2)
- 36-month mortality: percentage who died within 36 months (by the end of PY 3)

5.C.2. Non-outcome claims-based measures

We quantify how participation in other initiatives differs between CPC+ and comparison practices and how this participation shifted from the baseline period to the first three program years of CPC+ for each group (Appendix 5.F). We discuss two broad types of CMS initiatives below: care management services and behavioral integration services**.**

Receipt of chronic care management, transitional care management, or other care management services. We used these three measures to examine the extent of receipt of each type of care management services as well as any care management services during the year by beneficiaries assigned to CPC+ and comparison practices. We identified beneficiaries with a claim in the carrier or outpatient file with one of the procedure codes in Table 5.C.11 as having received one of these management services. Comparable to the ambulatory visit specifications, we did not include add-on services in our algorithm. The CPT Editorial Panel instituted several procedure code updates during our analytic time period, so our specifications were updated to reflect codes as they were added, deleted, or replaced. We included new procedure codes as they were implemented or updated them when they were replaced. In 2019, we added CPT Code 99491: 30 minutes of clinical staff time for chronic care management. The last column of Table 5.C.11 shows the time period during which each procedure code was used. Although CPC+ practices cannot bill chronic care management services for attributed Medicare beneficiaries, we expect to observe a small proportion of CPC+ beneficiaries with such claims in our analysis sample based on intent-to-treat assignment rules, under which we retain beneficiaries even if they are no longer attributed to a CPC+ practice.

Receipt of general behavioral health integration and psychiatric collaborative care management. In January 2017, CMS introduced FFS Medicare Part B billing codes for Psychiatric Collaborative Care Management (CoCM) and General Behavioral Health Integration (BHI) (CMS 2019). CoCM enhances primary care through the addition of behavioral health care managers and psychiatric consultation, whereas BHI supports various integration models and staffing configurations. We created three new indicators at the beneficiary-level for receipt of behavioral health care management services during the intervention years: (1) BHI, (2) psychiatric CoCM, and (3) psychiatric collaborative care model at an FQHC or RHC. These indicators are subsets of the existing chronic and other care management categories that we describe above and note in Table 5.C.11.

Table 5.C.11. Procedure codes for chronic care management, transitional care management, and other care management services

	CPT/HCPCS code	Description	Time period during which procedure code is included in measures
Chronic care management	99490	Chronic care management (20 minutes of clinical staff time)	2016–2018
	99491	Chronic care management (30 minutes of clinical staff time)	2019
	99487	Complex chronic care management (60 minutes of clinical staff time)	2016–2018
	99484[a]	General behavioral health integration care management	2018
	G0506	Chronic care management care planning	2016–2018
	G0507[a]	Care management services for behavioral health conditions	2017 (deleted in 2018 and replaced with 99484)
	99358	Prolonged (<75 minutes) of non-face-to-face E&M service before and/or after direct patient care	2016–2018
Transitional care management	99495	Transitional care management for patients discharged to community from an inpatient setting; moderate complexity of medical decision making	2016–2018
	99496	Transitional care management for patients discharged to community from an inpatient setting; high complexity of medical decision making	2016–2018
Other care management	G0181	Home health supervision of at least 30 minutes	2016–2018
	G0182	Hospice health supervision of at least 30 minutes	2016–2018
	G0502[b]	Initial psychiatric collaborative care management, first 70 minutes	2016–2018
	G0503[b]	Subsequent psychiatric collaborative care management, first 60 minutes	2016–2018
	G0504[b]	Initial or subsequent psychiatric collaborative care management, additional 30 minutes	2016–2018
	G0505	Cognition and functional assessment	2016–2018
	G0511	General care management at an FQHC or RHC	2018
	G0512[c]	Psychiatric collaborative care model at an FQHC or RHC	2018
	99483	Cognitive assessment	2018
	99492[b]	Initial psychiatric collaborative care management	2018
	99493, 99494[b]	Subsequent psychiatric collaborative care management	2018
	99497	Advance care planning	2016–2018

Sources: American Medical Association. “CPT, Professional Edition.” 2016–2019; American Medical Association. “HCPCS Level II, Professional Edition.” 2016–2019.

Note: CPT Codes 99489 (Additional 30 minutes of clinical staff time for chronic care management) and 99359 (Additional 30 minutes of prolonged non-face-to-face E&M service before and/or after direct patient care) were used to identify CCM services for our first annual report but were not used to identify CCM services in our second annual report.

[a] General Behavioral Health Integration (BHI)

[b] Psychiatric Collaborative Care Management (CoCM)

Table 5.C.11 ***(continued)***

[c] Psychiatric collaborative care model at an FQHC or RHC

CCM = chronic care management; CPT = Current Procedural Terminology; E&M = Evaluation and Management; FQHC = Federally Qualified Health Center; HCPCS = Health Care Common Procedure Coding System; OCM = other care management; RHC = Rural Health Center; TCM = transitional care management.

5.C.3. Claims-based control variables

In this section, we discuss the construction of claims-based control variables we used in our regression analysis that all center on beneficiary health and chronic conditions.

Three beneficiary-level claims-based control variables were derived from the hierarchical condition category (HCC) software: (1) an HCC score, which is a measure of risk for subsequent expenditures; (2) an indicator for "new enrollees"; and (3) indicators for 21 chronic condition categories. We also created an indicator for Alzheimer's disease or dementia based on the Chronic Conditions Warehouse (CCW) algorithm. We describe these measures below.

Hierarchical condition category score. We controlled for HCC score in our regressions to account for variation in beneficiaries' health status, or their level of risk for Medicare spending (Pope et al. 2004, 2011). We controlled for the baseline HCC score (calculated using 2015 claims for beneficiaries attributed to practices that started in 2017) for observations in the baseline period. To avoid endogeneity issues, we controlled for the score at the start of the intervention (calculated using 2016 claims for beneficiaries attributed to practices that started in 2017) for observations during the entire intervention period (i.e., we did not update the HCC score during the intervention period with claims data drawn from the intervention period). We also include a binary control variable in our regression analysis that indicates whether the HCC score was calculated using only demographic information.[100]

We calculated both the baseline and intervention period HCC scores using CMS's HCC score software and algorithm, based on information from Medicare claims and enrollment data. We deviated from the exact approach CMS uses in a few ways to adapt the CMS algorithm for the purpose of the impact analysis. For instance, to avoid endogeneity concerns, we used information on dual status, long-term institutionalization (LTI), and ESRD status from the prior year instead of the year for which the HCC score was being calculated. Also, we adopted a more nuanced approach to assigning the new enrollee versus the community score to beneficiaries with less than 12 months of FFS enrollment during the base year, as described in Step 5 below.

Specifically, we used the following approach:

1. To calculate HCC scores, we continued to use Version 22 2017 HCC model software,[101] which has greater predictive accuracy than earlier versions. We also used the Version 21 2017 ESRD model software for beneficiaries with ESRD.

2. To calculate HCC scores, we used a 12-month lookback for Medicare claims to obtain diagnosis information. For instance, to calculate the 2017 HCC score, we used Medicare

[100] HCC scores are calculated on the basis of demographic characteristics only when claims data are not observed for a beneficiary and may not reflect the actual risk of the beneficiary. This situation generally happens when the beneficiary is new to Medicare FFS.

[101] We have incorporated the 2018 ICD-10 codes into the Version 22 2017 software.

claims during 2016. For beneficiaries that are newly attributed after 2017, we still use their 2016 Medicare claims (if they exist) to calculate their 2017 HCC score.

3. The HCC algorithm also uses information on demographics, reason for Medicare eligibility, new enrollee status, dual eligibility status (with the latest version of the model distinguishing between beneficiaries who have full versus partial dual eligibility status), long-term nursing home care, kidney transplant, and dialysis status. To estimate and assign HCC scores for any year, we used information on these attributes from the prior year, with the exception of demographics and reason for Medicare eligibility, which were from the current year. For example, to calculate the 2017 HCC score, we used the following beneficiary information:

   - Demographics from 2017
   - Medicare eligibility (eligible due to age or disability) from 2017
   - New enrollee status from 2016 (a beneficiary with less than six months of Medicare FFS enrollment during the year was flagged as a new enrollee)
   - Dual eligibility status (full, partial, or nondual) during the last three months of 2016
   - ESRD status during the last three months of 2016
   - LTI status during a 120-day period ending on December 31, 2016
   - The number of months since a kidney transplant, looking back from January 1, 2017
   - Whether the transplant was successful or the beneficiary was on dialysis

4. The HCC algorithm estimates the following separate models: (1) ESRD (further differentiating by dialysis status and time since kidney transplant), (2) LTI, (3) community (further differentiating by dual status and aged versus disabled status), and (4) new enrollee. These models include different covariates and interaction terms, and therefore lead to multiple values of the HCC scores for each beneficiary. For instance, the new enrollee model is estimated with covariates only for demographics and Medicare eligibility information, without any covariates for claims-based diagnoses. Thus, for the 2017 HCC score, a beneficiary would have multiple values with one score from each model.

5. After estimating the four HCC models, we selected one HCC score for each beneficiary, following CMS's approach to determine which model's score was appropriate for the beneficiary. For example, we assigned a specific value of the 2017 HCC score to a beneficiary, by progressively checking the criteria in the following order:

   - We assigned the value of the ESRD score to a beneficiary for the 2017 HCC score if the beneficiary had ESRD anytime during the last three months of 2016 (the ESRD score could further vary or could come from a different ESRD submodel, depending on length of time since a successful kidney transplant, dialysis status, new enrollee status, and age).
     - We rescaled the risk scores for ESRD and post-kidney transplant beneficiaries to account for the fact that their average costs differ from the average costs for the overall FFS population. For ESRD beneficiaries on dialysis, their 2016 and 2017 HCC scores were multiplied by factors of 8.146 and 8.227, respectively. For

beneficiaries with functioning grafts, multiplication factors were 0.866 (2016 HCC score) and 0.875 (2017 score).[102]

- If a beneficiary did not have ESRD and met the criteria for LTI during the 120-day period ending on December 31, 2016, we assigned the value of the institutional or LTI score for 2017.
- If a beneficiary did not meet the criteria for either the ESRD or LTI score, and:
  - Had less than six months of Medicare FFS enrollment during 2016, we assigned the new enrollee score for 2017. (Note that this approach is used for baseline scores as well.)
  - Had 10 or more months of Medicare FFS enrollment during 2016, we assigned the community score for 2017. The community score varied or was obtained from a different submodel, depending on dual status (full, partial, or nondual) during the last three months of 2016, and aged versus disabled status.
  - Had six to nine months of Medicare FFS enrollment during 2016, we again assigned the community score for 2017 (varying as above by dual and aged or disabled status) but adjusted that score upward or inflated it by 25 percent. We used this approach to account for missing information on Medicare claims for three to six months in 2016, and therefore, the limited information on diagnoses available for such beneficiaries.

6. Finally, we used CMS's official normalization factors for 2016 and 2017 HCC scores to calculate a normalized risk score for each beneficiary. Specifically, the normalized risk score for 2016 (or 2017) is equal to the raw 2016 (or 2017) risk score, calculated using the approach laid out above, divided by the normalization factor for that year. The normalization factors account for changes in coding practice as well as in population demographics between the year an HCC model was calibrated and the year for which we calculated the HCC score.

Indicator for whether a beneficiary was assigned a new enrollee score. Our regressions also controlled for whether a beneficiary was assigned a new enrollee score in the baseline or intervention period. The other types of scores (community, LTI, ESRD, etc.) are based on the beneficiary's actual claims history, but the new enrollee score (which is assigned to beneficiaries with less than six months of FFS eligibility during the lookback period) is only a proxy for the beneficiary's actual risk, because it is based only on the beneficiary's demographic characteristics and reason for Medicare entitlement. A beneficiary that is first attributed after 2017 and is assigned a new enrollee score (based on having less than six months of claims or no claims in 2016) will retain that same score throughout the entire intervention period. The scores are not updated, because they could be affected by the care that the beneficiary receives during the intervention.

[102] The resource for the ESRD rescaling factors is the CCW Geographic Variation Database (GVDB) V5 manual.

Chronic condition indicators based on individual or combined HCCs. In addition to HCC scores, our regressions also controlled for HCCs. The HCC models produce the HCCs as part of generating the HCC score by using diagnosis information in Medicare claims (Pope et al. 2004, 2011). The models produce a total of 87 HCCs (79 from the V22 HCC model and an additional 8 from the ESRD model). Based on investigations for our first annual report, we had identified 21 HCCs (Table 5.C.12) to include as control variables to adjust for chronic conditions in our regressions, in three steps outlined below. We continued to use the same HCCs in this report, creating baseline and intervention period versions. The baseline measures are based on diagnoses in the prior year or the pre-baseline year (2015). The measures used during the intervention period (Years 1 through 3) are based on diagnoses in the baseline year (2016). Note that a beneficiary will never have a condition in the intervention period if the beneficiary has no claims in 2016. The new enrollee score enables us to distinguish between true zeroes on these conditions (beneficiaries that had claims, but did not have the condition) versus those that do not show up as having the condition because they did not have claims in 2016.

Step 1. We narrowed the pool to 38 HCCs that met at least one of the following criteria:

- Had a relatively high prevalence among beneficiaries in our sample (4 percent and above).
- Had higher than average relative factors (greater than or equal to 1) from the HCC models, implying that they were important predictors of Medicare expenditures.
- Showed a noticeable change in prevalence rates between the baseline year (2016) and the follow-up year (2017), among beneficiaries in the yearly samples (greater than or equal to 0.4 percentage points in the CPC+ group or the comparison group).
- Showed a noticeable difference in prevalence rates between CPC+ and comparison beneficiaries in the sample (greater than or equal to 0.2 percentage points).

Step 2. We ran difference-in-differences regressions for Medicare expenditures without fees, using one year of baseline period data and one year of follow-up period data, and including all 38 HCCs, separately for Track 1 and Track 2 practices.

Step 3. Based on the magnitude and significance of the coefficient estimate for each HCC in these regressions, and their overall prevalence in our sample, we selected 21 categories as regression controls (Table 5.C.12). Ten of these HCCs were individual HCCs denoting a specific condition, and the 11 others were combinations of one or more HCCs. We combined certain HCCs with high or statistically significant coefficient estimates if their individual rates of prevalence were low and they belonged to the same broad family of conditions.

Table 5.C.12. List of hierarchical condition categories used as chronic condition controls

Hierarchical condition category	Description
HCC 8	Metastatic Cancer and Acute Leukemia
HCC 18	Diabetes with Chronic Complications
HCC 21	Protein-Calorie Malnutrition
HCC 22	Morbid Obesity
HCC 23	Other Significant Endocrine and Metabolic Disorders
HCC 85	Congestive Heart Failure
HCC 96	Specified Heart Arrhythmias
HCC 106	Atherosclerosis of the Extremities with Ulceration or Gangrene
HCC 111	Chronic Obstructive Pulmonary Disease
HCC 173	Traumatic Amputations and Complications
HCC 186	Major Organ Transplant or Replacement Status
HCC 40 or 47	Rheumatoid Arthritis and Inflammatory Connective Tissue Disease or Disorders of Immunity
HCC 46 or 48	Severe Hematological Disorders, or Coagulation Defects and Other Specified Hematological Disorders
HCC 54 or 55	Drug/Alcohol Psychosis or Dependence
HCC 57 or 58	Schizophrenia or Major Depressive, Bipolar, and Paranoid Disorders
HCC 70 or 71	Quadriplegia or Paraplegia
HCC 80 or 82	Coma, Brain Compression/Anoxic Damage or Respirator Dependence/Tracheostomy Status
HCC 86, 87, or 88	Acute Myocardial Infarction, Unstable Angina and Other Acute Ischemic Heart Disease, or Angina Pectoris
HCC 99 or 100	Cerebral Hemorrhage, or Ischemic or Unspecified Stroke
HCC 107 or 108	Vascular Disease, with Complications
HCC 157 or 158	Pressure Ulcer of Skin with Necrosis Through to Muscle, Tendon, or Bone; or of Skin with Full Thickness Skin Loss

Source: Centers for Medicare and Medicaid Services. "CMS-HCC Risk Adjustment Model." 2017–2018. Available at https://www.cms.gov/Medicare/Health-Plans/MedicareAdvtgSpecRateStats/Risk-Adjustors.

Indicator for presence of Alzheimer's disease or dementia based on the CCW algorithm. Similar to the HCCs described above, we constructed a CCW indicator for Alzheimer's disease or dementia to adjust for this condition in our regressions. (This indicator is also used to identify high-risk beneficiaries in risk Tier 5, as described in Chapter 5 in Peikes et al. 2021.) We used this CCW indicator instead of HCCs for Alzheimer's disease and dementia from the HCC model to ensure consistency with CMS's approach for identifying high-risk, Tier 5 beneficiaries in Track 2 of CPC+. We created annual indicators based on the CCW algorithm, which uses a three-year lookback period to identify these diagnoses. For example, our baseline (2016) indicator used claims from January 1, 2013, through December 31, 2015, and our indicator for Alzheimer's and dementia at the start of the intervention period (2017) used claims from January 1, 2014, through December 31, 2016.

The CCW algorithm for defining this indicator requires a diagnosis code from Table 5.C.13 in any position on at least one inpatient, skilled nursing facility, home health, outpatient, or carrier claim during the three-year lookback period.

Table 5.C.13. Diagnosis codes used to identify Alzheimer's disease or dementia

ICD-9 diagnosis codes	ICD-10 diagnosis codes
331.0, 331.11, 331.19, 331.2, 331.7, 290.0, 290.10, 290.11, 290.12, 290.13, 290.20, 290.21, 290.3, 290.40, 290.41, 290.42, 290.43, 294.0, 294.10, 294.11, 294.20, 294.21, 294.8, 797	F01.50, F01.51, F02.80, F02.81, F03.90, F03.91, F04, G13.8, F05, F06.1, F06.8, G30.0, G30.1, G30.8, G30.9, G31.1, G31.2, G31.01, G31.09, G94, R41.81, R54

Source: Centers for Medicare & Medicaid Services. "Chronic Conditions Data Warehouse (CCW)." 2016–2019. Available at https://www2.ccwdata.org/web/guest/condition-categories.

5.C.4. Non-claims-based control variables

For beneficiary-level analyses, we controlled for beneficiaries' demographics (age, race, and gender) and original reason for Medicare eligibility (age, disability, or ESRD) in our regression models, based on information in the Medicare enrollment database. We calculated age as of January 1 of the baseline year for the baseline observations (2016), and as of January 1 of the first intervention year (2017) for observations in the intervention period. We describe the exact age and race categories used in our regressions in Appendix 5.D.

We also controlled for dual eligibility status, based on information obtained from the Master Beneficiary Summary File (MBSF). Specifically, we used the DUAL_STATUS_CD variable in the MBSF during the last three months of the pre-baseline (2015) and baseline (2016) years to define dual status for the baseline and intervention periods, respectively. We flagged a beneficiary as dually eligible if this variable indicated either full or partial dually eligible status during any of those three months.[103] For beneficiaries who enrolled in Medicare after the three months prior to the measurement period (i.e., the last three months of 2015 or the last three months of 2016), we assigned the non-dual status for the corresponding measurement period by default, because they did not have a dual status in the MBSF before their enrollment. For example, if a beneficiary enrolled in Medicare in 2016, then we assigned the non-dual status for the baseline, because the beneficiary did not have a dual status in the MBSF during the last three months of 2015. Similarly, if a beneficiary enrolled in Medicare in 2018, then we assigned the non-dual status for all intervention periods, because the beneficiary did not have a dual status in the MBSF during the last three months of 2016. Similar to the other covariates, we do not update the dual status in a measurement period, because it could be affected by the care that the beneficiary receives during the intervention.

For the two comprehensiveness of care measures, which are estimated at the NPI level, we controlled for the NPI's age, gender, and primary specialty, extracted from the MD-PPAS. We calculated the NPI's age as of January 1 of the baseline year for the baseline observations (2016) and as of January 1 of the first intervention year (2017) for observations in the intervention period. We used the NPI's gender and primary specialty defined in 2016 for baseline observations and those defined in 2017 for observations in the intervention periods.

[103] We used dual eligibility status in the three months *prior to the measurement period* (baseline or first intervention year) as a control variable to avoid endogeneity concerns with using concurrent values of time-varying beneficiary characteristics. Using the *last three months* before the start of the measurement period for outcomes gives us the closest approximation to dual status during the measurement period. This approach differs from CMS's dual status specification for payment purposes, in which concurrent month-by-month dual status is used to determine the appropriate risk score in the month.

5.D. Regression approach

This Appendix describes the regression approach we used to estimate impacts on Medicare claims-based outcomes in this report. For the main impact analysis, we used a difference-in-differences regression model to estimate impacts during the first three years of CPC+ for practices that joined CPC+ in 2017 and their matched comparison practices.

In this Appendix, we first describe the study population and unit of observation in the regressions (Section 1) and discuss the regression model itself (Sections 2 and 3). Next, we describe the difference-in-differences estimation approach overall (Sections 4 through 6). Finally, we describe the subgroup analyses (Section 7), sensitivity tests (Section 8), and exploratory analysis (Section 9) that we implemented to check for (1) differential effects of CPC+ on subgroups, (2) the robustness of the impact estimates on Medicare spending and readmission rates, and (3) the long-term effects of CPC Classic.

5.D.1. Study population and unit of observation in the regression analysis

A. Study population

We used a cross-sectional approach to define the study population, with highly overlapping cross-sections for (1) the baseline year and (2) each year of CPC+. The study population was based on beneficiary attribution (described in Appendix 5.B), and the annual cross-sections of beneficiaries for the baseline year and the intervention period were based on quarterly attribution (see Table 5.D.1 below).

Table 5.D.1. Baseline and intervention year cross-section definitions for study population

Cross-section	Study population definition Beneficiaries attributed to CPC+ or comparison practices at any time during the…
Baseline	Baseline year (January 1, 2016, to December 31, 2016)
First intervention year	First intervention year (January 1, 2017, to December 31, 2017)
Second intervention year	Second intervention year (January 1, 2018, to December 31, 2018)
Third intervention year	Third intervention year (January 1, 2019, to December 31, 2019)

B. Assignment to the CPC+ or comparison group, based on attribution

We assigned beneficiaries to the CPC+ or comparison group at two points:

1. For the **baseline period**, we assigned beneficiaries to the CPC+ or comparison group based on the first practice they were attributed to during the baseline period.

2. During the **intervention period**, we assigned beneficiaries to the CPC+ or comparison group based on the first CPC+ or comparison practice they were attributed to during the intervention period; following an intent-to-treat rule, we continue to assign the beneficiary to the same practice for the entire intervention period, regardless of whether the beneficiary continued to receive care at that practice as long as they are observable in Medicare Parts A and B claims data.

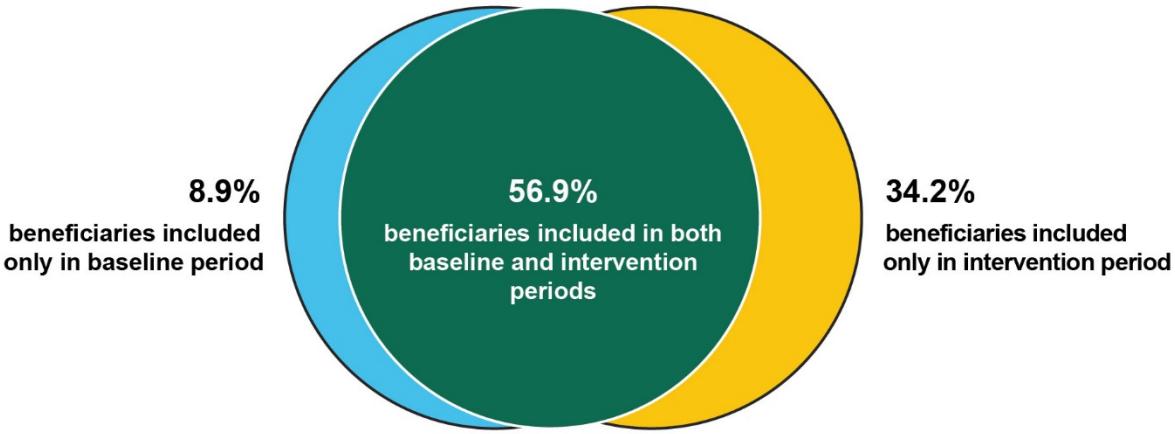
Following these definitions, it is possible for a beneficiary to be in the study population (1) only during the baseline period—for example, if the beneficiary died during the baseline period or was no longer attributed to a CPC+ or comparison practice during the intervention period; or (2) only during the intervention period—for example, if the beneficiary was first attributed to a CPC+ or comparison practice during an intervention year (including people who were new to Medicare). We found that 56.9 percent of beneficiaries were included in both the baseline and intervention periods in our main impact analysis, whereas 8.9 and 34.2 percent, respectively, were included for only the baseline year or only the intervention years (Figure 5.D.1). Because we are retaining beneficiaries in the study population over time (following the intent-to-treat approach), as well as adding new beneficiaries to the sample, the sample size during the intervention period will continue to grow as we add more intervention years to the analysis and will include more new beneficiaries compared to the baseline period. Therefore, the percentage of beneficiaries in the full sample—which covers both the baseline and intervention periods—who are only in the baseline period will fall over time, while the percentage of beneficiaries who are only in the intervention period will increase over time.

Given the intent-to-treat approach to assignment, beneficiaries cannot switch practices *during* the baseline period or *during* the intervention period. This rules out any contamination of the comparison group during the intervention period. However, going from the baseline to the first year of the intervention period, changes in the beneficiary sample at a practice can occur due to:

1. Beneficiaries switching practices—within the CPC+ or comparison group or across groups—since the intent-to-treat rule is applied separately in each period. This does not pose a risk of contamination since there was no intervention during the baseline period. Also, practice switches between the baseline and intervention periods are most likely to occur *within* the CPC+ or comparison group, given that we use external comparison regions for matching.
2. Adding beneficiaries who are newly attributed to a CPC+ or comparison practice and found to be eligible.
3. Excluding previously attributed beneficiaries who are no longer eligible (e.g., due to death or enrollment in a Medicare health maintenance organization [HMO]).

During the intervention period, changes in the beneficiary sample at a practice can occur across years only due to the second and third reasons.

Figure 5.D.1. Overlap of beneficiaries in the baseline and intervention periods



Source: Overlap of assigned Medicare FFS beneficiaries in Mathematica's evaluation sample for the first three program years and in the year before the start of CPC+ using Medicare claims data from January 2014 to December 2019.

C. Unit of observation

The unit of observation in the regressions for almost all claims-based outcomes is the beneficiary-year. Each beneficiary has observations for as many years as the beneficiary remains in the sample (as defined above) and can still be observed in claims. Specifically, to be observed, a beneficiary assigned to a practice for the baseline or the intervention period had to be alive, have both Part A and B Medicare fee-for-service (FFS) coverage with Medicare as the primary payer, and not be covered under a Medicare Advantage or other Medicare health plan.[104] Medicare beneficiaries who were dually eligible for Medicaid can be attributed as long as they meet the other eligibility requirements.

D. Study population and unit of observation for readmissions analyses

For the 30-day readmissions per index discharge outcome, we estimated impacts of CPC+ on the probability that an index hospital discharge was followed by a readmission within 30 days. In this case, the study population in each year includes only the subset of the full study population who had at least one index discharge during that year. The unit of analysis is the index discharge, rather than the beneficiary. So, for example, a beneficiary who has two index discharges in the first intervention year has two observations in the first intervention year, one for each discharge. Also, a readmission could qualify as an index stay if it meets the eligibility criteria for an index admission.

If CPC+ practices are more effective in keeping beneficiaries out of the hospital, the relative severity of index stays could rise for the CPC+ group compared to the comparison group over

[104] As we describe in Appendix 5.B, we apply an additional criterion for a beneficiary not being incarcerated when we identify attributed patients, following CMS' approach to patient attribution. Once we attribute a patient to a CPC+ or comparison practice based on all criteria in the attribution algorithm, the final analysis sample ignores the "not incarcerated" requirement in identifying the number of FFS eligible months for patients.

time and might include stays that are more likely to result in a readmission. This change in the relative severity of index stays could lead to higher readmission rates in the CPC+ group. To address this issue, we conducted a sensitivity test using a readmission measure calculated at the beneficiary level. For this test, we include all beneficiaries in the sample—even those without any hospitalizations.

E. Study population and unit of observation for comprehensiveness-of-care measures

For the two outcomes that measure comprehensiveness of care—involvement in patient conditions and new problem management—the study population is primary care practitioners (as defined by the National Provider Identifier [NPI]) who were affiliated with CPC+ or comparison practices during the baseline and intervention years. The unit of observation in the regressions is the practitioner-year. If a practitioner was affiliated with multiple practices (within our sample of CPC+ and comparison practices) in a year, we randomly assigned that practitioner to a single practice. Approximately 4.9 percent of the practitioners were affiliated with multiple practices.

5.D.2. Model specification

In this section, we focus on describing the model specification for beneficiary-year level outcomes. We note the key details that will be different for the analysis of the 30-day readmissions and comprehensiveness-of-care outcomes in Sections 5.D.3, 5.D.5, and 5.D.6.

In equation (1), let *i* index the beneficiary, *j* index the practice, and *t* index time, where *t* ranges from 0 to 3, with 0 denoting the baseline year. Given the study population and unit of observation defined above, for the main regression analyses we estimated difference-in-differences regression models of the following form, with one regression for each outcome:

$$y_{ijt} = \alpha + \beta X_{it} + \gamma_t p_t + \theta_t z_j p_t + b_j + \varepsilon_{ijt}, \quad \text{(5.D.1)}$$

where

y_{ijt} represents a claims-based outcome variable for beneficiary *i*, in practice *j*, in year *t*. Outcome variables include total Medicare expenditures and measures of utilization such as hospitalizations. Table 5.C.1 in Appendix 5.C lists the outcomes.

X_{it} is a vector of characteristics of beneficiary *i* measured at the start of the baseline period for baseline observations, and at the start of the intervention period for intervention period observations. For example, beneficiary characteristics include demographics (age, race, and gender), variables capturing Medicare and Medicaid eligibility (that is, original reason for Medicare eligibility, and dual Medicare-Medicaid status), and hierarchical condition category (HCC) score. We also include beneficiary characteristics like HCC score interacted with the year indicators (from Year 2 onward) to account for possible changes in the relationship between the characteristic measured at the start of the intervention and outcomes. We describe covariates in more detail in Section 5.D.5 below.

p_t (for "post") is an intervention-period indicator that takes the value of 1 during a specific intervention year, for instance Year 1, and 0 otherwise.

z_j is a binary indicator of intervention status or of being in a CPC+ practice; the indicator takes the value of 1 if practice *j* is a CPC+ practice, and is otherwise 0. The main effect of this indicator is not identified in this equation since it is collinear with the practice fixed effects.

b_j is a practice-level fixed effect for practice *j*, which controls for all time-invariant practice characteristics.

ε_{ijt} is the idiosyncratic error term. It represents unexplained variability in the outcome variable for beneficiary *i*, in practice *j*, during period *t*.

5.D.3. Model output and interpretation of key coefficients

In Equation 5.D.1, the intervention period-specific coefficients (γ_t) capture changes experienced by the comparison group in each intervention-period interval. Note that, instead of assuming a linear time trend, we allowed the coefficients to vary for each interval. The set of interaction terms ($\theta_t z_j p_t$) captures the difference in outcomes between the CPC+ and comparison groups for each intervention-period interval relative to that difference in the baseline period, adjusting for differences in (observed) beneficiary and (observed and unobserved) practice characteristics that remain after matching. Thus, the θ_t coefficients are the interval-specific impact estimates that capture whether the CPC+ intervention made a difference to an outcome of interest.

By estimating Equation (1) for the impact analysis in this report, we obtained an estimate of θ_t for each year of CPC+, as well as regression-adjusted means for baseline and intervention years, by intervention status. In addition to the model specified by Equation (1), we estimated an alternative model that assumed a constant impact θ across the entire intervention period, providing an average impact estimate across the three intervention years. In subsequent annual reports, we will continue to use this overall or "cumulative" impact estimate to summarize the program's impact over an extended period, for example, overall impact through the end of the intervention.

Table 5.D.2 illustrates how the parameter estimates from Equation (1) can be used to obtain the regression-adjusted CPC+ and comparison group means for the baseline year and each intervention year, along with the difference-in-differences impact estimates for Years 1 through 3. Because we use practice fixed effects, the main effect of intervention status, or the coefficient on the indicator for being in a CPC+ practice (the parameter φ in Table 5.D.2) cannot be estimated by Equation (1). Therefore, in our report, we use the following approach to show CPC+ and comparison group means in tables reporting difference-in-differences estimates. We show the actual, unadjusted CPC+ means at baseline and each intervention year. For the comparison group, we show the actual, unadjusted mean at baseline and the adjusted mean in each intervention year. We obtained this adjusted mean by subtracting the regression-adjusted

difference between the CPC+ and matched comparison groups in each year (obtained from the difference-in-differences model) from the unadjusted CPC+ mean in that same year. We also calculated percentage impacts relative to what the CPC+ mean would have been in an intervention year in the absence of the intervention—that is, the unadjusted CPC+ mean minus the impact estimate.

The general model specification, output, and interpretation of key coefficients for the 30-day readmissions and for the comprehensiveness-of-care outcomes are the same as for the beneficiary-level outcomes, except that the model is specified at the index discharge level for the former and the practitioner-year level for the latter.

Table 5.D.2. Impact estimates and CPC+ and comparison group means based on a linear regression from Equation (1): a stylized representation

Year	CPC+ group mean	Comparison group mean	Difference between CPC+ and comparison means	Difference-in-differences impact estimate
Baseline year $(t = 0)$ [reference period]	$\alpha + (\varphi)$	α	(φ)	N/A
First intervention year $(t = 1)$	$\alpha + (\varphi) + \gamma_1 + \pi_1 + \theta_1$	$\alpha + \gamma_1 + \pi_1$	$(\varphi) + \theta_1$	θ_1
Second intervention year $(t = 2)$	$\alpha + (\varphi) + \gamma_2 + \pi_2 + \theta_2$	$\alpha + \gamma_2 + \pi_2$	$(\varphi) + \theta_2$	θ_2
Third intervention year $(t = 3)$	$\alpha + (\varphi) + \gamma_3 + \pi_3 + \theta_3$	$\alpha + \gamma_3 + \pi_3$	$(\varphi) + \theta_3$	θ_3

Notes: To highlight the key coefficients in Equation (1), we exclude the coefficients on beneficiary characteristics and practice characteristics in the expressions for the CPC+ and comparison group means in this table. The parameter φ in the table denotes the main effect of intervention status, or a coefficient on the indicator for being in a CPC+ practice. This term is not included in Equation (1); it cannot be directly estimated because the model includes practice fixed effects. We include this term in this table to illustrate the difference-in-differences approach, but we show it in parentheses since we do not obtain an estimate of it. This parameter is differenced out in obtaining the impact estimate.

5.D.4. Model estimation

A. Separate regressions by track and by Medicare Shared Savings Program (SSP) status

For each Medicare claims-based outcome of interest, we estimated six separate regressions for our main analysis. We estimated impacts separately for Track 1 and Track 2, given that participating practices face track-specific requirements, payments, and incentives, which may yield very different impacts. Within each track, in addition to an overall estimate of CPC+, we also estimated impacts separately by SSP participation status at the start of CPC+ (January 1,

2017, for practices that started CPC+ in 2017).[105,106] For selected outcomes, we also estimated impacts separately for other key subgroups, by including additional interaction terms in the regression, as we describe below in Section 5.D.7.

B. Linear regression

For Medicare expenditures, and for any other continuous outcomes (which include service use outcomes, measures of fragmentation, and measures of comprehensiveness of care), we estimated Equation 5.D.1 as a linear regression. We also used linear regressions for all binary outcomes (which include unplanned readmission within 30 days following an index discharge, any hospice use, mortality, and receipt of recommended services for beneficiaries with diabetes and for breast cancer screening). An alternative approach would have been to use generalized linear models to account for the distinctive distributional features of service use outcomes and use logistic regression for binary outcomes. However, from the perspective of computational feasibility, nonlinear models were expected to be much more resource- and time-intensive given the large sample sizes. Also, we were more likely to experience problems with model convergence with a nonlinear model, especially when using a specification with practice fixed effects, due to features in the data (for example, a binary outcome being equal to zero or one for all beneficiaries in a practice or for all beneficiaries with a certain combination of characteristics). Therefore, our preferred approach was to estimate linear regressions for all outcomes. We tested how much the choice of functional form might influence the results of our impact evaluation, and we found we obtained nearly identical point estimates of the difference-in-differences impacts using either linear or nonlinear models.[107]

C. Non-independence

All regressions accounted for non-independence across observations within the same practice using standard error estimates clustered at the practice level. Although this approach yields consistent standard error estimates, we considered alternatives for two reasons. First, because there is much stronger correlation across repeated observations from the same beneficiary than

[105] Practices may change their SSP status over the course of CPC+, but we do not control for this change, because participation in CPC+ may cause a practice to participate in (or drop out of) SSP.

[106] An alternative to estimating separate models by SSP participation status is to use a triple differences estimation approach, where the coefficient on the triple interaction term for SSP participation, participation in CPC+, and the intervention period dummy would provide the impact estimate for SSP practices. Ideally, we would also allow the effect of beneficiary demographics and other practice characteristics (fixed effects) to vary by SSP participation status. However, allowing for the effect of each of the model covariates to vary by SSP participation status would make a triple differences estimation extremely unwieldy. Therefore, we estimated impacts using separate regressions for SSP practices and non-SSP practices.

[107] In a sensitivity analysis comparing inference from two models that were identical except that one was a linear regression and the other was a zero-inflated negative binomial model, we found that across the four years of CPC Classic, the two approaches gave nearly identical point estimates of the difference-in-differences impact for a count variable of number of hospitalizations. The linear model's standard errors around those point estimates were about 10 percent larger than those from the zero-inflated negative binomial model. Therefore, using a linear model should provide us with point estimates similar to those from a more complex, maximum likelihood model, but slightly more conservative standard errors, potentially lowering the likelihood that a small to moderate-size effect is considered statistically significant.

among beneficiaries receiving care from the same practice, we tested whether explicitly accounting for beneficiary-level clustering would improve standard error estimates. Second, we tested whether including fixed or random effects at the beneficiary or practice level could help guard against omitted-variable bias by controlling for any time-stable unmeasured beneficiary- or practice-level confounders. The detailed testing methods and results are in Appendix 3.O of the evaluation design report (Peikes et al. 2020b). We found that a model with practice-level fixed effects and standard error estimates clustered at the practice level provided the best performance in terms of the mean squared error of the difference-in-differences point estimate and the coverage of the confidence interval around this estimate.[108] Therefore, we adopted this approach to account for non-independence.

D. Interpretation

We used regression output to calculate *p*-values for statistical inference. To minimize the probability of mistaking noise for signal when examining impacts, we combined evidence from *p*-values with evidence from subgroup analyses, related outcomes, sensitivity tests, and the implementation analysis to reinforce or discount the interpretation of observed results.

5.D.5. Control variables

Each regression controlled for beneficiary characteristics and practice fixed effects. For observations in the baseline period, beneficiary-level control variables were measured directly before the start of the yearlong baseline period (based on data from calendar year 2015). For observations in the intervention period, beneficiary-level control variables were measured directly before the start of CPC+ (based on data from calendar year 2016). We did not update the beneficiary characteristics over the intervention period because the intervention could affect the observed beneficiary characteristics. The practice fixed effects are indicators or dummy variables—one for each practice in the CPC+ and comparison groups. Including these effects controls for any inherent, time-invariant differences between the CPC+ and comparison practices—whether such differences are observed or unobserved. Including practice fixed effects ensured that we accounted for any remaining imbalance in the practice-level variables used in matching, and in any other unmeasured practice characteristics at baseline, when obtaining the difference-in-differences impact estimates. We did not incorporate changes over time in observed practice characteristics as control variables, because the intervention could affect practice characteristics.

[108] Although practice fixed effects account for part of the within-practice correlation in outcomes, they do not account for such correlation completely. Specifically, practice fixed effects assume a fixed degree of correlation between any two observations from the same practice. In reality, however, there could be differences in the degree of correlation arising due to different beneficiaries being in the same practice versus correlation in outcomes over time for the same beneficiary in that practice (autocorrelation). Also, practice fixed effects do not account for heteroscedasticity. Therefore, using standard error estimates clustered at the practice level on top of practice fixed effects is likely to provide a more accurate estimate of the standard error for the impact estimates.

A. Beneficiary-level control variables for Medicare analysis

Table 5.D.3 shows the beneficiary-level control variables used in the regressions. These control variables included demographics (age categories, race categories, and gender), original reason for Medicare entitlement, dual eligibility status, and HCC score. For comprehensive risk adjustment, the regression additionally includes indicators for specific chronic conditions that are prevalent in the CPC+ sample, defined by applying the HCC or CCW algorithm on Medicare claims (see Appendix 5.C for more information on how we selected the HCCs to include as controls in the regressions). We also include an indicator that the HCC score was calculated using only demographic information as a control variable.[109] We included interactions of HCC score and chronic conditions with indicators for the second and each subsequent intervention year to account for possible changes in the relationship between HCC scores and chronic conditions (measured at the start of the intervention) and outcomes (measured after the first intervention year).

Given that we used a difference-in-differences approach, we did not include as control variables Medicare service use or expenditures during the baseline period, as is often done in a cross-sectional analysis. These baseline outcomes are the dependent variable for the baseline observations in our model and, therefore, cannot be viewed as independent of the error term.

B. Control variables for discharge-level outcomes

As we noted previously, our analysis for readmissions is at the index discharge-year (rather than beneficiary-year) level. Therefore, the regression for this outcome included some additional control variables. Specifically, we included indicators for conditions identified in inpatient episodes of care during the 12 months before the index admission as well as those present at admission (there are 31 such condition categories for this analysis). Given their similarity to HCCs, to avoid collinearity, we excluded the chronic condition controls for specific HCCs from the readmission regression, while retaining the controls for HCC score. We also controlled for whether the principal diagnosis or procedure associated with the index discharge is best classified as (1) medicine, (2) surgery, (3) cardiorespiratory, (4) cardiovascular, or (5) neurology.[110]

[109] HCC scores are calculated on the basis of demographic characteristics only when claims data are not observed for a beneficiary and may not reflect the beneficiary's actual risk. This generally happens when the beneficiary is new to Medicare FFS.

[110] The 31 condition categories for the Medicare analysis include a range of diagnoses or risk factors, such as severe infection, metastatic cancer/acute leukemia, diabetes mellitus, end-stage liver disease, drug and alcohol disorders, congestive heart failure, chronic obstructive pulmonary disease, ulcers, cardiorespiratory failure or cardiorespiratory shock, acute renal failure, transplants, hip fracture/dislocation, and more. Our approach was based on reviewing standard models in the literature for risk-adjusting the likelihood of readmission, although it differed from other models in that we did not estimate a separate readmission equation for each of the specialty cohorts (medicine, surgery, cardiorespiratory or cardiovascular, or neurology), given our goal of estimating the impact of the intervention on the risk of all unplanned readmissions. The lookback period for these conditions is one to three years, depending on the condition, as specified in the Yale algorithm (YNHHSC/CORE 2019).

Table 5.D.3. Medicare beneficiary-level control variables for the difference-in-differences regressions

Characteristic	Variables
Demographics	Age categories < 65 65–74 (reference category) 75–84 ≥ 85 Race categories White (reference category) Black All other/unknown Gender (binary indicator for male)
Original reason for Medicare eligibility	Original Medicare eligibility categories Age (reference category) Disability only ESRD only or ESRD with disability
Dual eligibility	Indicator for dual status (where dual is defined as those with full or partial Medicaid benefits according to Master Beneficiary Summary File)
Chronic conditions	**HCCs**[a] HCC 8 – Metastatic Cancer and Acute Leukemia HCC 18 – Diabetes with Chronic Complications HCC 21 – Protein-Calorie Malnutrition HCC 22 – Morbid Obesity HCC 23 – Other Significant Endocrine and Metabolic Disorders HCC 85 – Congestive Heart Failure HCC 96 – Specified Heart Arrhythmias HCC 106 – Atherosclerosis of the Extremities with Ulceration or Gangrene HCC 111 – Chronic Obstructive Pulmonary Disease HCC 173 – Traumatic Amputations and Complications HCC 186 – Major Organ Transplant or Replacement Status HCC 40 or 47 – Rheumatoid Arthritis and Inflammatory Connective Tissue Disease or Disorders of Immunity HCC 46 or 48 – Severe Hematological Disorders, or Coagulation Defects and Other Specified Hematological Disorders HCC 54 or 55 – Drug/Alcohol Psychosis or Dependence HCC 57 or 58 – Schizophrenia or Major Depressive, Bipolar, and Paranoid Disorders HCC 70 or 71 – Quadriplegia or Paraplegia HCC 80 or 82 – Coma, Brain Compression/Anoxic Damage or Respirator Dependence/Tracheostomy Status HCC 86, 87, or 88 – Acute Myocardial Infarction, Unstable Angina and Other Acute Ischemic Heart Disease, or Angina Pectoris HCC 99 or 100 – Cerebral Hemorrhage, or Ischemic or Unspecified Stroke HCC 107 or 108 – Vascular Disease, with Complications HCC 157 or 158 – Pressure Ulcer of Skin with Necrosis Through to Muscle, Tendon, or Bone; or of Skin with Full Thickness Skin Loss **Chronic Conditions Warehouse (CCW) indicator** Alzheimer's disease or dementia HCCs and CCW indicator interacted with follow-up year from second follow-up year onward

Table 5.D.3 *(continued)*

Characteristic	Variables
Risk score	**HCC score** Indicator for whether HCC score was assigned a new enrollee HCC score i.e., HCC score was calculated on the basis of demographic characteristics only HCC score interacted with follow-up year from second follow-up year onward Indicator for being assigned a new enrollee HCC score interacted with follow-up year from second follow-up year onward

Notes: Beneficiary-level control variables were measured either directly before the start of CPC+ (for the intervention-period observations) or directly before the start of the yearlong baseline period (for the baseline-period observations). The yearlong baseline period is 2016 for the practices that started CPC+ in 2017.

[a] We selected a small subset—21 of the 87 HCCs created by the HCC model—for inclusion as control variables. Of the 87 total HCCs, 79 came from the version 22 2017 HCC model and 8 came from the version 21 2017 ESRD model. We selected the 21 HCCs in the subset based on the relative weight of specific HCCs in the HCC score calculation, as well as their prevalence in our analysis sample. We also included an indicator for Alzheimer's disease or dementia from the Chronic Conditions Warehouse (to ensure consistency with CMS's approach for identifying high-risk, Tier 5 beneficiaries in Track 2 of CPC+).

ESRD = end-stage renal disease; HCC = hierarchical condition category.

C. Control variables for comprehensiveness-of-care outcomes

As we noted previously, our analysis for comprehensiveness of care is at the practitioner-year (rather than beneficiary-year) level. Therefore, the regression for this outcome included control variables at the practitioner level instead of at the beneficiary level. Specifically, we controlled for a practitioner's age, sex, and primary specialty (Table 5.D.4). We also controlled for practice fixed effects.

Table 5.D.4. Practitioner-level control variables for the difference-in-differences regressions for the comprehensiveness-of-care measures

Characteristic	Variables
Age categories	≤30 31–50 (reference category) >50
Gender	Male (reference category) Female
Primary specialty	Family Practice (reference category) General Practice Internal Medicine Pediatric Medicine Geriatric Medicine

Notes: Practitioner-level control variables were measured either directly before the start of CPC+ (for the intervention-period observations) or directly before the start of the yearlong baseline period (for the baseline-period observations).

5.D.6. Weighting

We applied weights to the observations in the regressions to ensure that (1) beneficiaries who were observed for longer periods receive relatively more weight than those observed for shorter periods (using a Medicare enrollment weight) and (2) the CPC+ and comparison groups are comparable (using a matching weight). To achieve the first goal, for each beneficiary in each year, we calculated fractional enrollment weights that capture the share of months observed during that year. For this analysis, a beneficiary is observed during each month that he or she is alive and enrolled in Medicare FFS (enrolled in both Part A and Part B, and not in a Medicare health maintenance organization [HMO]), and has Medicare as the primary payer.

As we describe in Appendix 6.C of the appendices to the supplemental volume of the CPC+ evaluation second annual report (Ghosh et al. 2020), we used an external comparison group as the main comparison group for the impact analysis of Medicare claims-based outcomes. For all analyses using this comparison group, the matching weight was the same as the covariate-balancing propensity score-based weights used to balance the CPC+ and comparison practices on their baseline characteristics.

The final composite weight for beneficiaries in the comparison group was the product of (1) the enrollment weight, and (2) the matching weight. For beneficiaries in the CPC+ group, we needed only the enrollment weight because, by construction, the matching weight for each CPC+ beneficiary is one.

Regressions for most outcomes incorporated these final composite weights—that is, the product of the enrollment weight and the matching weight—for CPC+ and comparison beneficiaries in each baseline and intervention period interval. We used slightly different weights for regressions for the following outcomes:

- For index discharge-level measures, such as readmissions, we incorporated only the matching weight; the enrollment weight was unnecessary, because these regressions included beneficiaries only if they were enrolled in Medicare FFS during the full month following the discharge.[111] Similarly, for the diabetes process-of-care quality measures, we restricted the analysis to beneficiaries with diabetes who were enrolled in Medicare FFS the whole year so that the enrollment weight, by default, was equal to one.
- For certain binary outcomes defined at the beneficiary level—for example, whether a beneficiary received hospice services—we used the composite weight; before doing so, we recoded the enrollment weight to account for truncation due to beneficiaries potentially dying during the follow-up period. Specifically, the enrollment weight was recoded to a value of one if the outcome was observed, to prevent those who received these services from receiving smaller weights due to death, and was equal to the enrollment weight (using the usual methods to take into length of time observed) if the outcome was not observed.
- For comprehensiveness-of-care measures, which are at the practitioner-year level, we used only the matching weight, because there is no weight corresponding to the beneficiary enrollment weight at the practitioner level.

[111] The only exception is that the regression retains beneficiaries who die during the month following the discharge.

5.D.7. Variation in effects among subgroups of beneficiaries and practices

As we discuss above, within each track, we estimated impacts separately by baseline SSP status of practices to investigate whether participating in both CPC+ and an SSP Accountable Care Organization had a different impact than participating in CPC+ alone. Given that SSP participation is a critical dimension on which participating CPC+ practices differ, we estimated these separate regressions, by SSP status, for all outcomes.

In addition, the impacts of CPC+ could differ for different types of beneficiaries and practices, based on other baseline characteristics. Therefore, for selected outcomes, we estimated the effects of the program on *subsets of beneficiaries* for whom CPC+ is likely to have especially large effects, such as the chronically ill and other patients with complex health conditions (Brown et al. 2012; Rich et al. 2012). We also examined effects for different *types of practices,* such as those that had a larger number of primary care practitioners, had participated in prior primary care transformation initiatives at baseline, or were owned by a hospital or health system. For these subgroup analyses, we included in the regressions interactions of variables denoting subgroup membership with the indicator for CPC+ versus comparison status,[112] the intervention year indicator, and the CPC+ indicator interacted with the intervention year indicator. Because there is likely to be significant correlation among practice characteristics, for example, between practice size and ownership, testing for differential effects for each practice characteristic separately may not unmask the real drivers of significant differences. Therefore, for the practice subgroup analysis, we included interactions with subgroup indicators for *all* practice characteristics in a single regression to disentangle which characteristics actually influence program impacts.[113]

A. Practice-level subgroups

We estimated differential effects for subgroups defined at baseline by various characteristics, as shown in Table 5.D.5.

Table 5.D.5. Practice-level subgroups

Subgroup definitions	Why potentially important to CPC+
Whether the practice had participated in prior primary care transformation initiatives—defined as participation in CPC Classic or the Multi-Payer Advanced Primary Care Practice demonstration, or NCQA, TJC, AAAHC, URAC, or state medical-home recognition status	Practices with participation in prior primary care transformation initiatives may be more advanced and, as a result, may require less time and resources to make changes at the start of CPC+. On the other hand, these practices may have less room for improvement after their prior practice transformation experience.

[112] The interaction between the practice subgroup membership indicator and the CPC+ indicator cannot be directly estimated in the practice-level subgroup analysis because the model includes practice fixed effects.

[113] Given the high degree of overlap between certain beneficiary subgroups—for example, between those above the 75th percentile of the HCC score distribution and those above the 90th percentile—we did not include interactions with all beneficiary subgroup definitions in a single regression. Instead, we estimated a separate regression for each subgroup of interest where we included interactions of treatment (identifying CPC+ practices) and post-intervention (identifying time periods after CPC+ began) indicators with the subgroup indicator denoting whether the beneficiary had that characteristic.

Table 5.D.5 *(continued)*

Subgroup definitions	Why potentially important to CPC+
Practice size, as defined by the number of primary care practitioners (1–2, 3–5, 6 or more)	Larger practices will likely have access to greater resources and better medical infrastructure. Smaller practices may, on the other hand, have greater flexibility to implement changes more rapidly.
Whether the practice was multi-specialty versus primary care only	Multi-specialty practices face different financial incentives and economies of scale.
Practice ownership by a hospital or a health system	Practices owned by a hospital or health system will likely have access to greater resources and better medical infrastructure. These practices may also face different financial incentives and economies of scale.
Whether the practice was in a rural, suburban, or urban area	Practices in more urban areas will likely have access to greater resources and better medical infrastructure than those in rural areas.

AAAHC = Accreditation Association for Ambulatory Health Care; NCQA = National Committee for Quality Assurance; TJC = The Joint Commission; URAC = Utilization Review Accreditation Commission.

B. Beneficiary-level subgroups

When analyzing differential impacts by subsets of beneficiaries, we considered subgroups that tend to have higher utilization and cost, for example, beneficiaries with higher HCC scores or those with behavioral health conditions (Table 5.D.6). As with the beneficiary-level control variables, we identified beneficiary subgroups directly before the start of the baseline period for baseline observations and directly before the start of the intervention period for intervention period observations.

Table 5.D.6. Beneficiary subgroups

Subgroup definitions	Why potentially important to CPC+
Beneficiaries in the highest quartile of the distribution of HCC score (both Track 1 and Track 2), or patients who either were in the highest decile of the distribution of HCC score or had dementia (both Track 1 and Track 2) [a]	Beneficiaries with high HCC scores and/or those with dementia are at greater risk of incurring high health care expenditures. Also, these high-risk definitions are based on CMS's criteria for identifying beneficiaries in risk Tier 4 and risk Tier 5.[b]
Beneficiaries with behavioral health conditions (HCCs for schizophrenia or major depressive, bipolar, and paranoid disorders, or drug/alcohol psychosis or drug/alcohol dependence) [a]	Behavioral health conditions are among the costliest health conditions and key drivers of health care utilization.[c]
Beneficiaries with multiple chronic conditions, specifically at least 2 of 12 frequently occurring chronic conditions,[d] who also had at least one hospitalization in the year before the start of CPC+ (for observations in the intervention period) or the year before baseline (for observations in the baseline period) [a]	Beneficiaries with multiple chronic conditions who have also experienced relatively recent hospitalizations are among the highest-risk beneficiaries.
Beneficiaries who were also eligible for Medicaid (dually eligible)	Dually eligible beneficiaries typically have higher health care utilization and higher costs than those who are not dually eligible.

[a] As with the beneficiary characteristics, the conditions used to define these subgroups are measured directly before the start of CPC+ (for the intervention-period observations) or directly before the start of the yearlong baseline period (for the baseline-period observations).). We exclude new enrollees from these subgroup analyses since their HCC scores and HCCs are based on demographic characteristics only and we cannot reliably assess their actual risk status in the absence of claims data.

Table 5.D.6 *(continued)*

[b] CMS's approach for identifying Tier 4 and Tier 5 high-risk beneficiaries differs from the approach we used in the impact analysis. Specifically, CMS includes the entire Medicare population in each CPC+ region, and uses the region-specific distribution of HCC scores to identify the 75th and 90th percentiles of the distribution. For the impact analysis, we identified the high-risk HCC cutoffs by looking at the distribution of 2016 HCC scores among Medicare beneficiaries in our baseline sample, and across all regions. Also, CMS identifies Tier 5 patients for Track 2 only, whereas we also ran subgroup analyses for Tier 5 beneficiaries in Track 1 practices.

[c] Roehrig, Charles. "Mental Disorders Top the List of the Most Costly Conditions in the United States: $201 Billion." *Health Affairs,* vol. 35, no. 6, 2016, pp. 1130–1135.

[d] The 12 frequently occurring chronic conditions we used in this definition are: congestive heart failure, chronic obstructive pulmonary disease, acute myocardial infarction, ischemic heart disease, diabetes, metastatic cancer and acute leukemia, stroke, depression, dementia, atrial fibrillation, rheumatoid arthritis or osteoarthritis, and chronic kidney disease. These chronic conditions are measured by HCCs (or combinations of HCCs) except for dementia, which is measured using the indicator for Alzheimer's disease or dementia from the Chronic Conditions Warehouse, and chronic kidney disease, which is measured using the original reason for entitlement to Medicare being ESRD.

CMS = Centers for Medicare & Medicaid Services; ESRD= end-stage renal disease; HCC = hierarchical condition category.

For all subgroup analyses, we checked the percentage of the CPC+ and comparison group that belonged to each subgroup category to ensure similarity in the percentages across the two groups. We also examined key baseline characteristics we used in matching, such as Medicare expenditures, acute care hospitalizations, and outpatient ED visits to check the similarity of the CPC+ and comparison group within each subgroup.

The following steps describe the process we used to check for differences in impact estimates by practice subgroup:

1. To test for significant differences across all subgroups defined by practice characteristics, we conducted a joint test of significance across all subgroups to determine whether there was any evidence of variation in impacts across practice subgroups in general. This approach helped minimize the number of tests checking for statistically significant differences across subgroups and reduced the likelihood of erroneously concluding that a chance difference across subgroups was meaningful. If we were unable to reject the null hypothesis in this test of no difference across the range of subgroups defined by all practice characteristics, we considered any evidence of differences across subgroups defined by a *single* characteristic to be weak.
2. For subgroups defined by any particular practice characteristic, we tested whether the impact estimates for the subgroups defined by the same characteristic were significantly different from one another:[114]
   a. If this test did not show a statistically significant difference, we concluded that there was no meaningful difference in impact estimates for subgroups defined by that particular practice characteristic.

[114] We conducted the test for statistically significant difference across subgroups defined by a single characteristic, even if the null hypothesis in the joint significance test was not rejected—that is, even if the evidence for variation in impact estimates across subgroups was weak from the joint test of significance across all subgroups. If the joint test across all subgroups is not statistically significant, we would more cautiously interpret any statistically significant difference between subgroups defined by a single characteristic.

b. Only if this test showed a statistically significant difference ($p < 0.10$) did we test for whether the impact estimate *within* the subgroup was significantly different from zero.

For example, for the subgroup defined by prior experience with primary care transformation, we first tested whether the impact estimates for practices that participated in prior transformation activities and those that did not were significantly different from one another. If the *p*-value from this test did not lead us to reject the hypothesis that the impacts were similar, we concluded that impacts did not vary meaningfully across subgroups defined by prior experience with primary care transformation. On the other hand, if this test showed a statistically significant difference ($p < 0.10$), we then tested whether the impact estimate within each subgroup—practices that participated in prior transformation activities and those that did not—was significantly different from zero.

As noted above, for subgroups defined by beneficiary characteristics, we estimated a separate regression for each subgroup of interest. Consequently, we did only Step 2 of the above process for beneficiary subgroup analyses.

5.D.8. Sensitivity tests

We calculated alternative estimates as robustness checks of the main impact estimates on Medicare expenditures. Specifically, we assessed the sensitivity of our results to changes in the following key elements of our estimation approach: (1) definition of the beneficiary sample, (2) modeling specification, and (3) length of the baseline period.. We also conducted a sensitivity test for readmissions by defining the outcome at the beneficiary level instead of at the index discharge level. We describe the motivation for each sensitivity test in Table 5.D.7.

When results from the sensitivity tests were inconsistent with results from our main analysis, we incorporated that information into our discussion and interpretation of findings. We assessed the conditions under which the alternative estimates would be preferred, and the likelihood that those conditions were met.

Table 5.D.7. Sensitivity tests

Sensitivity test	Motivation
Altering the composition of the beneficiary sample	
Use sample of beneficiaries attributed during the intervention period (who are also attributed during the baseline period) as the baseline sample.	Helps to adjust for changes in sample composition between baseline and follow-up that may differ for the intervention and matched comparison groups.
Examine impacts for the subset of Medicare beneficiaries attributed in the first quarter of the period (that is, the first quarter of the baseline period and the first quarter of the intervention).	Removes effects that may be due to differences over time in sample additions between the intervention and comparison groups. This might occur if, for example: (1) different types of beneficiaries are attracted to receive care at CPC+ practices than at comparison practices, (2) CPC+ and comparison practitioners have incentives to retain or dismiss certain types of patients, or (3) a higher proportion of beneficiaries are attributed to the CPC+ than comparison practices over time via Annual Wellness Visits.

Table 5.D.7 ***(continued)***

Sensitivity test	Motivation
Instead of following an intent-to-treat (ITT) approach to defining the beneficiary sample (once attributed, beneficiaries stay in the sample for the rest of the baseline or intervention period), allow beneficiaries to drop out of the sample, if they no longer meet attribution requirements.	Assesses whether the ITT approach tends to attenuate true effects by retaining beneficiaries in the intervention group who are no longer seen by CPC+ practices.
Altering the modeling specification	
For analysis of expenditures, use a generalized linear model with log link.	Accounts for skewed expenditure distribution.
Log-transform the expenditures variable (generating impact estimates in percentage terms).	Reduces influence of high-cost cases; accounts for skewed expenditure distribution.
Trim expenditures at 98th percentile.	Reduces influence of high-cost cases.
Use a triple-differences model and include non-participating practices in CPC+ regions and unselected practices in comparison regions in the analytic sample.[a]	Accounts for regional shocks that might affect CPC+ and comparison regions differently (see Appendix 5.G for details).
Altering length of baseline period	
Use two instead of one pre-intervention years in the baseline period.	Tests whether impact estimates are sensitive to using a longer baseline period and whether there are differences in trends prior to CPC+ for CPC+ and comparison practices.
Definition of outcome measures	
Examine impacts on a beneficiary-level readmission outcome, defined as the probability of being admitted and readmitted during a year.	Removes concerns about possible endogeneity in analysis of readmissions, which can arise if CPC+ alters the probability of an index admission. In that case, the analysis of the discharge-level readmission measure would be biased, because CPC+ may have prevented hospitalizations that would have been at lower relative risk of a readmission.

[a] We will use two years of intervention-period data for the triple differences model and compare the results with estimates for the same time period from the CPC+ evaluation second annual report (Anglin et al. 2020).

5.D.9. Exploratory analyses

As an exploratory analysis, we also estimated the long-term impact of primary care transformation on expenditures and service utilization. For this analysis, we used the CPC Classic baseline year (October 2011–September 2012). Since most CPC Classic practices are participating in CPC+, this analysis approximates the combined effect of participation in CPC Classic and CPC+ (see Appendix 5.F for details).

5.E. Participation in other initiatives

In this Appendix, we quantify how participation in other initiatives differs between CPC+ and comparison practices and how this participation shifted from the baseline period to the first three program years of CPC+ for both research groups.

CPC+ is taking place at the same time as many other initiatives that aim to improve the quality and value of medical care. CPC+ practices are allowed to participate in some, but not all, of these initiatives; therefore, we expect comparison practices to participate in some initiatives—such as billing for chronic care management (CCM) services—at higher rates than the CPC+ practices. Higher participation rates among comparison practices than among CPC+ practices will not bias our main impact estimates, because we assume that the comparison practices represent the accurate counterfactual for CPC+ practices had CPC+ not existed (that is, CPC+ practices might have participated in other initiatives at higher rates had CPC+ not existed). At the same time, differences in participation could potentially lead to smaller overall effects of CPC+ than we would observe if some or all of the other initiatives did not exist. This weakening of effects would occur if the other initiatives duplicate some of the incentives and supports provided through CPC+ and these incentives and supports lead to better outcomes. Since the primary concern is whether participation in other initiatives changed differentially for CPC+ and comparison practices between the baseline and intervention periods, we used a difference-in-differences strategy, when possible, to examine changes in participation over time between the two groups.

We analyzed participation in five broad types of CMS initiatives that we were able to measure participation in: (1) care management services, (2) value-based purchasing models, (3) primary care transformation initiatives, (4) bundled payment initiatives, and (5) insurer-sponsored initiatives. In Table 5.E.1, we list the specific initiatives we examined within these five broad types, the data source, the definition of a beneficiary being exposed to the initiative, and whether CPC+ practices (or their CMS-attributed Medicare fee-for-service [FFS] beneficiaries[115]) could participate in these initiatives during the periods we study.

[115] We report whether CMS-attributed Medicare FFS beneficiaries could participate in the initiative to provide context on the level of participation expected for the CPC+ group. However, later we measure participation using the intent-to-treat evaluation sample of beneficiaries to ensure comparability between the CPC+ and comparison groups.

Table 5.E.1. Potential participation and our sample definition for participation in other initatives

Type of initiative	Name of initiatives	Could active CPC+ practices or their CMS-attributed Medicare beneficiaries participate…		Data source	Definition of a beneficiary being exposed to the initiative
		During baseline period?	During intervention period?		
Medicare FFS Care Management Charges	Chronic Care Management	Yes	No	Medicare FFS physician and outpatient claims	Beneficiary's physician billed at least one of these care management services in the year
	Transitional Care Management	Yes	Yes		
	Other care management[a]	Yes	Yes		
Other Medicare FFS value-based purchasing models	Medicare Shared Savings Program	Yes	Yes	CMS Master Data Management System	Beneficiary's assigned practice was in the initiative in the year,[b] or beneficiary was attributed to the initiative in the year
	Next Generation (Next Gen) ACO	No[c]	No[c]		
Other primary care transformation initiatives	Transforming Clinical Practice Initiative	Yes	No	CMS rosters	Beneficiary's assigned practice was in the initiative during the year[b]
	State Innovation Models	Yes	Yes	CPC+ practice survey[d]	Beneficiary's assigned practice responded that it participated in the initiative on the CPC+ practice survey
	Medicaid Health Home	Yes	Yes		
	Health Care Innovation Award	Yes	Yes		
	State or community-based Quality Improvement initiatives	Yes	Yes		
Bundled Payment Initiatives	Bundled Payment for Care Improvement	Yes	Yes	Non-Claims-Based Payment File[e]	Beneficiary had at least one payment for a covered service in the year
Insurer- sponsored initiatives	Initiatives linking payment to performance or value	Yes	Yes	CPC+ practice survey[d]	Beneficiary's assigned practice responded that it participated in the initiative on the CPC+ practice survey

Notes: In addition to initiatives listed above, we explored participation in the following initiatives: Accountable Health Communities Model, Community-Based Care Transition, Comprehensive Joint Replacement, Oncology Care Model, Independence at Home, Financial Alignment Initiative Demonstration for Medicare-Medicaid Enrollees, Comprehensive ESRD Care, and Psychiatric Collaborative Care Management, and General Behavioral Health Integration. We did not include results for these initiatives

Table 5.E.1. ***(continued)***

because participation rates were less than 1 percent in all cases, so there was little potential for either interaction effects with CPC+ or for potentially confounding the impacts of CPC+.

[a] This includes the following types of procedure codes: physician supervision of a Home Health Agency patient, where the patient is not present; physician supervision of hospice patient, where the patient is not present; Psychiatric Collaborative Care Management; cognitive and functional assessment for a patient with cognitive impairment; General Care Management Services for use by RHCs and FQHCs; Psychiatric Collaborative Care Management for use by RHCs and FQHCs; and advance care planning.

[b] We define a practice as being in the initiative if any of its practitioners were in the initiative.

[c] To be consistent with baseline matching, where SSP and Next Gen participation were defined as participating as of January 1, 2017, we define baseline participation for SSP and Next Gen as participating as of January 1, 2017, CPC+ PY 1 participation as participating as of January 1, 2018, CPC+ PY 2 participation as participating as of January 1, 2019, and CPC+ PY 3 participation as of January 1, 2020. CMS did not permit active CPC+ practices to participate in Next Gen as of January 1, 2017.

[d] The PY 1 practice survey collected information on participation in initiatives for the first year of CPC+, as practices responded to surveys in the spring/summer of 2017, so we do not have baseline data. In addition, the PY 2 practice survey was only fielded to CPC+ practices, so we do not have comparison practice responses for PY 2.

[e] When this report was written, the non-claims-based payment file had a complete set of payments for episodes through the first two program years of CPC+ but not for the third program year..

CMS = Centers for Medicare & Medicaid Services; ESRD = end-stage renal disease; FFS = fee-for-service; FQHC = Federally Qualified Health Center; PY = Program Year; RHC = Rural Health Clinic; SSP = Medicare Shared Savings Program.

In the rest of this Appendix, we present the key takeaways of the results (Section 1), describe the methods used (Section 2), and discuss the results in greater detail for CPC+ practices and their matched comparison practices (Section 3). We then discuss the implications of the results for the impact analyses (Section 4) and preview upcoming initiatives that we plan to track in future reports (Section 5).

5.E.1. Key takeaways

- In each of the first three program years, both CPC+ and comparison practices continued to have high participation in the Medicare Shared Savings Program (SSP)—around 50 percent.
- Some other primary care transformation initiatives, such as the State Innovation Model (SIM), Medicaid Health Home, and state or community-based quality improvement (QI) initiatives, as well as insurer-sponsored programs, also had high participation ranging from 30 to 80 percent.
- In all other initiatives, participation was low (each less than 15 percent).
- For most initiatives, in each of the first three program years, changes in participation of CPC+ practices were similar to those of comparison practices, which suggests that differential contamination of initiatives between the CPC+ and comparison groups is unlikely to influence the impact estimates.
- In SSP, changes in participation of CPC+ practices differed substantially from those of comparison practices. Reflecting how the evaluation selected comparison practices, CPC+ and comparison practices had less than a 1 percentage point difference in SSP participation at baseline. However, the comparison practices were more likely to participate in SSP than the CPC+ practices by PY 3 (13.6 percentage points in Track 1 and 9.4 in Track 2).
    - These results suggest that more CPC+ practices would choose to participate in SSP (which is an established CMS program) if CPC+ did not exist.
    - If SSP encourages types of changes in the comparison group similar to those occurring in the CPC+ group, and the changes improve outcomes, we may observe only small effects of CPC+ or none at all, even if the broader model of care transformation is indeed effective in improving quality or lowering costs.
    - The findings from the impact analysis for the SSP subgroup, which is defined based on SSP status at baseline only, should be interpreted with caution, because some practices in CPC+ and in the comparison group started or stopped participating in SSP after CPC+ began. Instead of interpreting the SSP subgroup results as the impact of CPC+ combined with SSP throughout the intervention period, they should be interpreted as the impact of *starting* CPC+ while participating in SSP.
- If we measure participation using the beneficiary MDM, we find that 47 percent of Track 1 CPC+ beneficiary-months were in SSP during the intervention, similar to the 49 percent of their comparison beneficiary-months in SSP. For Track 2, we find that 42 percent of CPC+ beneficiary-months were in SSP, while 46 percent of comparison beneficiary-months were in SSP. While CPC+ and comparison practices had more similar levels of beneficiary-level participation during the intervention than practitioner-level participation, there were larger differences between CPC+ and comparison practices' beneficiary-level participation at

baseline than practitioner-level participation, which leads there to be similar difference-in-difference results at the beneficiary and practitioner levels.

- For several other primary care transformation initiatives, such as the SIM, Medicaid Health Home, and state or community-based QI initiatives, there were large changes in participation that differed between CPC+ and comparison practices, when we examined participation in each of those initiatives individually. However, when we looked at whether a practice participated in at least one of these models, levels of participation and changes over time were similar for CPC+ and comparison practices.
- Participation was less than 1 percent in the baseline period and the first three program years among the CPC+ and comparison practices in both tracks for: Accountable Health Communities Model, Community-Based Care Transition, Comprehensive Joint Replacement, Oncology Care Model, Independence at Home, Financial Alignment Initiative Demonstration for Medicare-Medicaid Enrollees, Comprehensive ESRD Care, Psychiatric Collaborative Care Management, and General Behavioral Health Integration.

Below we describe additional key findings for CPC+ practices and their matched comparison practices over the first three program years for each type of initiative.

A. Medicare FFS care management charges

- Both CPC+ and comparison practices did not bill Medicare FFS care management codes for many patients and had similar, small increases from baseline to the first three program years of CPC+.
  - Both CPC+ practices and comparison practices billed a slightly higher proportion of high-risk patients for care management services than for all patients, but both sets of practices still had small and similar changes over time.

B. Other Medicare FFS value-based purchasing models

- Comparison practices increased their participation in Medicare FFS value-based purchasing models during the intervention period, while CPC+ practices either decreased their participation, or increased their participation by less than the comparison group depending on the track and specific initiative. Difference-in-difference estimates ranged from 2 to 13 percentage points, depending on the initiative and track.

C. Other primary care initiatives

- Reflecting CPC+ eligibility rules, CPC+ practices continued to have much lower participation in the Transforming Clinical Practice Initiative (TCPI) relative to the comparison group in PY 3.[116]

[116] Although CPC+ practices were technically unable to participate in TCPI during the CPC+ intervention period, we found low but non-zero participation rates among CPC+ practices (2.6 and 2.7 percent), which may be explained by belated withdrawals, differences between the IQVIA and CMS practitioner rosters, or the intent-to-treat approach, which continues to follow practices that no longer participate in CPC+.

- Over the three-year intervention period, the differences in self-reported participation between CPC+ and comparison practices increased for SIM, Medicaid Health Home, and state or community-based QI initiatives. However, some practices reported participating in initiatives that were not available in their regions, which suggests that self-reported participation is measured with error, and the results should be interpreted with caution.
  - CPC+ practices experienced a sizeable increase in self-reported participation in SIM, while comparison practices had a slight decline. At the same time, comparison practices increased their self-reported participation in Medicaid Health Home and state or community-based QI initiatives by more than CPC+ practices.

  When we examined whether practices participated in any of these three models, the changes over time were similar between CPC+ and comparison practices.

D. Bundled payment initiatives

- Medicare FFS beneficiaries in CPC+ practices had low participation in Bundled Payment for Care Improvement (BPCI) at baseline, and their participation decreased further in PY 2 (the most recent year of available data). The comparison group had similar rates and changes in participation as CPC+ beneficiaries.

E. Insurer-sponsored initiatives

- CPC+ and comparison practices had high self-reported participation in insurer-sponsored initiatives, with a slightly higher increase for CPC+ than comparison practices in PY 3, but the differences were small. While there is no direct evidence that practices misreported self-reported participation in insurer-sponsored initiatives, given that they misreported self-reported participation in other initiatives, it is possible that participation in insurer-sponsored initiatives may also be inaccurate.

5.E.2. Methods

A. Measuring participation in each initiative

Overview. Although CMS provides initiatives at the practice, practitioner, and beneficiary levels, we report participation in all initiatives as the percentage of beneficiaries in each group—CPC+ and comparison—who are exposed to that initiative, separately for Track 1 and Track 2 practices. We chose to measure participation at the beneficiary level primarily because our impact estimates are at the beneficiary level. To the extent that participation in other initiatives affected the impact findings, this would likely depend on the number of beneficiaries affected by

such participation. Also, reporting participation at the beneficiary level for all initiatives enables us to keep the measurements consistent across initiatives in this participation analysis.[117]

Beneficiary-level initiatives. We measured provision of Medicare FFS care management services as the percentage of beneficiaries whose practitioner billed for at least one of those services in that year. We also looked at participation in Medicare FFS care management services for high-risk beneficiaries, because care management services are targeted to high-risk beneficiaries. We measured participation in BPCI as the percentage of beneficiaries who were included in the non-claims-based payment file for BPCI episodes.

Practitioner-level initiatives. Since Medicare FFS value-based purchasing models and TCPI report practitioners' participation in the initiatives, as opposed to practice sites participating, we first used the IQVIA practitioner roster to roll practitioner participation up to the practice site level by counting a practice as participating if any practitioner in the practice was reported as participating.[118] We then weighted practice participation by the number of Medicare beneficiaries assigned to that practice in the baseline so we can interpret the results as the number of beneficiaries who were participating in the initiative.[119] Inferring beneficiary participation from practitioner participation tends to inflate participation because a practice and all of its assigned beneficiaries are determined to be participating in the model as long as the practice had at least one participating practitioner.[120] As a robustness check, we also used the beneficiary-level master data management (MDM) system to directly measure beneficiary participation (rather than inferring beneficiary participation from practitioner-level participation) in Medicare FFS value-based purchasing models.

We measured participation in Medicare FFS value-based purchasing models for each program year as of January 1 of the following calendar year, which is consistent with how we defined SSP participation at baseline for the main impacts, which was as of January 1, 2017. For example, PY 1 SSP and Next Gen participation was defined as of January 1, 2018. For all other initiatives, we measured participation in the respective program year.

[117] For some initiatives, like CCM, participation is inherently at the beneficiary level, since billing for CCM services occurs on a per-beneficiary basis. However, for other initiatives, like TCPI, Next Gen, and SSP, practices decide whether or not to participate, and we assume that all beneficiaries assigned to participating practices were affected. Also, we selected comparison practices based on baseline initiative participation in SSP weighted at the beneficiary level. Therefore, we assess the balance in CPC+ and comparison practices' SSP participation at that level.

[118] The MDM reports 90 percent of participation in SSP at the Tax Identification Number (TIN) level, and 10 percent at the NPI/TIN level. Since TINs are not unique at the practice level, we merged measures of participation of all practitioners to whom we assigned that TIN, and then rolled up participation to the practice level using the IQVIA practitioner roster.

[119] This is the same method that we used for comparison selection. That is, we first looked at practitioner-level participation in SSP or other initiatives and then rolled these measures up to the practice level. Then, we weighted by the number of beneficiaries in the practice in the baseline year.

[120] That is, practices in which some or all of the practitioners participated in a Medicare FFS value-based purchasing model would equally be considered as participating in the model.

Practice-level initiatives. Finally, for the SIM, Medicaid Health Home, Health Care Innovation Award (HCIA), state or community-based QI initiatives, and insurer-sponsored initiatives, we measured practice participation based on survey responses to the CPC+ practice survey. We restricted practices to those that responded to all waves of the CPC+ practice survey—all three waves for CPC+ practices and the first and third waves for comparison practices. This left 2,642 or 91 percent of the 2,888 CPC+ practices and 1,303 or 19 percent of the 6,921 comparison practices. We weighted participation using matching weights adjusted for survey nonresponse and the number of Medicare beneficiaries assigned to that practice during the baseline period. Since the weights are adjusted by the number of beneficiaries, we considered that all of the beneficiaries in the practice participated in the initiative if the practice participated, and that none of the beneficiaries in the practices participated in the initiative if the practice did not participate. This means we can interpret the results as the number of beneficiaries who were participating in the initiative.

Participation in these initiatives is self-reported, which may result in some inaccuracies. In fact, for the initiatives that are regionally based (i.e., SIM, Medicaid Health Home, and HCIA), we found that 19 to 42 percent of practices that reported they participated in the initiative were in regions where that initiative was not present, depending on the initiative. This suggests that self-reported participation should be interpreted with caution.

B. Analytic approach

Overview. To estimate difference-in-differences changes in participation in each initiative, comparing the CPC+ and comparison practices from the baseline year through PY 3 of CPC+, we followed a regression model similar to the one used for all claims-based beneficiary-level outcomes described in this report (see Chapter 5 in Peikes et al. 2021), but we did not include any additional regression covariates other than the difference-in-differences estimators. We did not include additional controls since the goal of the analysis was to understand the total, non-adjusted participation in initiatives.

Level of regressions. For the initiatives that had observations at the beneficiary level (that is, Medicare FFS care management, BPCI, and the Medicare FFS value-based purchasing models based on the beneficiary MDM), regressions were at the beneficiary level, and we used beneficiary-level matching weights. For all initiatives for which we rolled up participation to the practice level (that is, TCPI and the Medicare FFS value-based purchasing models based on the practitioner MDM) or were already at the practice level (that is, those measured by the practice survey—SIM, Medicaid Health Home, HCIA, state or community based QI initiatives, and insurer-sponsored initiatives), regressions were also run at the practice level. Because we used practice-level matching weights that weight practices by the number of beneficiaries in that practice during the baseline period, the results can be interpreted as the number of beneficiaries who were participating in the initiative.

Initiatives with incomplete data. For some programs (SIM, Medicaid Health Home, HCIA, state or community-based QI initiatives, and insurer-sponsored initiatives), we present the participation rates and the percentage point differences in each program year, but not the difference-in-differences changes because we did not have baseline information for these

initiatives. We present data through PY 2 for initiatives that ended after 2018 (HCIA) or did not have complete data available for 2019 (BPCI).

5.E.3. Results over the first three program years

Tables 5.E.2 and 5.E.3 report participation of beneficiaries in various initiatives by time period (baseline year and PY 1 through PY 3) for CPC+ practices and their comparison practices for Tracks 1 and 2, respectively. In these tables, dashes indicate a year in which we did not have data or in which the initiative was not active. For example, initiatives measured based on the CPC+ practice survey did not have data for the comparison group in PY 2, so the corresponding cells contain a dash. Figure 5.E.1 highlights the findings by plotting CPC+ and comparison group baseline period participation in initiatives for Track 1 and Track 2 practices, as well as the difference-in-differences estimates and 90 percent confidence intervals for PY 1 through PY 3 for initiatives with baseline data. For initiatives without baseline data, we plot the differences between CPC+ and comparison group in each program year.

Table 5.E.2. Participation in other initiatives by beneficiaries in CPC+ practices and comparison practices in the baseline and first three program years, Track 1

	Time period	Percentage of Medicare FFS beneficiaries exposed to the initiative: CPC+ group	Percentage of Medicare FFS beneficiaries exposed to the initiative: Comparison group	Percentage point difference	Percentage point difference-in-differences estimate (90% CI)
Type of initiative: Medicare FFS Care Management Charges					
Name of initiative					
Chronic Care Management (all beneficiaries)	Base	1.1	1.6	-0.5	n.a.
	PY 1	0.7	2.7	-2.0	-1.5*** (-1.8, -1.2)
	PY 2	1.1	2.9	-1.9	-1.4*** (-1.7, -1.1)
	PY 3	1.3	3.3	-2.0	-1.5*** (-1.8, -1.2)
Chronic Care Management (high-risk beneficiaries[a])	Base	2.0	2.6	-0.6	n.a.
	PY 1	1.4	4.4	-3.0	-2.4*** (-2.9, -1.9)
	PY 2	2.1	5.1	-3.0	-2.4*** (-2.8, -1.9)
	PY 3	2.6	5.9	-3.3	-2.7*** (-3.2, -2.2)
Transitional Care Management (all beneficiaries)	Base	3.7	3.4	0.3	n.a.
	PY 1	4.7	3.9	0.8	0.5*** (0.4, 0.7)
	PY 2	5.4	4.3	1.2	0.9*** (0.6, 1.1)
	PY 3	5.8	4.7	1.1	0.8*** (0.5, 1.0)
Transitional Care Management (high-risk beneficiaries[a])	Base	7.8	7.2	0.6	n.a.
	PY 1	9.7	8.2	1.5	0.9*** (0.6, 1.2)
	PY 2	10.8	8.7	2.1	1.5*** (1.0, 2.0)
	PY 3	11.7	9.6	2.1	1.5*** (1.0, 2.0)
Other care management[b] (all beneficiaries)	Base	2.9	2.0	0.9	n.a.
	PY 1	3.7	3.3	0.4	-0.5* (-0.9, 0.0)
	PY 2	4.2	4.1	0.0	-0.8*** (-1.4, -0.3)
	PY 3	4.8	5.1	-0.3	-1.2*** (-1.7, -0.6)
Other care management[b] (high-risk beneficiaries[a])	Base	3.8	3.2	0.6	n.a.
	PY 1	5.2	5.0	0.2	-0.5 (-1.0, 0.1)
	PY 2	6.1	6.3	-0.3	-0.9** (-1.5, -0.3)
	PY 3	7.4	7.9	-0.5	-1.1*** (-1.7, -0.5)
Combined measure of care management services					
Any care management[c] (all beneficiaries)	Base	7.3	6.5	0.8	n.a.
	PY 1	8.6	8.8	-0.3	-1.0*** (-1.5, -0.5)
	PY 2	9.9	10.0	-0.1	-0.9** (-1.5, -0.3)
	PY 3	11.0	11.5	-0.6	-1.3*** (-2.0, -0.7)
Type of initiative: Other Medicare FFS value-based purchasing models[d]					
Name of initiative					
Medicare Shared Savings Program Practitioner-level MDM[e]	Base	51.4	52.3	-0.9	n.a.
	PY 1	53.2	58.7	-5.5	-4.6*** (-7.5, -1.7)
	PY 2	48.7	55.8	-7.1	-6.1*** (-9.7, -2.6)
	PY 3	45.1	58.7	-13.6	-12.7*** (-16.6, -8.8)
Medicare Shared Savings Program Beneficiary-level MDM[f]	Base	48.8	44.2	4.7	n.a.
	PY 1	51.5	50.1	1.4	-3.2** (-5.6, -0.8)
	PY 2	46.1	46.5	-0.4	-5.0*** (-7.9, -2.2)
	PY 3	44.5	50.9	-6.4	-11.0*** (-14.2, -7.9)
Next Generation or Pioneer ACO Practitioner-level MDM[g]	Base	0.0	0.0	0.0	n.a.
	PY 1	0.2	3.2	-3.0	-3.0*** (-3.7, -2.2)
	PY 2	0.5	4.4	-3.9	-3.9*** (-5.1, -2.6)
	PY 3	0.2	3.9	-3.7	-3.7*** (-5.0, -2.5)

Table 5.E.2. (continued)

	Time period	Percentage of Medicare FFS beneficiaries exposed to the initiative: CPC+ group	Percentage of Medicare FFS beneficiaries exposed to the initiative: Comparison group	Percentage point difference	Percentage point difference-in-differences estimate (90% CI)
Next Generation or Pioneer ACO Beneficiary-level MDM[f]	Base	0.0	0.0	0.0	n.a.
	PY 1	0.3	3.0	-2.8	-2.8*** (-3.4, -2.2)
	PY 2	0.4	3.9	-3.6	-3.6*** (-4.4, -2.7)
	PY 3	0.4	3.6	-3.2	-3.2*** (-4.0, -2.3)
Type of initiative: Other primary care transformation initiatives					
Name of initiative					
Transforming Clinical Practice Initiative	Base	10.9	10.8	0.1	n.a.
	PY 1	10.3[h]	12.2	-1.8	-2.0** (-3.6, -0.3)
	PY 2	2.6[h]	10.5	-7.9	-8.0*** (-10.5, -5.5)
	PY 3	2.7[h]	7.0	-4.4	-4.5*** (-7.3, -1.6)
State Innovation Models[i]	Base	-	-	-	n.a.
	PY 1	11.1	14.2	-3.2	n.a.
	PY 2	27.2	-	-	n.a.
	PY 3	29.6	9.1	20.5	n.a.
Medicaid Health Home[i]	Base	-	-	-	n.a.
	PY 1	11.4	20.6	-9.2	n.a.
	PY 2	6.6	-	-	n.a.
	PY 3	9.7	25.9	-16.2	n.a.
Health Care Innovation Award[i]	Base	-	-	-	n.a.
	PY 1	3.6	17.7	-14.1	n.a.
	PY 2	4.7	-	-	n.a.
	PY 3	-	-	-	n.a.
State or community-based QI initiatives[i]	Base	-	-	-	n.a.
	PY 1	12.8	24.9	-12.2	n.a.
	PY 2	17.6	-	-	n.a.
	PY 3	21.4	40.6	-19.3	n.a.
Combined measure of other Medicare FFS value-based purchasing models and primary care transformation initiatives					
Participation in Next Generation, Medicare Shared Savings Program, or Transforming Clinical Practice Initiative	Base	59.3	61.1	-1.8	n.a.
	PY 1	60.5	69.5	-8.9	-7.2*** (-10.1, -4.3)
	PY 2	51.4	67.2	-15.7	-14.0*** (-18.0, -9.9)
	PY 3	47.8	66.8	-19.0	-17.2*** (-21.6, -12.8)
Participation in State Innovation Models, Medicaid Health Home, and state or community-based QI initiatives	Base	-	-	-	n.a.
	PY 1	28.7	36.5	-7.8	n.a.
	PY 2	37.6	-	-	n.a.
	PY 3	43.0	44.6	-1.5	n.a.
Type of initiative: Bundled payment initiatives					
Name of initiative					
Bundled Payment for Care Improvement[j]	Base	1.7	1.7	-0.1	n.a.
	PY 1	1.3	1.4	-0.1	0.0 (-0.1, 0.0)
	PY 2	0.9	0.9	-0.1	0.0 (-0.1, 0.1)
	PY 3	-	-	-	-
Type of Initiative: Insured-sponsored initiatives					
Name of initiative					
Initiatives linking payment to performance or value[i]	Base	-	-	-	n.a.
	PY 1	75.4	68.3	7.1	n.a.
	PY 2	78.6	-	-	n.a.
	PY 3	83.0	73.3	9.7	n.a.

Source: Analysis of Medicare FFS claims for 2016 through 2019; MDM extracts from January 27, 2017, February 23, 2018, February 26, 2019, and February 28, 2020; CMS January 2017, 2018, 2019, and 2020 TCPI rosters; and the non-claims-based payment extract from December 4, 2019; CPC+ practice surveys PY 1 through PY 3.

Table 5.E.2. (continued)

Notes: We report participation in initiatives as the percentage of beneficiaries who were exposed to the initiative in each period in each group (Track 1 CPC+ or comparison practices), with comparison practices weighted using matching weights. Initiatives that are not at the beneficiary level are weighted by the number of beneficiaries assigned to that practice during the baseline period, so that the results can also be interpreted as the percentage of beneficiaries who were participating in the initiative. We calculated the difference in participation in a given year between Track 1 CPC+ and comparison practices as the percentage point difference. We calculated the difference-in-differences estimate as the difference in percentage participation between CPC+ and comparison practices in the relevant program period (PY 1 through PY 3), minus the difference in the baseline period. The difference-in-differences estimate is in percentage point units. We estimated 90 percent confidence intervals calculating standard errors using linear regression and clustering at the practice level. Dashes (-) indicate that participation or difference values are not available, due to limitations of the data source. n.a. indicates that the difference-in-differences estimate is not applicable, because we do not have data for the baseline period. 0.0 indicates that <0.05 percent of beneficiaries participated in the initiative. Note that the percentage point difference and the percentage point difference-in-differences estimate shown may differ from the corresponding calculations based on the percentages in the cells due to rounding. For Medicare FFS Care Management Charge initiatives, the population we used to calculate participation is indicated under the name of the initiative in parentheses. For the rest of the initiatives, we used the full population.

*/**/*** Significantly different from zero at the 0.10/0.05/0.01 level, two-tailed test.

[a] We defined high-risk beneficiaries as those with an HCC score greater than the 75th percentile of the distribution of HCC scores among assigned beneficiaries within their track. For baseline, we calculated HCC scores from 2015 claims. For the intervention period, we calculate HCC scores from 2016 claims.

[b] This includes CPT codes G0181 (physician supervision of a Home Health Agency patient, patient not present), G0182 (physician supervision of hospice patient, patient not present), G0502-G0504 and 99492-99494 (Collaborative Care Model), G0505 and 99483 (cognitive and function assessment for patient with cognitive impairment), G0511 (General Care Management Services for use by RHCs and FQHCs), G0512 (psychiatric collaborative care model for use by RHCs and FQHCs), and 99497 (advance care planning). These codes capture some type of care management but are not chronic care management or transitional care management codes.

[c] This includes beneficiaries whose physicians billed at least one chronic care management, transitional care management, or other care management service.

[d] The date used to define whether a practice participated in SSP and Next Gen at baseline was January 1, 2017 (consistent with the date used to define participation in comparison group selection). Accordingly, we defined the PY 1 participation value as participation as of January 1, 2018, the PY 2 participation value as participation as of January 1, 2019, and the PY 3 participation value as participation as of January 1, 2020.

[e] In the practitioner MDM, 91 percent of participation in SSP is counted at the TIN level, while the remaining 9 percent is at the NPI-TIN level. If an NPI was listed in the practitioner MDM, we counted all practices with an NPI-TIN listed in that year as participating in SSP. If the NPI was missing in the practitioner MDM, we counted all practices with the TIN listed in that year as participating in SSP.

[f] In the beneficiary MDM, participation is at the beneficiary level and we measured participation as the fraction of beneficiaries in each sample (i.e., CPC+ and comparison group practices) who participated in the initiative. Because inferring beneficiary participation from practitioner participation tends to inflate participation, we separately measured participation based on the beneficiary MDM as a robustness check for the measure of participation based on the practitioner MDM.

[g] In the practitioner MDM, participation in Next Gen is at the NPI-TIN level. We counted all practices with an NPI-TIN listed in that year as participating in Next Gen.

[h] CPC+ practices were technically unable to participate in TCPI during the CPC+ intervention period; however, we found that 10.3 percent of CPC+ practices did not withdraw from TCPI before the beginning of 2017. This is likely because the practices did not immediately initiate withdrawal. For PY 2 and PY 3, we also found lower but non-zero participation rates among CPC+ practices (2.6 and 2.7 percent), which may be explained by additional belated withdrawals, differences between the IQVIA and CMS practitioner rosters, or the intent-to-treat approach, which continues to follow practices that no longer participate in CPC+.

[i] We measured participation using the CPC+ practice surveys. Participation was weighted using nonresponse and matching weights that weight practices in proportion to their number of beneficiaries. The practice survey was not fielded during the baseline period, or for comparison practices during PY 2. Only practices that responded to all waves of the survey (in the case of CPC+ practices, all three waves, and in the case of comparison practices, the first and third waves) were included in the analysis. HCIA ended after 2018.

[j] We measured participation based on the non-claims-based payment extract. Data for 2019 (i.e., PY 3) were incomplete for BPCI. We expect final data to be available in early 2021.

ACO = Accountable Care Organization; BPCI = Bundled Payment for Care Improvement; CI = confidence interval; CMS = Centers for Medicare & Medicaid Services; CPT = Current Procedural Terminology; FFS = fee-for-service; FQHC = Federally Qualified Health Center; HCC = hierarchical condition category; HCIA = Health Care Innovation Award; MDM = CMS Master Data Management System; n.a. = not applicable; NPI = National Provider Identifier; PY = Program Year; QI = quality improvement; RHC = Rural Health Clinic; SSP = Medicare Shared Savings Program; TCPI = Transforming Clinical Practice Initiative; TIN = Taxpayer Identification Number.

Table 5.E.3. Participation in other initiatives by beneficiaries in CPC+ practices and comparison practices in the baseline and first three program years, Track 2

	Time period	Percentage of Medicare FFS beneficiaries exposed to the initiative		Percentage point difference	Percentage point difference-in-differences estimate (90% CI)
		CPC+ group	Comparison group		
Type of initiative: Medicare FFS Care Management Charges					
Name of initiative					
Chronic Care Management (all beneficiaries)	Base	1.5	2.0	-0.5	n.a.
	PY 1	0.7	2.5	-1.8	-1.3*** (-1.7, -1.0)
	PY 2	1.2	3.0	-1.8	-1.3*** (-1.7, -0.9)
	PY 3	1.4	3.5	-2.2	-1.6*** (-2.0, -1.3)
Chronic Care Management (high-risk beneficiaries[a])	Base	2.7	3.4	-0.7	n.a.
	PY 1	1.4	4.3	-2.9	-2.2*** (-2.8, -1.5)
	PY 2	2.3	5.3	-3.0	-2.3*** (-2.9, -1.6)
	PY 3	2.6	6.2	-3.6	-2.9*** (-3.5, -2.2)
Transitional Care Management (all beneficiaries)	Base	4.8	3.5	1.4	n.a.
	PY 1	5.4	3.9	1.5	0.1 (0.0, 0.3)
	PY 2	5.9	4.3	1.6	0.2** (0.1, 0.4)
	PY 3	6.2	4.8	1.4	0.1 (-0.2, 0.3)
Transitional Care Management (high-risk beneficiaries[a])	Base	10.1	7.4	2.8	n.a.
	PY 1	11.2	8.2	3.1	0.3 (0.0, 0.6)
	PY 2	11.9	8.7	3.2	0.4 (0.0, 0.8)
	PY 3	12.4	9.6	2.8	0.0 (-0.4, 0.5)
Other care management[b] (all beneficiaries)	Base	2.8	2.3	0.5	n.a.
	PY 1	3.9	3.3	0.5	0.1 (-0.3, 0.4)
	PY 2	4.7	4.3	0.4	-0.1 (-0.7, 0.5)
	PY 3	5.6	5.0	0.7	0.2 (-0.5, 0.9)
Other care management[b] (high-risk beneficiaries[a])	Base	3.7	3.6	0.1	n.a.
	PY 1	5.2	4.9	0.3	0.2 (-0.3, 0.6)
	PY 2	6.5	6.3	0.3	0.2 (-0.5, 0.8)
	PY 3	8.4	7.7	0.7	0.6 (-0.1, 1.4)
Combined measure of care management services					
Any care management[c] (all beneficiaries)	Base	8.5	7.0	1.5	n.a.
	PY 1	9.4	8.8	0.6	-0.9*** (-1.4, -0.4)
	PY 2	10.9	10.3	0.6	-0.9** (-1.5, -0.2)
	PY 3	12.0	11.6	0.4	-1.1** (-1.9, -0.4)
Type of initiative: Other Medicare FFS value-based purchasing models[d]					
Name of initiative					
Medicare Shared Savings Program Practitioner-level MDM[e]	Base	44.2	44.2	0.0	n.a.
	PY 1	44.8	53.6	-8.7	-8.7*** (-11.8, -5.7)
	PY 2	41.6	51.7	-10.1	-10.1*** (-13.8, -6.4)
	PY 3	46.4	55.8	-9.4	-9.4*** (-13.7, -5.1)
Medicare Shared Savings Program Beneficiary-level MDM[f]	Base	41.2	38.1	3.1	n.a.
	PY 1	42.9	46.5	-3.6	-6.7*** (-9.4, -4.1)
	PY 2	39.6	43.4	-3.7	-6.9*** (-10.0, -3.7)
	PY 3	44.5	47.8	-3.3	-6.4*** (-9.8, -3.0)
Next Generation or Pioneer ACO Practitioner-level MDM[g]	Base	0.2	0.0	0.2	n.a.
	PY 1	1.1	3.0	-2.0	-2.1*** (-3.2, -1.0)
	PY 2	1.4	3.7	-2.3	-2.5*** (-3.8, -1.3)
	PY 3	1.2	3.1	-1.9	-2.1*** (-3.3, -0.9)

Table 5.E.3. ***(continued)***

	Time period	Percentage of Medicare FFS beneficiaries exposed to the initiative		Percentage point difference	Percentage point difference-in-differences estimate (90% CI)
		CPC+ group	Comparison group		
Next Generation or Pioneer ACO Beneficiary-level MDM[f]	Base	0.0	0.0	0.0	n.a.
	PY 1	1.1	3.0	-1.9	-1.9*** (-2.8, -0.9)
	PY 2	1.2	3.5	-2.3	-2.3*** (-3.3, -1.4)
	PY 3	1.1	3.0	-1.9	-1.9*** (-2.7, -1.0)
Type of initiative: Other primary care transformation initiatives					
Name of initiative					
Transforming Clinical Practice Initiative	Base	9.9	12.8	-2.9	n.a.
	PY 1	9.9[h]	14.5	-4.6	-1.7** (-3.0, -0.4)
	PY 2	2.0[h]	12.1	-10.1	-7.3*** (-9.3, -5.2)
	PY 3	2.0	7.4	-5.4	-2.5 (-5.2, 0.2)
State Innovation Models[i]	Base	-	-	-	n.a.
	PY 1	14.8	14.5	0.4	n.a.
	PY 2	41.5	-	-	n.a.
	PY 3	41.7	7.0	34.6	n.a.
Medicaid Health Home[i]	Base	-	-	-	n.a.
	PY 1	14.3	22.0	-7.7	n.a.
	PY 2	6.6	-	-	n.a.
	PY 3	7.8	26.7	-18.9	n.a.
Health Care Innovation Award[i]	Base	-	-	-	n.a.
	PY 1	5.1	20.3	-15.2	n.a.
	PY 2	3.6	-	-	n.a.
	PY 3	-	-	-	n.a.
State or community-based QI initiatives[i]	Base	-	-	-	n.a.
	PY 1	21.6	26.6	-5.0	n.a.
	PY 2	30.0	-	-	n.a.
	PY 3	35.6	46.4	-10.9	n.a.
Combined measure of other Medicare FFS value-based purchasing models and primary care transformation initiatives					
Participation in Medicare Shared Savings Program, Next Generation, or Transforming Clinical Practice Initiative	Base	52.9	55.8	-2.9	n.a.
	PY 1	53.4	66.8	-13.4	-10.5*** (-13.4, -7.5)
	PY 2	45.0	64.8	-19.8	-16.9*** (-20.7, -13.2)
	PY 3	48.9	64.3	-15.4	-12.5*** (-16.9, -8.2)
Participation in State Innovation Models, Medicaid Health Home, and state or community-based QI initiatives	Base	-	-	-	n.a.
	PY 1	39.7	37.0	2.7	n.a.
	PY 2	57.0	-	-	n.a.
	PY 3	57.6	50.8	6.9	n.a.
Type of initiative: Bundled payment initiatives					
Name of initiative					
Bundled Payment for Care Improvement[j]	Base	1.7	1.8	-0.1	n.a.
	PY 1	1.5	1.5	0.0	0.0 (0.0, 0.1)
	PY 2	1.1	1.0	0.0	0.1* (0.0, 0.2)
	PY 3	-	-	-	-
Type of initiative: Insurer-sponsored initiatives					
Name of initiative					
Initiatives linking payment to performance or value[i]	Base	-	-	-	n.a.
	PY 1	77.6	73.2	4.4	n.a.
	PY 2	82.0	-	-	n.a.
	PY 3	87.2	80.8	6.3	n.a.

Source: Analysis of Medicare FFS claims for 2016 through 2019; MDM extracts from January 27, 2017, February 23, 2018, February 26, 2019, and February 28, 2020; CMS January 2017, 2018, 2019, and 2020 TCPI rosters; and the non-claims-

Table 5.E.3. ***(continued)***

based payment extract from December 4, 2019; CMS July 2020 AHC beneficiary participation file; CPC+ practice surveys PY 1 through PY 3.

Notes: We report participation in initiatives as the percentage of beneficiaries who were exposed to the initiative in each period in each group (Track 2 CPC+ or comparison practices), with comparison practices weighted using matching weights. Initiatives that are not at the beneficiary level are weighted by the number of beneficiaries assigned to that practice in the baseline, so that the results can also be interpreted as the percentage of beneficiaries who were participating in the initiative. We calculated the difference in participation in a given year between Track 2 CPC+ and comparison practices as the percentage point difference. We calculated the difference-in-differences estimate as the difference in percentage participation between CPC+ and comparison practices in the relevant program period (PY 1 through PY 3), minus the difference in the baseline period. The difference-in-differences estimate is in percentage point units. We estimated 90 percent confidence intervals calculating standard errors using linear regression and clustering at the practice level. Dashes (-) indicate that participation or difference values are not available, due to limitations of the data source. n.a. indicates that the difference-in-differences estimate is not applicable, because we do not have data for the baseline period. 0.0 indicates that <0.05 percent of beneficiaries participated in the initiative. Note that the percentage point difference and the percentage point difference-in-differences estimate shown may differ from the corresponding calculations based on the percentages in the cells due to rounding. For Medicare FFS Care Management Charge initiatives, the beneficiary population we used to calculate participation is indicated under the name of the initiative in parentheses. For the rest of the initiatives, we used the full population.

*/**/*** Significantly different from zero at the 0.10/0.05/0.01 level, two-tailed test.

[a] We defined high-risk beneficiaries as those with an HCC score greater than the 75th percentile of the distribution of HCC scores among assigned beneficiaries within their track. For baseline, we calculated HCC scores from 2015 claims. For the intervention period, we calculate HCC scores from 2016 claims.

[b] This includes CPT codes G0181 (physician supervision of a Home Health Agency patient, patient not present), G0182 (physician supervision of hospice patient, patient not present), G0502-G0504 and 99492-99494 (Collaborative Care Model), G0505 and 99483 (cognitive and function assessment for patient with cognitive impairment), G0511 (General Care Management Services for use by RHCs and FQHCs), G0512 (psychiatric collaborative care model for use by RHCs and FQHCs), and 99497 (advance care planning). These codes capture some type of care management but are not chronic care management or transitional care management codes.

[c] This includes beneficiaries whose physicians billed at least one chronic care management, transitional care management, or other care management service.

[d] The date used to define whether a practice participated in SSP and Next Gen was January 1, 2017 (consistent with the date used to define participation in comparison group selection). Accordingly, we defined the PY 1 participation value as participation as of January 1, 2018, the PY 2 participation value as participation as of January 1, 2019, and the PY 3 participation value as participation as of January 1, 2020.

[e] In the practitioner MDM, 91 percent of participation in SSP is counted at the TIN level, while the remaining 9 percent is at the NPI-TIN level. If an NPI was listed in the practitioner MDM, we counted all practices with an NPI-TIN listed in that year as participating in SSP. If the NPI was missing in the practitioner MDM, we counted all practices with the TIN listed in that year as participating in SSP.

[f] In the beneficiary MDM, participation is at the beneficiary level and we measured participation as the fraction of beneficiaries in each sample (i.e., CPC+ and comparison group practices) who participated in the initiative. Because inferring beneficiary participation from practitioner participation tends to inflate participation, we separately measured participation based on the beneficiary MDM, as a robustness check for the measure of participation based on the practitioner MDM.

[g] In the practitioner MDM, participation in Next Gen is at the NPI-TIN level. We counted all practices with an NPI-TIN listed in that year as participating in Next Gen.

[h] CPC+ practices were technically unable to participate in TCPI during the CPC+ intervention period; however, we found that 10.3 percent of CPC+ practices did not withdraw from TCPI before the beginning of 2017. This is likely because the practices did not immediately initiate withdrawal. For PY 2 and PY 3, we also found lower but non-zero participation rates among CPC+ practices (2.6 and 2.7 percent), which may be explained by additional belated withdrawals, differences between the IQVIA and CMS practitioner rosters, or the intent-to-treat approach, which continues to follow practices that no longer participate in CPC+.

[i] We measured participation using the CPC+ practice surveys. Participation was weighted using nonresponse and matching weights that weight practices in proportion to their number of beneficiaries. The practice survey was not fielded during baseline, or for comparison practices during PY 2. Only practices that responded to all waves of the survey (in the case of CPC+ practices, all three waves, and in the case of comparison practices, the first and third waves) were included in the analysis. HCIA ended after 2018.

[j] We measured participation based on the non-claims-based payment extract. Data for 2019 (i.e., PY 3) were incomplete for BPCI. We expect final data to be available in early 2021.

ACO = Accountable Care Organization; BPCI = Bundled Payment for Care Improvement; CI = confidence interval; CMS = Centers for Medicare & Medicaid Services; CPT = Current Procedural Terminology; FFS = fee-for-service; FQHC = Federally Qualified Health Center; HCC = hierarchical condition category; HCIA = Health Care Innovation Award; MDM = CMS Master Data Management System; n.a. = not applicable; NPI = National Provider Identifier; PY = Program Year; QI = quality improvement; RHC = Rural Health Clinic; SSP = Medicare Shared Savings Program; TCPI = Transforming Clinical Practice Initiative; TIN = Taxpayer Identification Number.

Figure 5.E.1. Participation in other initiatives by beneficiaries in CPC+ practices and comparison practices in the baseline year and difference-in-differences estimates for the first three program years: Track 1 and Track 2

Participation in CMS initiatives was low for all initiatives except SSP, TCPI, SIM, state or community-based QI programs, and insurer-sponsored initiatives. Comparison practices had participation similar to that of CPC+ practices over time except for SSP, Next Gen, TCPI, Medicaid Health Home, and state or community-based QI initiatives, for which participation grew more among comparison practices than among CPC+ practices, and for SIM, for which participation grew more among CPC+ than comparison practices.

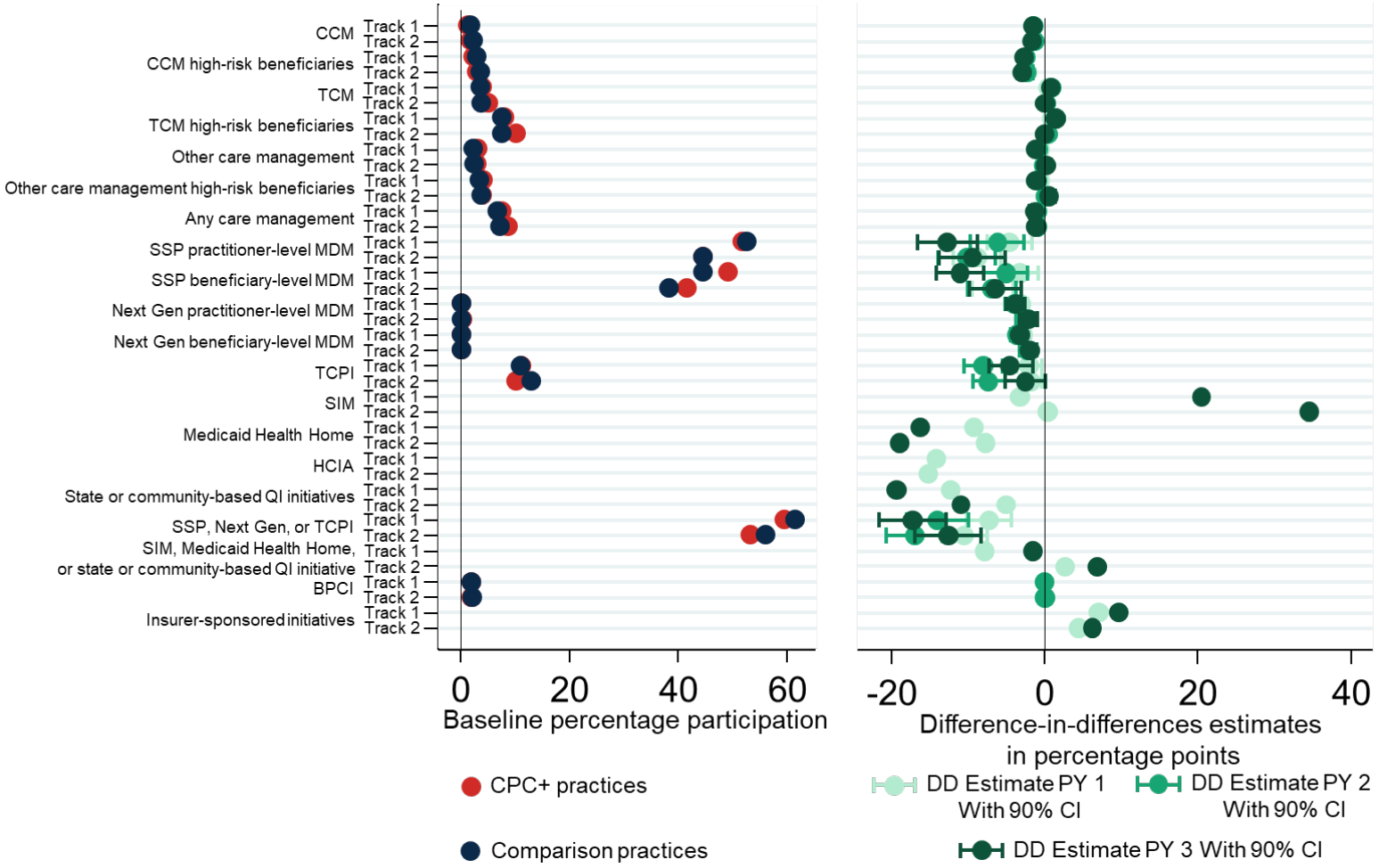


Figure 5.E.1. ***(continued)***

Source: Analysis of Medicare FFS claims for 2016 through 2019; MDM extracts from January 27, 2017, February 23, 2018, February 26, 2019, and February 28, 2020; CMS January 2017, 2018, 2019, and 2020 TCPI rosters; and the non-claims-based payment extract from December 4, 2019; CPC+ practice surveys PY 1 through PY 3.

Notes: We report participation in initiatives as the percentage of beneficiaries who were exposed to the initiative in each period in each group (CPC+ or comparison practices in each track), with comparison practices weighted using matching weights. We calculated the difference-in-differences estimate as the difference in percentage participation between CPC+ and comparison practices in the relevant program period (PY 1 through PY 3) minus the difference in the baseline period. The difference-in-differences estimate is in percentage point units. We estimated 90 percent confidence intervals calculating standard errors using linear regression and clustering at the practice level. For initiatives for which we did not have data at baseline (SIM, Medicaid Health Home, HCIA, state or community-based QI initiatives, and insurer-sponsored initiatives), we do not report baseline participation, and for the difference-in-differences estimate, we report the difference between CPC+ and comparison participation in that year, without confidence intervals.

AHC = Accountable Health Communities Model; BPCI = Bundled Payments for Care Improvement Initiative; CI = confidence interval; CMS = Centers for Medicare & Medicaid Services; CCM = chronic care management; DD = difference-in-differences; FFS = fee-for-service; HCIA = Health Care Innovation Award; MDM = CMS Master Data Management System; PY = Program Year; QI = Quality Improvement; SIM = State Innovation Models; SSP = Medicare Shared Savings Program; TCM = transitional care management; TCPI = Transforming Clinical Practice Initiative.

A. Billing for Medicare FFS care management services

There were low levels and small differences in billing for Medicare FFS care management services. Generally, we found low billing—and small differences in the relative change in the billing—for Medicare FFS care management services from the baseline period to the first three years of CPC+. Between 6.5 and 12.0 percent of all assigned[121] Medicare FFS beneficiaries had claims for at least one of the care management service types (transitional care management [TCM], CCM, or other care management) over the four years we examined. Between 0.7 and 6.2 percent of all assigned Medicare FFS beneficiaries, and between 1.4 and 12.4 percent of high-risk beneficiaries in each research group, had claims for a particular type of these services over the four years examined. Also, each group experienced small changes over time. From the baseline to first three years of CPC+, CPC+ practices had little change in their billing for CCM services, while comparison practices slightly increased their billing for CCM services; CPC+ practices also increased their billing for TCM services slightly more than comparison practices and, in the case of Track 1 practices, CPC+ practices increased their billing for other care management services[122] by slightly less than comparison practices. The proportion of beneficiaries who had any claims for care management services grew slightly for both CPC+ and comparison practices, but slightly more among comparison practices.

The difference-in-differences estimates are quantitatively small (less than 2 percentage points) due to low overall use of these types of claims throughout the observation period. We checked whether the low use could reflect that only a limited population of beneficiaries were eligible. However, even among high-risk beneficiaries, a relatively small proportion of such beneficiaries received these services and the difference in differences estimates remained less than 3 percentage points. This suggests that these small differences in use of these care management service billing codes between CPC+ and comparison beneficiaries will be unlikely to translate into substantial differences in Medicare expenditures, and thus unlikely to affect estimated impacts of CPC+.

[121] Assigned Medicare FFS beneficiaries are those who are in our intent-to-treat sample. Under our intent-to-treat approach, beneficiaries are assigned to the first CPC+ practice or comparison practice to which they were attributed in the baseline or follow-up period, even if they began seeing a different primary care practice more frequently later in that period (as long as they satisfy the eligibility criteria).

[122] This includes the following services: advance care planning, collaborative care model, cognition and functional assessment for patient with cognitive impairment, and physician supervision of hospice or home health patient where patient is not present. Note that the cognitive and functional assessment and collaborative care model billing codes were only active starting January 1, 2017.

B. Participation in other Medicare FFS value-based purchasing models

In the first three program years, participation in other Medicare FFS value-based purchasing models grew among comparison practices relative to CPC+ practices, with the gap in participation between the two groups either widening or remaining constant in each year.[123]

There was widespread participation in SSP and differences between CPC+ and comparison practices grew. Participation in SSP among both CPC+ and comparison practices was large, with roughly half of the practices participating each year. Participation in SSP started off similar at baseline for CPC+ and comparison practices, with less than a one percentage point difference in participation for both Track 1 and Track 2 practices. Over the three program years, participation in SSP among CPC+ practices declined or remained relatively constant while it increased for comparison practices. There were small differences in participation by track. For Track 1, participation in SSP among CPC+ practices declined by 6.3 percentage points between baseline and PY 3, while participation among comparison practices overall rose by 6.4 percentage points. Across all program years, the difference in participation between CPC+ and comparison practices widened for Track 1, resulting in a -12.7 difference-in-differences estimate. For Track 2, we observed a slightly different pattern: from baseline to PY 3, participation among CPC+ practices increased slightly by 2.2 percentage points, while participation among comparison practices increased by 11.6 percentage points, resulting in a -9.7 difference-in-differences estimate.

There were low levels of participation in Next Gen and differences between CPC+ and comparison practices grew. For Next Gen, participation grew among CPC+ and comparison practices in the first three years of CPC+, but the size of the growth was larger among comparison practices.[124] The CPC+ and comparison groups started out at close to 0 percent participation in the baseline period. This is because practices participating in CPC+ were not permitted to join Next Gen, and in the comparison selection process, we restricted potential comparison practices to those that were also not participating in Next Gen during the baseline period.[125] Participation among Track 1 CPC+ practices grew very little, to only 0.2 percent by PY 3 (because only CPC+ practices that stopped participating in CPC+ could join Next Gen); in contrast, participation among their comparison counterparts grew to 3.9 percent by PY 3. Track 2 experienced a very similar pattern: participation among CPC+ practices grew to 1.2 percent by PY 3, and participation among comparison group practices grew to 3.1 percent by PY 3. For

[123] For comparison selection, we measured baseline participation status for SSP and Next Gen as of January 1, 2017. Therefore, we measured participation in the first year of CPC+ as participation as of January 1, 2018, which was the end of PY 1, participation in the second year of CPC+ as participation as of January 1, 2019, which was the end of PY 2, and participation in the third year of CPC+ as participation as of January 1, 2020, which was the end of PY 3.

[124] Even though active CPC+ practices are not able to participate in Next Gen, practices that dropped out of CPC+ could join Next Gen. Because of our intent-to-treat analytic strategy, we therefore find some small participation by CPC+ practices in the intervention period.

[125] Participation was not exactly zero, because the IQVIA practitioner rosters we use are not the same as the CMS rosters. Therefore, a couple of CPC+ practices are marked as participating in Next Gen based on the fact that at least one practitioner affiliated with the practice, according to the IQVIA data, had participated in Next Gen.

Track 1 and Track 2, the difference-in-differences estimates of -3.7 and -2.1 percentage points, respectively, are statistically significant at the 1 percent level.

In general, the increase in Next Gen participation is consistent with the fact that the number of Accountable Care Organizations (ACOs) participating in Next Gen has increased since it started in 2016.

Robustness checks using the beneficiary-level MDM showed lower levels of participation but similar trends in participation as the practitioner-level MDM. There were baseline differences in participation rates when we used the beneficiary-level MDM rather than the practitioner-level MDM, but we observed the same trend in participation rates across program years for CPC+ and comparison groups for both Track 1 and Track 2 practices. For both SSP and Next Gen, we calculated lower participation rates when we used the beneficiary-level MDM rather than the practitioner-level MDM, rolling it up to the practice level and then weighting by the number of beneficiaries to get beneficiary-level estimates. The beneficiary-level MDM SSP participation rates for all analysis groups in the baseline year were about 1 to 8 percentage points lower than the rates calculated using the practitioner-level MDM, and the beneficiary-level Next Gen participation rates for all analysis groups in the baseline year were about 0.1 to 0.5 percentage points lower than the rates calculated using the practitioner-level MDM.[126]

Given the high levels of participation in SSP and the gaps over time between CPC+ and comparison practices, we also measured cumulative participation across all three intervention years. We find that 47 percent of Track 1 CPC+ beneficiary-months were in SSP during the intervention, similar to the 49 percent of Track 1 comparison beneficiary-months were in SSP. For Track 2, we find that 42 percent of CPC+ beneficiary-months were in SSP, while 46 percent of comparison beneficiary-months were in SSP. While CPC+ and comparison practices had more similar levels of beneficiary-level participation during the intervention than practitioner-level participation, there were larger differences between CPC+ and comparison practices' beneficiary-level participation at baseline than practitioner-level participation, which leads there to be similar difference-in-difference results at the beneficiary and practitioner levels.

The differences between the practitioner- and beneficiary-level rates is likely explained by our method of calculating these rates. For the rate using the practitioner-level MDM, we considered a practice (and all of its assigned beneficiaries) as participating in an ACO model (i.e., SSP or Next Gen) if at least one of its practitioners participated in an ACO. This blanket approach naturally inflates the participation rate because we flagged beneficiaries as participating in an ACO if *any practitioner in* their assigned *practice* was identified as participating in an ACO, even if the ACO-aligned practitioner did not provide any care for the beneficiary. In contrast, we

[126] We found a larger difference in the participation rates between the practitioner- and beneficiary-level MDMs for SSP than for Next Gen. This is likely due to the fact that in the practitioner-level MDM, less than 10 percent of SSP records have both a Taxpayer Identification Number (TIN) and a National Provider Identifier (NPI), while the remaining 90 percent only have a TIN. As a result, if at least one TIN assigned to the practice participated in SSP, all of the practice's assigned beneficiaries were counted as participating in SSP. Conversely, all of the Next Gen records have both a TIN and an NPI, so a practice's beneficiaries were only counted as participating in Next Gen if the NPI/TIN combination was assigned to that practice.

calculated the beneficiary-level participation rate based on beneficiaries' actual alignment to ACOs according to the MDM, regardless of their practitioners' or practice's alignment.[127]

C. Participation in other primary care transformation initiatives

Participation in TCPI fell among CPC+ practices and remained constant among comparison practices. Over the first three program years of CPC+, TCPI participation among CPC+ practices fell substantially while it remained constant for comparison practices. For Track 1 CPC+ practices, participation fell from 10.9 percent in the baseline year to 2.7 percent in PY 3; for Track 2 CPC+ practices, participation fell from 9.9 percent in the baseline year to 2.0 percent in PY 3. At the same time, participation for comparison practices stayed relatively constant in the first two years at about 10 percent for Track 1 and about 12 percent for Track 2. In PY 3, participation for comparison practices decreased slightly to 7.0 and 7.4 percent for both tracks, which was still higher than the participation rate among CPC+ practices. These rates led to difference-in-differences estimates of -4.5 percentage points and -2.5 percentage points for Track 1 and Track 2, respectively (only the Track 1 estimate is statistically significant at the 1 percent level; the Track 2 estimate is not statistically significant). Although TCPI participation was much smaller in PY 2 than in PY 1 and at baseline for CPC+ practices, it was still greater than zero and it remained at the same rate in PY 3. Although active CPC+ practices are not allowed to participate in TCPI, this finding likely reflects additional belated withdrawals from TCPI, differences between the IQVIA roster of practitioners participating in CPC+ and the actual CMS CPC+ practitioner rosters, or practices that stopped participating in CPC+ (but are still included in the intent-to-treat sample) and joined TCPI. The gap between CPC+ and comparison group practices suggests that some CPC+ practices would have participated in TCPI even in the absence of CPC+. This suggests that the difference in learning supports between CPC+ and comparison practices is lower than the total learning supports that CPC+ practices receive through CPC+.

Participation in SIM increased among CPC+ practices and decreased among comparison practices, but this may reflect data issues associated with self-reported participation. Self-reported participation in SIM increased substantially for CPC+ practices, while it decreased for comparison practices from PY 1 to PY 3. From PY 1 to PY 3, participation in SIM among CPC+ practices increased by 18.5 percentage points for Track 1 practices and 26.9 percentage points for Track 2 practices, while participation among comparison practices decreased by 5.1 percentage points for Track 1 practices and 7.5 percentage points for Track 2 practices. Part of the increase in participation from PY 1 to PY 2 for CPC+ practices may have been due to a change to the survey question from PY 1 to PY 2. In PY 1, practices were asked whether they participated in SIM, while in PY 2 and 3, practices were asked whether they participated in the state-specific name of their SIM model. This may not have had such a large effect on the comparison group (from PY 1 to PY 3), since fewer comparison states participated in SIM. When we look at the overall difference in participation in PY 3 between CPC+ and the

[127] Both SSP and Next Gen use a prospective beneficiary alignment method that determines beneficiary participation prior to the start of a performance year. After the performance year, both models may retroactively reconcile or exclude beneficiaries based on applicable eligibility criteria (i.e., death). The beneficiary-level MDM includes the final reconciled beneficiary alignment list for the baseline and first three CPC+ program years (i.e., 2016 to 2019).

comparison group, we find that it is partially due to more CPC+ regions having a SIM model than comparison regions, and partially due to practices in regions with a SIM model participating in the SIM model at higher rates than comparison practices. Given the change in the survey question, it is hard to know whether there was truly a large differential change in participation for CPC+ practices relative to comparison practices in SIM participation.

Participation in Medicaid Health Home decreased among CPC+ practices and increased among comparison practices, but this may reflect data issues associated with self-reported participation. For Medicaid Health Home, self-reported participation among CPC+ practices decreased by 1.7 percentage points from PY 1 to PY 3 for Track 1 and by 6.5 percentage points for Track 2, but participation among comparison practices increased by 5.3 percentage points from PY 1 to PY 3 for Track 1 and 4.7 percentage points for Track 2. One caveat to these results is that about half of the practices that reported participating in Medicaid Health Home were in regions that did not have a Medicaid Health Home program. If we consider practices that reported participation and were in Medicaid Health Home regions, then we find similar trends for Track 1 practices (a decrease in participation among CPC+ practices and an increase in participation among comparison practices), but slightly different results for Track 2 practices, specifically that both CPC+ and comparison practices decreased participation by about one percentage point.

For state or community-based QI initiatives, participation among CPC+ practices increased less than among comparison practices, but this may reflect data issues associated with self-reported participation. Self-reported participation in state or community-based QI initiatives among CPC+ practices increased by 8.6 percentage points from PY 1 to PY 3 for Track 1 practices and by 14.0 percentage points for Track 2 practices, and participation among comparison practices increased even more by 15.7 percentage points from PY 1 to PY 3 for Track 1 practices and by 19.8 percentage points for Track 2 practices. While we could not directly identify any data quality issues with participation in state or community-based QI initiatives, given the errors we found in self-reported participation in other initiatives, there may be errors in self-reported participation in state or community-based QI initiatives as well.

D. Combination of initiatives

Turning to participation in any Medicare FFS value-based purchasing model or primary care transformation initiative, participation was widespread among both research groups, but increased more among comparison practices than CPC+ practices. We found that 52 to 61 percent of practices participated during the baseline period in any Medicare FFS value-based purchasing model or primary care transformation initiative (i.e., SSP, Next Gen, or TCPI), and there were small differences in participation between CPC+ and comparison practices (1.8 percentage points for Track 1 practices and 2.9 percentage points for Track 2 practices). As we saw with participation in each individual initiative, participation grew more among comparison practices than among CPC+ practices. By PY 3, Track 1 comparison practices had a 17.2 percentage point higher participation rate relative to the baseline difference in one or more of these initiatives than CPC+ practices, and Track 2 comparison practices had a 12.5 percentage point higher participation rate relative to the baseline difference. These difference-in-differences

estimates are large and significant at the 1 percent level.[128] This suggests that, in the absence of CPC+, CPC+ practices would have increased their participation in other initiatives. If these initiatives encourage similar care delivery changes as CPC+, and the changes improve outcomes, we may observe smaller impacts of CPC+ than we would if these initiatives did not exist.

For SIM, Medicaid Health Home, and state or community-based QI initiatives, participation was widespread and increased more among CPC+ practices than among comparison practices, but data quality issues limit interpretability. Although we found large differences in self-reported participation between CPC+ and comparison practices when we examined participation in these initiatives individually, the levels of participation and changes over time were more similar between CPC+ and comparison practices when we looked at these initiatives collectively. In PY 1, 29 percent of CPC+ Track 1 practices and 40 percent of CPC+ Track 2 practices participated in any of three initiatives, compared to 37 percent of Track 1 comparison practices and 37 percent of Track 2 comparison practices. By PY 3, Track 1 participation grew to about 43 percent for CPC+ practices and 45 percent for comparison practices. Track 2 participation increased to 51 percent for CPC+ practices and to 58 percent for comparison practices. While we don't know baseline participation, participation in SIM, Medicaid Health Home, and state or community-based QI initiatives increased more from PY 1 to PY 3 for CPC+ than comparison practices, by about 9 percentage points. This contrasts with our findings for SSP, Next Gen, and TCPI participation, where we saw larger growth in participation among comparison practices. While we found that participation grew more among CPC+ practices than among comparison practices, it is difficult to know what to infer from these data, given some issues in reporting. First, as mentioned above, the question for SIM changed substantially from PY 1 to PY 3. Given that CPC+ regions are more likely to have SIM programs, the change in the question could have a larger impact on reported participation for CPC+ practices. Second, we found that 42 percent of the practices that reported participating in Medicaid Health Home were not in regions with this initiative.[129] Therefore, it's possible that true participation in any of these initiatives from PY 1 to PY 3 could have been substantially different than what we estimated.

E. Participation in CMS bundled payment initiatives

Participation in Bundled Payment for Care Improvement was low. We found low levels of participation (less than 2 percent) in the Bundled Payment for Care Improvement (BPCI) initiative for CPC+ and comparison groups in both tracks, and similar slight decreases in participation among both groups. The lack of difference between CPC+ and comparison practices is not surprising, since BPCI is a national model and both CPC+ and comparison practices can participate in it.

[128] While these difference-in-difference estimates are largely driven by changes in participation in SSP, the small decrease in participation in Next Gen and TCPI by CPC+ practices relative to comparison practices also contribute to the estimate of combined participation in SSP, Next Gen, and TCPI.

[129] CPC+ practices had more misreporting—47 percent of practices that said they participated were in regions without the Medicaid Health Home initiative, whereas 35 percent of comparison practices that said they participated were in regions without the Medicaid Health Home initiative.

F. Insurer-sponsored initiatives

Participation in initiatives linking payment to performance or value was high, but this may reflect data issues associated with self-reported participation. We found high levels of self-reported participation (more than 68 percent of practices) in insurer-sponsored initiatives for CPC+ and comparison practices in both tracks. Although we observed a slightly higher increase in participation for CPC+ than comparison practices, the differences were small. From PY 1 to PY 3, participation among Track 1 CPC+ practices increased by 7.6 percentage points, while participation among comparison practices increased by 5.0 percentage points. Similarly, for Track 2, from PY 1 to PY 3, participation among CPC+ practices grew by 9.6 percentage points and participation among comparison practices increased by 7.6 percentage points. While we could not directly identify any data quality issues with participation in insurer-sponsored initiatives, given the errors we found in self-reported participation in other initiatives, there maybe be errors in self-reported participation in insurer-sponsored initiatives as well.

5.E.4. Implications for CPC+ impact analyses

The moderately larger increases in participation in Medicare FFS value-based purchasing models for comparison group practices compared to CPC+ practices could decrease the marginal impact of the CPC+ incentives and supports in improving primary care, relative to a case in which these other initiatives did not exist. That is, if these other initiatives are encouraging types of changes in the comparison group similar to those occurring in the CPC+ group, and the changes improve outcomes, we may observe only small effects of CPC+ or none at all, even if the CPC+ model of care transformation is indeed effective in improving quality or lowering costs. However, the initiative for which these differential changes in participation between the CPC+ and comparison group are the largest—SSP—is a nationwide program, and the comparison group's participation likely represents the correct counterfactual to the scenario in which CPC+ did not exist. In addition, evidence from the practice survey suggests that some of the relative increase in participation by comparison practices in Medicare FFS value-based purchasing models is countered by larger increases in other primary care models by CPC+ practices, such as SIM and state or community-based QI initiatives. Given the data quality issues noted above, it is unclear how actual participation in any initiative changed for the comparison group relative to CPC+ practices.

Due to the increasing differential changes in participation between the CPC+ and comparison groups in SSP, the SSP subgroups should be interpreted with caution, as there is increasing participation in SSP of the comparison group in the non-SSP subgroup—defined at baseline, and decreasing participation in SSP of the CPC+ group in the SSP subgroup for Track 1. Instead of interpreting the SSP subgroup estimates as the impact of CPC+ combined with SSP throughout the intervention period, these estimates should be interpreted as the impact of starting CPC+ in SSP. Participation in Next Gen by both the CPC+ and comparison groups remains low, and while it has grown slightly more for the comparison group, the gap in participation remains low, which suggests that contamination by Next Gen is unlikely to bias our estimates.

5.E.5. Future initiatives

Although there appears to be little risk that the current set of initiatives bias our CPC+ impacts, CMS will be making several changes to regulations and initiatives (specifically, Pathways to Success: Redesign of the Shared Savings Program, Primary Care First, and Direct Contracting) that could affect our estimates in future years of CPC+ (Table 5.E.4). We plan to track participation in these initiatives, and if we find large possible differential participation between the CPC+ and comparison groups, we will adjust our methodology accordingly to ensure that our impact estimates remain unbiased.

Table 5.E.4. Selected regulatory reforms and programmatic changes related to CPC+

Program	Time period	Potential implications for CPC+
Pathways to Success: Redesign of the Shared Savings Program Although the majority of Medicare Shared Savings Program (SSP) ACOs chose to enter an upside-only model under Track 1, the redesign intends to make the transition to two-sided risk more gradual and transparent, and to support additional ACOs to progress to performance-based risk.	5-year agreement periods beginning July 1, 2019	• There is already a fair amount of shifting in and out of SSP and this new program could further encourage shifts. • If comparison practices' shifts in participation do not represent the relevant counterfactual for what CPC+ practices would do in the absence of CPC+, and if the redesign helps encourage comparison practices to make changes, then this change could decrease estimated impacts of CPC+. • The redesign could also increase the estimated effects of CPC+ if the redesign complements or reinforces the CPC+ model.
New payment model options under the CMS Primary Cares Initiative		
Primary Care First (PCF) • Building on the principles of CPC+, but with more focus on paying for outcomes than for model implementation, this 5- year model provides payment to reward advanced primary care practices that are ready to assume financial risk in exchange for reduced administrative burden and performance-based payments. It will be offered in 26 regions, including the current 18 CPC+ regions, and 2 of the CPC+ comparison regions. • A second model option encourages practices to take responsibility for members of a high-cost, high-need seriously ill population, who currently lack a primary care practitioner or effective care coordination.	Primary Care First component: Two 5-year cohorts, beginning January 1, 2021, and January 1, 2022 Seriously ill population component: Two 5-year cohorts, beginning in April 1, 2021, and April 1, 2022	• In 2021, CPC+ comparison group practices in PCF regions can join PCF. In 2022, CPC+ practices can leave CPC+ to join PCF. • Differences in participation in non-CPC+ initiatives between CPC+ and comparison practices could decrease the estimated impacts of the CPC+ incentives and supports in improving primary care, if those other initiatives are encouraging comparison group practices to make changes similar to those occurring in the CPC+ group.
Direct Contracting (DC) • The objective of the DC model is to engage a wider variety of organizations, beyond primary care practices, with experience taking on financial risk and serving larger patient populations, such as ACOs, Medicare Advantage plans, and Medicaid managed care organizations. • Model options include global population-based payment (100% financial risk via primary care capitation or total care capitation), professional (share 50% risk with CMS via primary care capitation), and geographic (assume responsibility for the total cost of care and health needs of a population in a defined target region).	April 1, 2021, through Dec 31, 2025	• CPC+ comparison practices can participate in DC if they are part of a larger organization (e.g., a Medicare ACO) that decides to participate. CPC+ practices cannot participate in DC. • Differences in participation in non-CPC+ initiatives between CPC+ and comparison practices could decrease the estimated impacts of the CPC+ incentives and supports in improving primary care, if those other initiatives are encouraging comparison group practices to make changes similar to those occurring in the CPC+ group.

5.F. CPC Classic long-term effects analysis

This Appendix examines the long-term effects of primary care transformation—the four-year Comprehensive Primary Care initiative (CPC Classic) and the first two years of its successor Comprehensive Primary Care Plus (CPC+)—on Medicare Part A and B expenditures (excluding care management fees) and health care service use. In this Appendix, we first introduce the motivation for this analysis and the CPC Classic and CPC+ interventions (Section 1). We next explain the analytic methods (Section 2). Finally, we describe the results (Section 3) and discuss their implications (Sections 4 and 5).

5.F.1. Introduction

A. Background

Payers around the country are testing the patient-centered medical home (PCMH) and similar models and are increasingly paying for health care through alternative payment models that reward quality and value. Researchers and practitioners have warned that it takes time to transform care and shift patient outcomes (Nutting et al. 2009; Crabtree et al. 2011; McNellis et al. 2013; Peikes et al. 2020a), but there have been no long-term models to assess whether the generally minimal changes that have been documented in short-term outcomes actually improve with longer interventions. Against this backdrop, it is important to understand how longer tests of these models are associated with health care spending and utilization.

The Centers for Medicare & Medicaid Services (CMS) launched the four-year multipayer CPC Classic in October 2012. CPC Classic tested whether requiring primary care practices to implement a new approach to delivering primary care, and providing financial and technical support to help them do so, reduced spending and improved quality. Across the country, 502 practices participated in CPC Classic, and 85 percent of them immediately joined its five-year successor, CPC+, in 2017.

This analysis takes advantage of this unusually long combined model to examine the longer-term effects of primary care transformation with expenditures and service use for Medicare fee-for-service (FFS) beneficiaries. We examine effects over six years—the four years of CPC Classic and the two years after, which for most practices included two years of participation in the successor model, CPC+. We hypothesized that favorable effects with primary care transformation would emerge or remain the same over time.

B. Intervention

CMS launched the four-year CPC Classic initiative in October 2012 (Peikes et al. 2018a). The goals of CPC Classic were to improve primary care delivery, health care quality, and patient experience, and to lower costs. CPC Classic also aimed to enhance clinicians' and staff members' experience. Building on the lessons of CPC Classic and other advanced primary care models, in January 2017, CMS launched the five-year CPC+ model, which is the largest and most ambitious primary care payment and delivery reform ever tested in the United States (Anglin et al. 2020). Table 5.F.1 displays the main features of the two models.

CMS offered all CPC Classic practices participation in CPC+ if they met basic eligibility criteria. After CPC Classic ended, many of the CPC Classic practices (85 percent) joined CPC+ in 2017, predominantly in Track 2 (and most continued participating in 2018). Specifically, 71 CPC Classic practices joined Track 1 of CPC+ and constituted 5 percent of all Track 1 practices that began CPC+ in 2017; 352 CPC Classic practices joined Track 2 of CPC+ and constituted 23 percent of all Track 2 2017 starters in CPC+.

Table 5.F.1. Comparison of the CPC Classic and CPC+ models

	CPC Classic	CPC+
Model		
Model duration	Four years (October 2012–December 2016)	Five years (January 2017–December 2021) This analysis covers the first two years.
Care delivery requirements	(1) Access to and continuity of care, (2) planned care for preventive and chronic needs, (3) risk-stratified care management, (4) engagement of patients and their caregivers, and (5) coordination of care with patients' other care providers	(1) Access and continuity, (2) care management, (3) comprehensiveness and coordination, (4) patient and caregiver engagement, and (5) planned care and population health CPC+ increased the emphasis on aspects of comprehensiveness, including behavioral health integration and assessing and addressing patients' social support needs. CPC+ includes two tracks with different levels of care delivery requirements and payment approaches to meet the diverse needs of participating practices. Track 2 practices are required to provide more enhanced care delivery approaches to better support patients with complex needs than Track 1 practices, and they receive higher payments.
Reach		
Partners	CMS 39 other private and public payers	CMS 79 other private and public payers 68 health IT vendors
Number of regions	7	18
Number of intervention practices	502	3,070 (1,504 in Track 1 and 1,566 in Track 2)
Number of beneficiaries served	More than 2.5 million	More than 17 million
Supports		
Average CMFs PBPM[a]	From CMS: $20 in first two years, $15 in last two years; lower from other payers	From CMS: $15 for Track 1, $28 PBPM for Track 2; lower from other payers
Median enhanced funding per practice (also calculated per primary care practitioner) in the latest model year (4 for CPC, and 2 for CPC+)[b, c]	$179,519 (or $50,189 per practitioner), or 10 percent of practice revenue	Track 1: $122,065 (or $42,964 per practitioner), or 10 percent of practice revenue Track 2: $263,606 (or $66,424 per practitioner), or 15 percent of practice revenue

Table 5.F.1. ***(continued)***

	CPC Classic	CPC+
Payments other than CMFs[b]	Share in any savings after covering CMFs starting in Year 2, offered by Medicare FFS and two-thirds of other payers.	Payments for performance on cost, utilization, and/or quality measures, offered by Medicare FFS and 94 percent of other payers. Alternative to FFS payments starting in CPC+ Year 1 by CMS and 22 percent of payer partners in Year 2 for Track 2. A portion of FFS payments was converted to lump sum payments regardless of visits.
Non-financial supports	Data feedback, learning support	Data feedback, learning support, and IT vendor support

[a] CMS risk adjusts CMFs based on beneficiaries' hierarchical condition category score, which is a claims-based measure of risk for subsequent expenditures.

[b] For CPC+, numbers apply only to practices that joined CPC+ in 2017 and are not limited to the CPC Classic alumni.

[c] The enhanced funding included CMFs and performance-based payments. In Year 2, CMFs represented 90 percent of that total.

CMFs = care management fees; CMS = Centers for Medicare & Medicaid Services; CPC Classic = Comprehensive Primary Care initiative; CPC+ = Comprehensive Primary Care Plus; FFS = fee-for-service; IT = information technology; PBPM = per beneficiary per month.

5.F.2. Methods

A. Evaluation design

To measure the effects of primary care transformation with service use and spending, we compared changes in outcomes from the year before CPC Classic began (baseline period) to the six-year period after it began (intervention period), between Medicare FFS beneficiaries served by intervention practices (defined as those that began CPC Classic and were still participating during the second quarter) and those served by matched comparison practices. We used propensity score matching to ensure pre-intervention similarity between intervention and comparison practices across beneficiary, practice, and market characteristics. Matching variables included beneficiaries' characteristics (such as age, sex, HCC scores, and prior expenditures and service use); practice-level characteristics (such as meaningful use of electronic health records, number of clinicians, and percentage of clinicians with a primary care specialty); and characteristics of the practice's market (such as mean county income). We selected as many as five comparison practices for each CPC Classic practice.

We used an intent-to-treat (ITT) design to assign beneficiaries to practices; that is, once we had attributed beneficiaries to a practice (intervention or comparison) at any time during the intervention period, they remained in the analysis sample as long as they met the eligibility criteria (alive and enrolled in Medicare Part A and Part B with Medicare as the primary payer and not in a health maintenance organization). Medicare FFS beneficiaries were attributed quarterly to CPC and comparison practices that delivered the largest share of their primary care visits during a two-year lookback period.

B. Measures of spending and utilization

We constructed four main outcomes from Medicare claims and enrollment data: (1) Medicare Part A and Part B expenditures excluding enhanced payments made for CPC Classic, CPC+, or the Shared Savings Program (SSP); (2) hospitalizations; (3) outpatient emergency department (ED) visits; and (4) total ED visits. We also examined impacts on expenditures by service category: (1) inpatient, (2) outpatient, (3) physician, (4) home health, (5) hospice, (6) skilled nursing facility, and (7) durable medical equipment.

C. Statistical analysis

We implemented a difference-in-differences model that compares the mean change in outcomes from the year before the start of CPC Classic to the six years after between two groups: (1) beneficiaries served by the CPC Classic practices and (2) beneficiaries served by comparison practices. We used (1) linear regressions for Medicare Part A and Part B expenditures and (2) zero-inflated negative binomial regressions for hospitalizations, outpatient ED visits, and overall ED visits to account for a large percentage of zeroes. The regressions controlled for beneficiary, practice, and market characteristics observed at baseline to net out observable pre-existing baseline differences between CPC Classic and comparison beneficiaries that remained after propensity score matching. Estimated standard errors accounted for beneficiary outcomes clustered at the practice level and for weighting. The overall weights were equal to the product of two separate weights that accounted for (1) the share of the year for which the beneficiary's data were observed and (2) the matching (for beneficiaries in comparison practices only). We performed all statistical analyses with Stata software (Version 15.1). We provide *p*-values for all estimates and consider p-value < 0.10 to be statistically significant.

5.F.3. Results

A. Practices included in the study sample

The analysis included 497 practices participating at the end of CPC Classic's first quarter and 908 similar comparison practices. None of the comparison practices joined CPC Classic (by design); 21 percent joined CPC+ in 2017. Table 5.F.2 shows the baseline similarity of the intervention and comparison groups' practice characteristics (Dale et al. 2016).

Table 5.F.2. Baseline practice characteristics of intervention and comparison practices[a]

Characteristic	Intervention practices	Comparison practices	Difference between intervention and comparison practices	*p*-Value
Percentage of practices with one or more clinicians who was a Medicare meaningful EHR user as of June 2012[b]	79	79	0	>0.99
Percentage of practices with state or NCQA medical-home recognition by autumn 2012[c]	39	37	2.9	0.20
Mean number of clinicians[d]	4.2	4.6	-0.4	0.64
Percentage of practices' clinicians with primary care specialty[d]	94	94	0	0.92
Percentage of practices owned by larger organization[d]	55	54	1	0.85
Percentage of practices located in medically underserved area[e]	11	14	-3	0.17
Percentage of practice's county that is urban[f]	78	75	3	0.08
Mean number of attributed Medicare beneficiaries[g]	635	698	-63	0.14

[a] Because the CPC Classic intervention was provided at the practice level, and to aid computation, we matched using practice-level data rather than beneficiary-level data. The means (rounded to whole numbers) in this table represent practice-level means, weighted to account for matching.

[b] A meaningful EHR user is a clinician who qualifies for CMS incentive programs by having used certified EHR technology to improve the quality of health care and to meet other objectives specified by CMS.

[c] Numbers are based on September 2012 data from NCQA.

[d] Data are from a 2012 office-based physician file from SK&A, a health care marketing vendor.

[e] Numbers are based on 2009 data from the HRSA.

[f] Data are from the 2009 Area Health Resource Files provided by the HRSA.

[g] Numbers are based on 2010-2012 Medicare claims and enrollment data from the CMS Virtual Research Data Center.

CMS = Centers for Medicare & Medicaid Services; CPC = comprehensive primary care; EHR = electronic health record; HRSA = Health Resources and Services Administration; NCQA = National Committee for Quality Assurance.

B. Beneficiaries included in the study sample

We included all beneficiaries attributed to CPC Classic and their comparison practices, from the baseline period until the fourth intervention year (October 2012 to December 2016). For the two years after CPC Classic ended (January 2017 to December 2018), we followed the beneficiaries already assigned in the fourth-year analysis sample into their fifth and sixth years, with the same intervention or comparison status as in CPC Classic. Table 5.F.3 shows that the baseline beneficiary characteristics and outcomes for the intervention and comparison groups were similar.

Table 5.F.3. Baseline outcomes and characteristics of beneficiaries in the research sample[a]

Panel A. Baseline characteristics of beneficiaries included in the research sample[b]

Measure	Intervention mean[c] (N = 565,674)	Comparison mean[c] (N = 1,165,284)	Intervention-comparison difference	Standardized difference
Age				
Younger than 50	6.1	6.7	-0.6	0.03
50–64	16.7	16.8	-0.2	0.00
65–74	41.2	41.0	0.2	-0.01
75–84	24.8	24.8	0.0	0.00
85 or older	11.2	10.7	0.6	-0.02
Race				
White	90.6	91.0	-0.4	0.02
Black	4.4	4.5	-0.2	0.01
Native American	1.8	1.1	0.7	-0.06
Other	3.3	3.4	-0.1	0.01
Male	41.7	42.1	-0.4	0.01
Original reason for Medicare eligibility				
Age	78.5	77.3	1.2	-0.03
Disabled	21.3	22.6	-1.2	0.03
ESRD	0.1	0.1	0.0	0.00
Dually eligible for Medicare and Medicaid	11.4	13.1	-1.7	0.06
HCC score (continuous measure)[d]	1.0	1.0	0.0	0.01
HCC score originally missing and imputed	9.7	9.6	0.2	-0.01

Panel B. Baseline outcomes of beneficiaries in the research sample who had baseline data

Measure	Intervention mean[c] (N = 442,709)	Comparison mean[c] (N = 954,199)	Intervention-comparison difference	Standardized difference
Main outcomes				
Medicare expenditures without fees (PBPM)	$574.2	$578.3	-$4.1	0.00
Hospitalizations (per 1,000 beneficiaries per year)	227.6	228.8	-1.2	0.00
Total ED visits (per 1,000 beneficiaries per year)	556.3	580.4	-24.1	0.02
Outpatient ED visits (per 1,000 beneficiaries per year)	417.4	440.5	-23.2	0.02
Other outcomes: expenditures by service category (PBPM)				
Inpatient	$196.9	$192.4	$4.5	-0.01
Outpatient	$97.2	$103.1	-$5.8	0.02
Physician	$199.6	$195.0	$4.6	-0.01
Skilled nursing	$29.6	$31.8	-$2.3	0.01
Home health	$26.3	$30.3	-$4.0	0.04
Hospice	$2.0	$2.4	-$0.5	0.01
Durable medical equipment	$22.5	$23.2	-$0.7	0.01

Table 5.F.3. ***(continued)***

[a] Medicare claims and enrollment data for October 2011 through December 2018. The baseline outcomes are not available for beneficiaries who were added to the sample in later years but were not eligible at baseline. However, we were able to obtain the baseline characteristics for these beneficiaries using the following approach: (1) for race, gender, and original reason for Medicare eligibility at baseline, we used data from the time the beneficiary first became eligible; (2) we calculated age using the date of birth reported; (3) for dual eligibility, we conservatively assumed that these beneficiaries were not dual eligible at baseline; (4) for HCC scores, we imputed the baseline (2011) scores for these beneficiaries, specifically by using the average (non-missing) HCC score of 66-year-old beneficiaries for beneficiaries with missing HCC scores who were 65 years or older and the average (non-missing) HCC scores for beneficiaries below age 65 for beneficiaries with missing HCC scores who were under age 65.

[b] Data are percentages in Panel A, unless noted.

[c] Means (rounded to one decimal place) were weighted to account for (1) the share of the year for which the beneficiary's data were observed and (2) the matching (for beneficiaries in comparison practices only).

[d] HCC scores are a measure of risk for subsequent expenditures. CMS calculates them such that the average for the Medicare FFS population nationally is 1.0. A patient with a risk score of 1.30 is predicted to have expenditures that would be approximately 30 percent above the average, whereas a patient with a risk score of 0.70 is expected to have expenditures that would be approximately 30 percent below the average.

CMS = Centers for Medicare & Medicaid Services; ED = emergency department; ESRD = end-stage renal disease; FFS = fee-for-service; HCC = hierarchical condition category; PBPM = per beneficiary per month.

C. Difference-in-differences estimates for main outcomes

During the six years since CPC Classic began, the cumulative estimates indicate that intervention and comparison practices had similar Medicare FFS expenditures over time. However, there was an overall slower growth in hospitalizations, total ED visits, and outpatient ED visits among intervention practices, relative to comparison practices (Table 5.F.4). When assessing the annual estimates (shown in Figure 5.F.1), we found the following:

1. Relative to comparison practices, beneficiaries in intervention practices experienced the following effects:
   - Slower growth in hospitalizations (2.2 percent, $p = 0.02$) over the six years after CPC Classic began. The estimates were smaller in the first four years (1.7 percent or less) and were generally not statistically significant. The favorable effects increased to 9 hospitalizations per 1,000 beneficiaries (3.1 percent, $p = 0.01$) in Year 5, and 11 hospitalizations per 1,000 beneficiaries (3.5 percent, $p < 0.01$) in Year 6.
   - Slower growth in total ED visits (2.0 percent, $p = 0.01$) over the six years after CPC Classic began. The favorable effects became sizable and statistically significant starting in Year 3—increasing gradually from 15 visits per 1,000 beneficiaries (2.0 percent, $p = 0.01$) in Year 3 to 20 visits per 1000 beneficiaries (2.6 percent, $p = 0.01$) in Year 6.
   - Slower growth in outpatient ED visits (1.8 percent, $p = 0.07$) over the six years after CPC Classic began. Like the total ED visits, the estimates became sizable and statistically significant starting from Year 3. The favorable effects were 13 visits per 1,000 beneficiaries (2.5 percent, $p = 0.01$) in Year 3, 11 visits per 1,000 beneficiaries (2.2 percent, $p = 0.05$) in Year 4, and 12 visits per 1,000 beneficiaries (2.2 percent, $p = 0.09$) in Year 5. The favorable effect of 8 visits per 1,000 beneficiaries (1.6 percent, $p = 0.24$) in Year 6 was not statistically significant.
2. There was no discernible effect between the intervention and Medicare Part A and B expenditures excluding additional payments from CPC Classic, CPC+, and SSP in the six years after CPC Classic began, relative to comparison practices.

Table 5.F.4. Regression-adjusted means and difference-in-differences estimates for expenditures and service use among attributed Medicare fee-for-service beneficiaries, annual and six-year cumulative estimates

	Intervention mean	Comparison mean	Difference-in-differences estimate (SE)	Difference-in-differences estimate in percentage[a]	90 percent confidence interval	*p*-Value
Medicare expenditures (PBPM)						
Medicare Part A and B expenditures excluding enhanced payments made for CPC Classic, CPC+, or SSP						
Baseline	$574	$578	n.a.	n.a.	n.a.	n.a.
Y1	$774	$796	-$17.8*** ($6.6)	-2.3%	(-$28.7, -$7.0)	0.01
Y2	$802	$817	-$10.5 ($6.9)	-1.3%	(-$21.8, $0.9)	0.13
Y3	$837	$845	-$3.4 ($7.6)	-0.4%	(-$15.9, $9.1)	0.65
Y4	$857	$862	-$1.3 ($8.4)	-0.1%	(-$15.0, $12.5)	0.88
Y5	$905	$915	-$6.3 ($8.4)	-0.7%	(-$20.2, $7.6)	0.45
Y6	$946	$955	-$5.2 ($9.5)	-0.5%	(-$20.8, $10.5)	0.59
Y1–Y6	$857	$868	-$7.2 ($6.4)	-0.8%	(-$17.8, $3.3)	0.26
Service use (per 1,000 beneficiaries per year)						
Hospitalizations						
Baseline	228	229	n.a.	n.a.	n.a.	n.a.
Y1	309	316	-5.4* (2.9)	-1.7%	(-10.2, -0.6)	0.07
Y2	295	301	-5.0 (3.3)	-1.7%	(-10.5, 0.5)	0.13
Y3	302	306	-2.7 (3.3)	-0.9%	(-8.2, 2.8)	0.41

Table 5.F.4. ***(continued)***

	Intervention mean	Comparison mean	Difference-in-differences estimate (SE)	Difference-in-differences estimate in percentage[a]	90 percent confidence interval	*p*-Value
Y4	294	301	-5.2 (3.4)	-1.7%	(-10.8, 0.4)	0.13
Y5	288	298	-9.1*** (3.5)	-3.1%	(-14.9, -3.3)	0.01
Y6	303	315	-11.0*** (3.9)	-3.5%	(-17.5, -4.6)	0.00
Y1–Y6	298	306	-6.8** (2.9)	-2.2%	(-11.6, -1.9)	0.02
Total ED visits, including observation stays						
Baseline	556	580	n.a.	n.a.	n.a.	n.a.
Y1	678	710	-7.8 (5.5)	-1.1%	(-16.8, 1.2)	0.15
Y2	693	723	-5.9 (5.8)	-0.8%	(-15.4, 3.6)	0.31
Y3	717	756	-14.9** (6.0)	-2.0%	(-24.7, -5.1)	0.01
Y4	709	749	-15.3** (6.5)	-2.1%	(-25.9, -4.6)	0.02
Y5	723	766	-18.0** (7.7)	-2.4%	(-30.7, -5.3)	0.02
Y6	733	776	-19.7** (8.0)	-2.6%	(-32.9, -6.4)	0.01
Y1–Y6	710	749	-14.3** (5.6)	-2.0%	(-23.6, -5.1)	0.01
Outpatient ED visits, including observation stays						
Baseline	417	441	n.a.	n.a.	n.a.	n.a.
Y1	466	492	-2.3 (4.7)	-0.5%	(-10.1, 5.5)	0.63

Table 5.F.4. ***(continued)***

	Intervention mean	Comparison mean	Difference-in-differences estimate (SE)	Difference-in-differences estimate in percentage[a]	90 percent confidence interval	*p*-Value
Y2	489	515	-3.0 (5.1)	-0.6%	(-11.5, 5.4)	0.55
Y3	503	539	-13.1** (5.4)	-2.5%	(-22.0, -4.3)	0.01
Y4	502	536	-11.3** (5.7)	-2.2%	(-20.6, -1.9)	0.05
Y5	514	549	-11.5* (6.9)	-2.2%	(-22.8, -0.2)	0.09
Y6	515	547	-8.2 (6.9)	-1.6%	(-19.5, 3.2)	0.24
Y1–Y6	500	532	-8.9* (5.0)	-1.8%	(-17.1, -0.7)	0.07
Sample sizes						
Number of practices	497	908				
Number of beneficiaries	565,674	1,165,284				
Number of beneficiary years	2,974,499	6,119,286				

Source: Medicare claims data for October 2011 through December 2018.

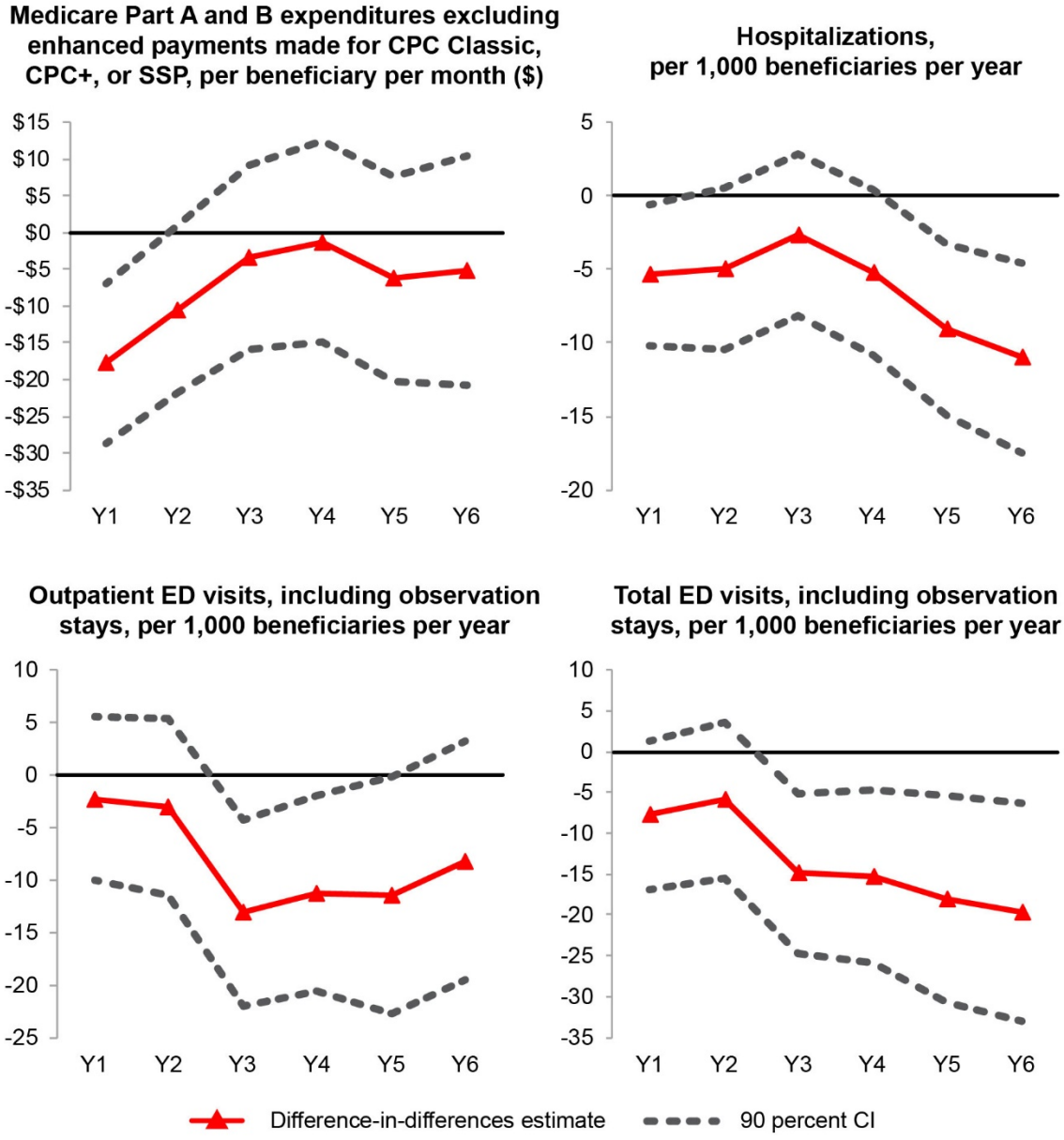
Notes: Estimates are regression-adjusted for baseline beneficiary characteristics and baseline practice characteristics. We based each estimate on a difference-in-differences analysis, and each reflects the difference in the regression-adjusted average outcome for attributed Medicare FFS beneficiaries in intervention practices in Years 1 to 6 compared with baseline relative to the same difference over time for attributed Medicare FFS beneficiaries in comparison practices.

[a] To calculate these percentages, we divided the difference-in-differences estimate by the mean for the outcome in the intervention group minus the difference-in-differences estimate.

*/**/*** Significantly different from zero at the 0.10/0.05/0.01 levels, two-tailed test.

CPC = Comprehensive Primary Care; CPC+ = Comprehensive Primary Care Plus; ED = emergency department; FFS = fee-for-service; n.a. = not applicable; PBPM = per beneficiary per month; SSP = Medicare Shared Savings Program; SE = standard error; Y = year.

Figure 5.F.1. Estimated effects with expenditures and service use, by year



Source: Medicare claims data for October 2011 through December 2018.

Notes: The estimate of the effect, denoted by a separate triangle for each intervention year in the figure, is equal to the difference in mean outcomes between attributed Medicare FFS beneficiaries in the intervention and comparison group practices in any year since CPC Classic began minus the average difference between the two groups during the baseline period. The estimates are regression adjusted to control for baseline differences in beneficiary and practice characteristics between the intervention and comparison groups. The dashed lines indicate the 90 percent confidence interval.

CI = confidence interval; ED = emergency department; FFS = fee-for-service; SSP = Medicare Shared Savings Program; Y = year.

D. Difference-in-differences estimates for expenditures by service category

Over the six years since CPC Classic began, the cumulative and yearly estimates indicate that there were generally no statistically significant effects between the intervention and Medicare inpatient, physician, home health, or durable medical equipment expenditures for FFS beneficiaries. Despite the slower growth in hospitalizations, the effect of the intervention with inpatient expenditures was not statistically significant. Although the intervention was associated with slightly lower outpatient and skilled nursing facility expenditures over the six-year period, it was also associated with increased physician and hospice expenditures (Table 5.F.5).

Table 5.F.5. Regression-adjusted means and difference-in-differences estimates for expenditures by service categories among attributed Medicare fee-for-service beneficiaries, annual and six-year cumulative estimates

	Intervention mean	Comparison mean	Difference-in-differences estimate (SE)	Difference-in-differences estimate in percentage[a]	90 percent confidence interval	*p*-Value
Medicare expenditures (PBPM)						
Inpatient						
Baseline	$197	$192	n.a.	n.a.	n.a.	n.a.
Y1	$287	$293	-$10.4** ($4.3)	-3.5%	(-$17.4,-$3.4)	0.01
Y2	$292	$291	-$3.4 ($4.5)	-1.1%	(-$10.7,$4.0)	0.45
Y3	$299	$295	-$0.8 ($4.4)	-0.3%	(-$7.9,$6.4)	0.86
Y4	$303	$299	-$1.1 ($4.5)	-0.4%	(-$8.6,$6.3)	0.80
Y5	$319	$317	-$2.8 ($4.5)	-0.9%	(-$10.1,$4.6)	0.54
Y6	$321	$316	-$0.3 ($4.9)	-0.1%	(-$8.4,$7.8)	0.95
Y1–Y6	$304	$303	-$3.0 ($3.5)	-1.0%	(-$8.7,$2.7)	0.39
Outpatient						
Baseline	$97	$103	n.a.	n.a.	n.a.	n.a.
Y1	$116	$123	-$1.7 ($1.4)	-1.4%	(-$4.0,$0.6)	0.23
Y2	$128	$137	-$2.5 ($1.8)	-1.9%	(-$5.5,$0.4)	0.16
Y3	$138	$148	-$4.0** ($1.8)	-2.8%	(-$7.0,-$1.1)	0.02
Y4	$147	$156	-$3.7* ($2.0)	-2.5%	(-$7.0,-$0.4)	0.07
Y5	$162	$176	-$7.8*** ($2.6)	-4.6%	(-$12.0,-$3.6)	0.00

Table 5.F.5. ***(continued)***

	Intervention mean	Comparison mean	Difference-in-differences estimate (SE)	Difference-in-differences estimate in percentage[a]	90 percent confidence interval	*p*-Value
Y6	$178	$190	-$5.8** ($2.8)	-3.2%	(-$10.4,-$1.2)	0.04
Y1–Y6	$146	$156	-$4.4*** ($1.6)	-2.9%	(-$7.1,-$1.7)	0.01
Physician						
Baseline	$200	$195	n.a.	n.a.	n.a.	n.a.
Y1	$228	$223	-$0.2 ($1.7)	-0.1%	(-$2.9,$2.6)	0.92
Y2	$233	$229	-$1.3 ($1.8)	-0.5%	(-$4.3,$1.8)	0.49
Y3	$243	$237	$1.6 ($2.0)	0.7%	(-$1.6,$4.9)	0.40
Y4	$252	$242	$4.7** ($2.4)	1.9%	($0.8,$8.5)	0.05
Y5	$258	$249	$4.7* ($2.7)	1.8%	($0.2,$9.1)	0.08
Y6	$268	$261	$2.5 ($3.1)	0.9%	(-$2.7,$7.6)	0.43
Y1–Y6	$248	$241	$2.2 ($1.8)	0.9%	(-$0.8,$5.2)	0.24
Home health						
Baseline	$26	$30	n.a.	n.a.	n.a.	n.a.
Y1	$39	$44	-$1.3** ($0.6)	-3.4%	(-$2.4,-$0.3)	0.03
Y2	$40	$43	$0.8 ($0.7)	2.0%	(-$0.4,$2.0)	0.27
Y3	$42	$45	$0.3 ($0.7)	0.8%	(-$0.9,$1.6)	0.64
Y4	$41	$46	-$0.4 ($0.9)	-0.9%	(-$1.8,$1.1)	0.68
Y5	$43	$48	-$1.1 ($1.0)	-2.6%	(-$2.7,$0.4)	0.23

Table 5.F.5. ***(continued)***

	Intervention mean	Comparison mean	Difference-in-differences estimate (SE)	Difference-in-differences estimate in percentage[a]	90 percent confidence interval	*p*-Value
Y6	$46	$52	-$2.2** ($1.0)	-4.6%	(-$3.9,-$0.5)	0.03
Y1–Y6	$42	$47	-$0.7 ($0.7)	-1.5%	(-$1.7,$0.4)	0.31
Hospice						
Baseline	$2	$2	n.a.	n.a.	n.a.	n.a.
Y1	$20	$20	$0.3 ($1.0)	1.6%	(-$1.4,$2.0)	0.76
Y2	$23	$23	$0.4 ($1.3)	1.8%	(-$1.7,$2.5)	0.74
Y3	$25	$23	$2.4* ($1.3)	10.6%	($0.3,$4.6)	0.07
Y4	$27	$26	$2.0 ($1.3)	7.8%	(-$0.2,$4.1)	0.13
Y5	$31	$28	$3.4*** ($1.3)	12.2%	($1.3,$5.5)	0.01
Y6	$35	$34	$2.3 ($1.6)	6.8%	(-$0.3,$4.9)	0.15
Y1–Y6	$27	$26	$1.8* ($1.1)	7.2%	($0.0,$3.7)	0.10
Skilled nursing facility						
Baseline	$30	$32	n.a.	n.a.	n.a.	n.a.
Y1	$61	$68	-$4.6*** ($1.7)	-7.0%	(-$7.4,-$1.8)	0.01
Y2	$64	$70	-$4.1** ($1.8)	-6.0%	(-$7.0,-$1.2)	0.02
Y3	$68	$72	-$2.1 ($2.0)	-3.0%	(-$5.3,$1.1)	0.29
Y4	$66	$70	-$1.7 ($2.1)	-2.5%	(-$5.1,$1.7)	0.41
Y5	$68	$74	-$2.9 ($2.2)	-4.1%	(-$6.5,$0.7)	0.19

Table 5.F.5. ***(continued)***

	Intervention mean	Comparison mean	Difference-in-differences estimate (SE)	Difference-in-differences estimate in percentage[a]	90 percent confidence interval	*p*-Value
Y6	$71	$77	-$3.3 ($2.4)	-4.4%	(-$7.4,$0.7)	0.18
Y1–Y6	$67	$72	-$3.1* ($1.7)	-4.4%	(-$5.9,-$0.2)	0.07
Durable medical equipment						
Baseline	$23	$23	n.a.	n.a.	n.a.	n.a.
Y1	$25	$26	$0.1 ($0.4)	0.4%	(-$0.5,$0.7)	0.79
Y2	$22	$23	-$0.5 ($0.5)	-2.2%	(-$1.3,$0.4)	0.34
Y3	$23	$24	-$0.9* ($0.5)	-3.8%	(-$1.8,-$0.0)	0.09
Y4	$21	$23	-$1.0* ($0.6)	-4.6%	(-$2.0,-$0.1)	0.08
Y5	$21	$22	-$0.9 ($0.7)	-4.2%	(-$2.0,$0.2)	0.18
Y6	$23	$24	-$0.3 ($0.7)	-1.3%	(-$1.5,$0.9)	0.68
Y1–Y6	$22	$24	-$0.6 ($0.4)	-2.7%	(-$1.3,$0.1)	0.17
Sample sizes						
Number of practices	497	908				
Number of beneficiaries	565,674	1,165,284				
Number of beneficiary years	2,974,499	6,119,286				

Source: Medicare claims data for October 2011 through December 2018.

Notes: Estimates are regression adjusted for baseline beneficiary characteristics and baseline practice characteristics. We based each estimate on a difference-in-differences analysis, and each reflects the difference in the regression-adjusted average outcome for attributed Medicare FFS beneficiaries in intervention practices in Years 1 to 6 compared with baseline relative to the same difference over time for attributed Medicare FFS beneficiaries in comparison practices.

[a] To calculate these percentages, we divided the difference-in-differences estimate by the mean for the outcome in the intervention group minus the difference-in-differences estimate.

*/**/*** Significantly different from zero at the 0.10/0.05/0.01 levels, two-tailed test.

FFS = fee-for-service; n.a. = not applicable; PBPM = per beneficiary per month; SE = standard error; Y = year.

5.F.4. Discussion

Results from this analysis provide the first estimates of long-term effects of primary care transformation with expenditures and service use outcomes. We examined six years of expenditures and utilization data, combining four years of CPC Classic, followed by the first two years of CPC+ for most practices.

- The intervention had a favorable effect of 2 percent with hospitalizations over the full six year period, which was driven by annual estimates that emerged in the fifth year (3.1 percent) and persisted into the sixth year (3.5 percent).
- In addition, the favorable effects with total ED visits and outpatient ED visits (approximately 2 percent each) that were observed in Years 3 and 4 of the CPC Classic intervention also persisted in the fifth and sixth follow-up years.

The temporal pattern of effects with ED visits and hospitalizations is consistent with our expectations about how primary care transformation works—outcomes like ED visits could be easier to improve in the short run, which would explain the quick emergence of favorable effects, whereas a longer time horizon may be needed to see improvements in outcomes like hospitalizations. Because many CPC Classic practices (85 percent) joined CPC+ in 2017 (and continued participating in 2018) and many of their comparison practices (79 percent) did not join CPC+ in 2017 or 2018, these favorable effects reflect the four years of CPC Classic and the two years of CPC+. We cannot determine how much of the effects are attributable to the lagged effects of CPC Classic versus the additional years of support through CPC+. Although CPC+ was not associated with significant favorable improvement in outcomes (particularly, hospitalizations) in its first two years for all practices that participated (Anglin et al. 2020), it is possible that CPC+ provided important support to continue the work begun in CPC Classic for the CPC Classic practices that joined.

The estimates in this analysis likely underestimate the full extent of the intervention's favorable effect with outcomes for two reasons. First, 21 percent of CPC Classic comparison practices joined CPC+ and although the beneficiaries assigned to these practices potentially benefited from CPC+, they remained in the comparison group in Years 5 and 6. Second, 14 percent of CPC Classic practices did not join CPC+, and although the beneficiaries assigned to them were not affected by CPC+, they remained in the intervention group in the last two years.

Although the favorable effects with hospitalizations in the fifth and sixth years are promising, they did not translate to a discernable impact on Medicare Part A and Part B expenditures. There are two potential explanations. First, despite the strong favorable effects with hospitalizations in Years 5 and 6, the magnitude of the corresponding favorable effects with inpatient expenditures in these years were small (and not statistically significant). This finding suggests that the avoided hospitalizations were relatively less severe and thus less costly. Second, there were offsetting estimated increases in physician and hospice expenditures.

5.F.5. Conclusion

The findings from this analysis have important implications for how payers and policymakers should test and assess primary care reform over longer periods. The results suggest that primary care transformation may reduce ED visits quickly, that it could take five years of robust support to reduce hospitalizations, and that reducing total health care spending may require longer or new approaches.

5.G. Triple-differences analysis

This Appendix examines whether using comparison practices from external (non-CPC+) regions might bias the difference-in-differences impact results. Because the comparison practices are from outside the CPC+ regions, they may experience different market conditions and trends than CPC+ practices, which might introduce bias in our impact estimates. In this Appendix, we first explain such potential bias (Section 1). We then introduce the triple-differences analytic methods we used to assess the possibility of bias from using the external comparison group (Section 2). Finally, we describe the results (Section 3) and discuss their implications (Section 4).

5.G.1. Introduction

A. Potential bias due to regional variation

The difference-in-differences model used in the CPC+ impact analysis assumes that, in the absence of the intervention, outcomes for beneficiaries attributed to CPC+ practices would follow the same trajectory as outcomes among the beneficiaries attributed to comparison practices (Wing et al. 2018). However, because our comparison practices are drawn from external regions, it is possible that region-specific "shocks" (i.e., changes in outcomes) during the intervention period could violate this assumption—that is, could cause outcomes in one region to differ from those experienced in other regions for reasons that are unrelated to CPC+.

Regional shocks might include changes in market characteristics at the level of the zip code, county, or hospital referral region (HRR); changes in policy or advocacy at the state level; as well as differential impacts of natural disasters and pandemics at both local and state levels. State-level changes that might affect outcome trends could include, for example, Colorado's Medicare-Medicaid Financial Alignment Initiative (which ended on December 31, 2017, early in the CPC+ intervention period), the Michigan Primary Care Consortium (which facilitates knowledge-sharing around principles of the patient-centered medical home), or any number of possible changes in reimbursement policy by non-Medicare payers in a CPC+ or comparison region. In addition, changes in local market characteristics at the zip-, county-, or HRR-level might include the following:

- Changes in the supply of primary care physicians
- Openings or closures of major health care facilities
- Consolidation in hospital or practice ownership
- Continued increase in adoption of health IT, including telehealth services
- Changes in factors that affect population health—for example, urban planning or availability of social services

The differences in regional trends could bias the CPC+ impact estimates in either direction. That is, differences in secular trends by region could make changes in acute hospitalizations or other outcomes of CPC+ beneficiaries lower or higher than changes among comparison group beneficiaries, even if CPC+ had no effect, depending on the exact nature of the regional shocks.

B. Overview of the triple-differences model

We assessed the possibility of bias in the external comparison group through a triple-differences model. This model goes beyond the differences-in-differences impacts model to net out the difference in changes in outcomes between nonparticipating practices in CPC+ regions (non-CPC+ practices) and unselected practices in comparison regions (non-comparison practices) to reduce the potential bias due to regional shocks. These two groups are in the same regions as the CPC+ and comparison practices, respectively, and should experience the same regional shocks as practices within their region. Introducing these additional reference groups for CPC+ and comparison practices enables the triple-differences model to cancel out the impacts of regional shocks on outcomes and identify the unbiased impact estimates of the CPC+ intervention.

The underlying assumption of the triple-differences model is that, in the absence of the CPC+ intervention, the trend divergence (if any) between the CPC+ and comparison practices during the intervention period would be similar to the trend divergence (if any) between the non-CPC+ practices and non-comparison practices. Because we do not have data to assess the counterfactual for *the intervention period*, that is, what the outcome trends for CPC+ practices would have been without the CPC+ intervention, we used the outcomes during *the baseline period* to provide supportive evidence for this assumption. We also conducted sensitivity tests to examine the robustness of the triple-differences estimates.

Although the triple-differences model rigorously accounts for the possibility of regional bias in our estimates, in our main analysis we use the difference-in-differences model instead of the triple-differences model, for six reasons. First, since CPC+ is the successor of the Comprehensive Primary Care initiative (CPC Classic), using a difference-in-differences approach for both CPC+ and CPC Classic facilitates comparing the impact findings between these two initiatives. Second, compared to the widely used difference-in-differences model, the triple-differences model has a more complex design and its results are less transparent and more difficult to interpret. Third, the triple-differences estimates are less precise than the difference-in-differences estimates, due to the added uncertainty from estimating an additional layer of difference. Fourth, we use the same external comparison group for our survey analyses as for the claims-based impact analysis, and multiple comparison groups needed for the triple-differences model would be infeasible from a survey budget perspective. Using the same comparison group allows for comparison and synthesis across the survey and impact results. Fifth, it is more resource intensive to process data for the larger triple-differences sample for all of the practices in the CPC+ and comparison regions and to implement the triple-differences analysis for all outcomes and for all regression models (for example, regressions by track and Medicare Shared Savings Plan [SSP] status, subgroup regressions, and sensitivity analysis) that we include in annual reports. Finally, the difference-in-differences approach contains 14 regions in the CPC+ group and 27 regions in the comparison group, which should insulate against small region-level shocks. However, it is possible that the large number of regions will not be enough to address possible regional differences in COVID-19 effects. For future CPC+ annual reports, if we find that the COVID-19 pandemic affected CPC+ and comparison practices and beneficiaries differentially, we will consider continuing to use the triple-differences analysis as a sensitivity test on the main analysis, as it rigorously controls for regional differences.

5.G.2. Methods

A. Study population, unit of observation, and outcomes

Sample of practices. We applied the triple-differences model to the 2017 CPC+ Starters and comparison regions. The sample of practices includes CPC+ (treatment) and comparison practices, as well as non-CPC+ practices and non-comparison practices. For non-CPC+ practices and non-comparison practices, we applied the same practice exclusion criteria used in selecting the comparison group (Ghosh et al. 2020, Chapter 6 of Peikes et al. 2021).

Beneficiary assignment based on attribution. To estimate triple-differences impacts, we used an intent-to-treat (ITT) approach that includes practices and their "assigned" beneficiaries. Our approach is largely consistent with the one taken in our second annual report for the independent evaluation of CPC+ (Ghosh et al. 2020). That is, once we attributed a beneficiary to a CPC+ or comparison practice in any baseline or intervention quarter, we continued to assign that beneficiary to the same practice in future baseline and intervention quarters, regardless of whether the beneficiary continued to receive care at that practice. However, if a beneficiary was attributed to a non-CPC+ practice or a non-comparison practice in the first Program Year (PY 1) (2017), and to a CPC+ or comparison practice in PY 2 (2018), that beneficiary would be re-assigned to that CPC+ or comparison practice in PY 2.

Table 5.G.1 shows the number of practices and the number of Medicare fee-for-service (FFS) beneficiaries in the triple-differences analysis and in the second annual report, for each track and practice group. Compared to the analysis in the second annual report, the triple-differences sample contains the same number of CPC+ and comparison practices, and the number of unique beneficiaries assigned to these practices minimally increased by 0.1 percent for both Track 1 and Track 2. The slight increases in the number of unique beneficiaries are due to minor adjustments from the ITT approach used in the second annual report to account for the facts that (1) we allowed 2018 Starter comparison practices in 2017 Starter comparison regions to be non-comparison practices, (2) we allowed practices that applied to CPC+ but were not selected to participate to be non-CPC+ practices, and (3) we considered the baseline and intervention periods for the non-CPC+ and non-comparison practices to be the same as those for the 2017 Starters.[130]

[130] For example, we expect allowing 2018 Starter comparison practices in 2017 Starter comparison regions to be non-comparison practices to increase the number of beneficiaries attributed to 2017 CPC+ or comparison practices, because beneficiaries attributed to 2018 comparison practices in PY 1 could switch into 2017 CPC+ or comparison practices in PY 2.

Table 5.G.1. Number of practices and number of Medicare FFS beneficiaries in the triple-differences analysis and in the difference-in-differences analysis in the second annual report, by track and practice group

	CPC+		Comparison		Non-CPC+		Non-comparison	
Research sample	Triple-differences	Difference-in-differences	Triple-differences	Difference-in-differences	Triple-differences	Difference-in-differences	Triple-differences	Difference-in-differences
Track 1								
Number of practices	1,373	1,373	5,243	5,243	8,648	n.a.	21,093	n.a.
Number of beneficiaries	1,192,360	1,189,438	3,977,113	3,974,531	3,566,880	n.a.	9,797,595	n.a.
Track 2								
Number of practices	1,515	1,515	3,783	3,783	7,972	n.a.	20,519	n.a.
Number of beneficiaries	1,447,153	1,443,553	3,363,028	3,360,712	3,185,220	n.a.	9,503,307	n.a.

Source: Mathematica's analysis of Medicare claims data from January 2014 through December 2018.

FFS = fee-for-service; n.a. = not applicable; Non-comparison = unselected practices in CPC+ comparison regions; Non-CPC+ = nonparticipating practices in CPC+ regions.

Unit of observation. The unit of observation in the regressions is the beneficiary-quarter. Each beneficiary has observations for as many quarters as the person remains in the sample and can still be observed in Medicare claims. The observability criteria are the same as in the second annual report (Ghosh et al. 2020). To be observed, a beneficiary assigned to a practice for the baseline or the intervention period had to be alive, have both Part A and B Medicare FFS coverage with Medicare as the primary payer, and not be covered under a Medicare Advantage or other Medicare health plan.

Outcomes. We analyzed four key outcomes for Medicare FFS beneficiaries, which are a subset of outcomes that were examined in the second annual report:

- Medicare expenditures without CMS's enhanced payments made to CPC+ practices, in dollars per beneficiary per month
- Annualized number of acute hospitalizations per 1,000 beneficiaries
- Annualized number of outpatient emergency department (ED) visits per 1,000 beneficiaries
- Annualized number of total ED visits per 1,000 beneficiaries

Control variables. We included the same set of beneficiary characteristics as in the main impact analysis in the second annual report (Ghosh et al. 2020). To allow for the possibility that beneficiary characteristics might have different effects for beneficiaries in CPC+ or comparison practices versus for beneficiaries in non-CPC+ or non-comparison practices, we interacted the beneficiary control variables with an indicator for whether the beneficiary was assigned to a CPC+ or comparison practice.

B. Model specification

Let *i* index the beneficiary, *j* index the practice, and *t* index time, where *t* ranges from 0 to 2, with 0 denoting the baseline year. We estimated a triple-differences regression model for beneficiaries assigned to CPC+ practices, selected comparison practices, non-CPC+ practices, and non-comparison practices. The model had the following form:

$$(5.G.1) \qquad y_{ijt} = \alpha + \beta X_{it} + \pi X_{it} s_j + \gamma_t p_t + \theta_t a_j p_t + \delta_t s_j p_t + \mu_t a_j s_j p_t + b_j + \varepsilon_{ijt}$$

where

y_{ijt} is an outcome variable for beneficiary *i*, in practice *j*, in year *t*.

X_{it} is a vector of characteristics of beneficiary *i* measured at the start of the baseline period for baseline observations, and at the start of the intervention period for intervention period observations. For example, beneficiary characteristics include demographics (age, race, and gender), variables capturing Medicare and Medicaid eligibility (that is, original reason for Medicare eligibility, and dual Medicare-Medicaid status), and hierarchical condition category (HCC) score.

p_t (for "post") is an intervention-period indicator that takes the value of 1 during a specific program year, in this case PY 1 or PY 2, and 0 otherwise.

b_j is a practice-level fixed effect for practice *j*, which controls for all time-invariant practice characteristics.

a_j (for "area") is a binary indicator for being in a CPC+ region; the indicator takes the value of 1 if the practice *j* is located in a CPC+ region and is 0 otherwise. The main effect of this indicator is not identified in this equation since it is collinear with the practice fixed effects.

s_j (for "selected") is a binary indicator of being a CPC+ or comparison practice; the indicator takes the value of 1 if the practice *j* is a CPC+ practice or a comparison practice, and is 0 if practice *j* is a non-CPC+ practice or a non-comparison practice. The main effect of this indicator is not identified in this equation since it is collinear with the practice fixed effects.

ε_{ijt} is the idiosyncratic error term. It represents unexplained variability in the outcome variable for beneficiary *i*, in practice *j*, during year *t*.

Table 5.G.2 summarizes how we used the parameter estimates from Equation (5.G.1) to obtain the regression-adjusted group means for CPC+ practices, comparison practices, non-CPC+ practices, and non-comparison practices, for the baseline and two program years, along with the triple-differences impact estimates for PY 1 and PY 2.

Table 5.G.2. Impact estimate and group means for CPC+ practices, comparison practices, nonparticipating practices in the CPC+ regions, and unselected practices in comparison regions based on a linear regression from Equation (5.G.1)

Comparison regions

Year	Comparison group mean	Non-comparison group mean	Difference between comparison and non-comparison group means	Difference-in-differences	Triple-differences
Baseline year $(t=0)$ [reference period]	$\alpha+\pi+(\sigma)$	α	$\pi+(\sigma)$	N/A	N/A
PY 1 $(t=1)$	$\alpha+\pi+\gamma_1+\delta_1+(\sigma)$	$\alpha+\gamma_1$	$\delta_1+\pi+(\sigma)$	δ_1	N/A
PY 2 $(t=2)$	$\alpha+\pi+\gamma_2+\delta_2+(\sigma)$	$\alpha+\gamma_2$	$\delta_2+\pi+(\sigma)$	δ_2	N/A

CPC+ regions

Year	CPC+ group mean	Non-CPC+ group mean	Difference between CPC+ and non-CPC+ group means	Difference-in-differences	Triple-differences
Baseline year $(t=0)$ [reference period]	$\alpha+\pi+(\rho+\sigma+\tau)$	$\alpha+(\rho)$	$\pi+(\sigma+\tau)$	N/A	N/A
PY 1 $(t=1)$	$\alpha+\pi+\gamma_1+\theta_1+\delta_1+\mu_1+(\rho+\sigma+\tau)$	$\alpha+\gamma_1+\theta_1+(\rho)$	$\delta_1+\pi+\mu_1+(\sigma+\tau)$	$\delta_1+\mu_1$	μ_1
PY 2 $(t=2)$	$\alpha+\pi+\gamma_2+\theta_2+\delta_2+\mu_2+(\rho+\sigma+\tau)$	$\alpha+\gamma_2+\theta_2+(\rho)$	$\delta_2+\pi+\mu_2+(\sigma+\tau)$	$\delta_2+\mu_2$	μ_2

Notes: To highlight the key coefficients in Equation (5.G.1) above, we exclude the coefficients on beneficiary characteristics and practice characteristics in the expressions for group means in this table. The parameter π in the table denotes a coefficient on the interaction between beneficiary characteristics and the indicator for being a CPC+ or comparison practice, the parameter ρ denotes a coefficient on the indicator for being in a CPC+ region, the parameter σ denotes a coefficient on the indicator for being a CPC+ or comparison practice, and the parameter τ denotes a coefficient on the interaction between the indicator for being in a CPC+ region and the indicator for being a CPC+ or comparison practice. These terms are not included in Equation (5.G.1); they cannot be directly estimated because the model includes practice fixed effects. We include these terms in this table to illustrate the difference-in-difference-in-differences approach, but we show it in parentheses since we do not obtain the estimates. These parameters are differenced out in obtaining the impact estimate.

Non-comparison = unselected practices in comparison regions; Non-CPC+ = nonparticipating practices in CPC+ regions; PY = Program Year.

C. Model estimation

Our model estimation is the same as in the second annual report (Ghosh et al. 2020, Chapter 6 of Peikes et al. 2021):

- The regression sample included one baseline year (2016) and the two intervention years (PY 1 and PY 2).
- We estimated Equation 5.G.1 as a linear regression, separately for Track 1 and Track 2.
- All regressions accounted for non-independence across observations within the same practice, using standard error estimates clustered at the practice level.
- Each regression controlled for practice fixed effects.

D. Weighting

For beneficiaries in CPC+ or comparison practices, we applied the same weights as in the impact analysis in the second annual report (Ghosh et al. 2020). That is, the final weight for beneficiaries in the comparison group was the product of the enrollment weight and the matching weight. For beneficiaries in the CPC+ group, we needed only the enrollment weight because, by construction, the matching weight for each CPC+ beneficiary is one.

For beneficiaries in non-CPC+ practices or non-comparison practices, the final weight was the product of the enrollment weight and the concentration weight. We constructed the concentration weight at the state-HRR level such that non-CPC+ practices had the same level of representation (in terms of beneficiary months) as CPC+ practices in the same state and HRR, and non-comparison practices had the same level of representation as comparison practices in the same state and HRR.[131]

E. Sensitivity analysis

We conducted the following sensitivity tests to assess the robustness of the findings from the triple-differences analysis:

- **Not use the concentration weight for non-CPC+ practices and non-comparison practices.** If the number of practices (and their beneficiaries) changes differentially across the analysis groups during the intervention period (for example, due to differences in practice closures or COVID-19 related mortality), the *baseline* concentration weight may no longer lead to similar levels of geographic representation between analysis groups during the *intervention* period. As a result, the triple-differences model would not cancel out the regional shocks as intended. This check helps to assess if the findings are sensitive to the use of concentration weights.

[131] The only exception to the balanced representation at the state-HRR level is for state-HRRs that had only CPC+ or comparison practices, in which case there is no representation of non-participating practices or unselected practices in those specific state-HRRs. We adjust the concentration weight for practices that are in the same state for such cases so that the representation at state level is still balanced.

- **Winsorize the concentration weight at the 99th percentile.** This test helps to check if extreme values of the concentration weight are driving the findings.
- Exclude non-CPC+ practices (and non-comparison practices) that had the same Taxpayer Identification Number (TIN) as CPC+ (or comparison) practices. This test helps to check if the triple-differences estimates are robust to the potential spillover of any favorable impact of CPC+ to practices owned by the same parent entity. If there are favorable spillovers, we would be netting out part of the effect of CPC+ in the triple-differences analysis, which would dilute the estimated effects of the intervention.

We examined the consistency of results from these sensitivity analyses and results from our main triple-differences analysis and we incorporated that information into our discussion and interpretation of findings.

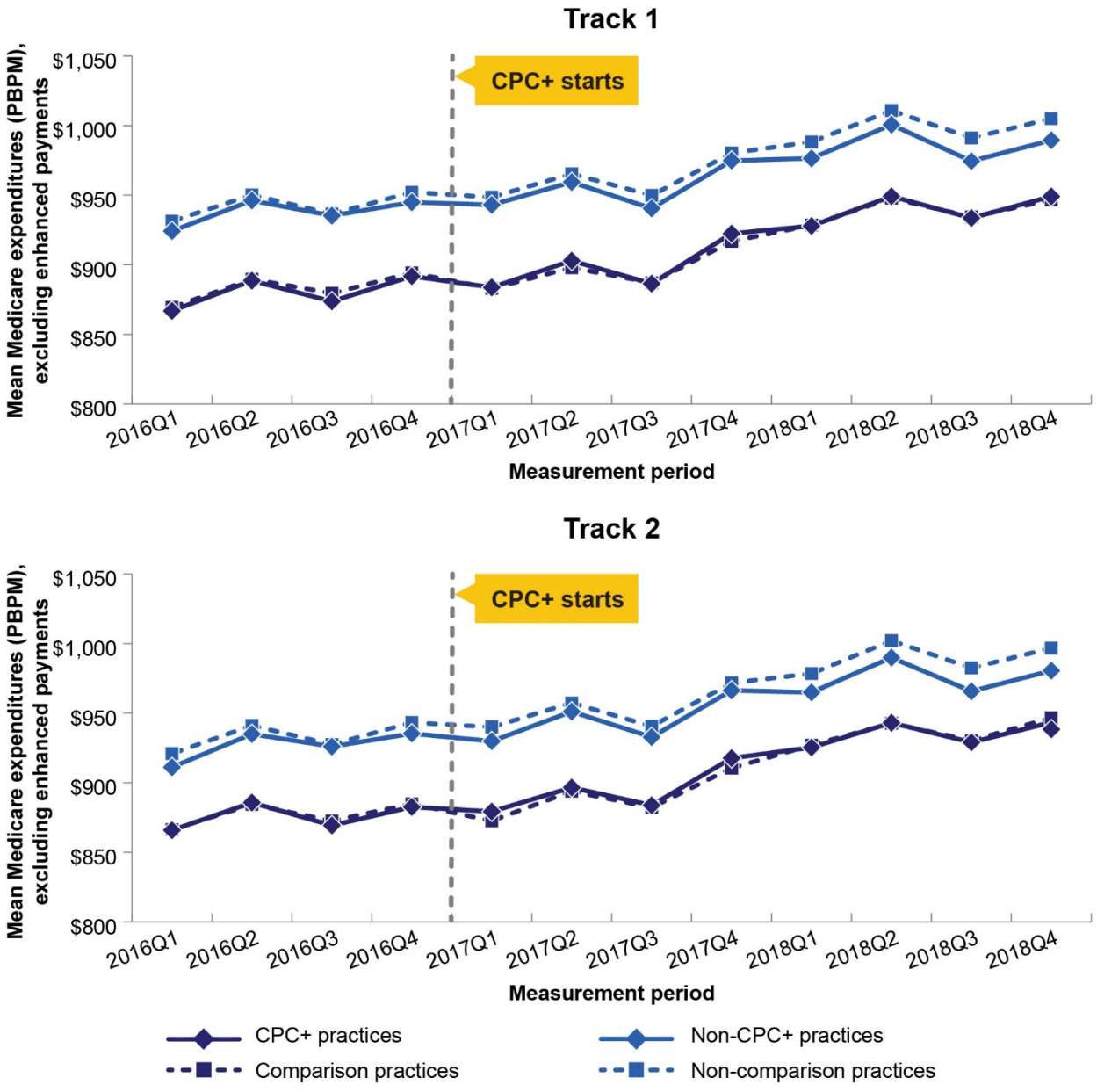
5.G.3. Results

A. Testing the triple-differences model assumption using baseline data

For all four outcomes in Track 1 and Track 2, the parallel trends assumption holds. CPC+ and comparison practices experienced similar quarterly trends during baseline, as did non-CPC+ practices and non-comparison practices (Figures 5.G.1 to 5.G.3), suggesting that the triple-differences model assumption is satisfied during the baseline period.

Figure 5.G.1. Quarterly trends in average Medicare Part A and Part B expenditures PBPM, excluding CMS's enhanced payments, for Track 1 and Track 2

The triple-differences model assumption holds during the baseline period. During the intervention, the average expenditures for CPC+ practices remain similar to those of comparison practices, while the average expenditures for non-CPC+ practices decline compared to those of non-comparison practices. As a result, impacts of the triple-differences estimates are more unfavorable than those of the difference-in-differences estimates.



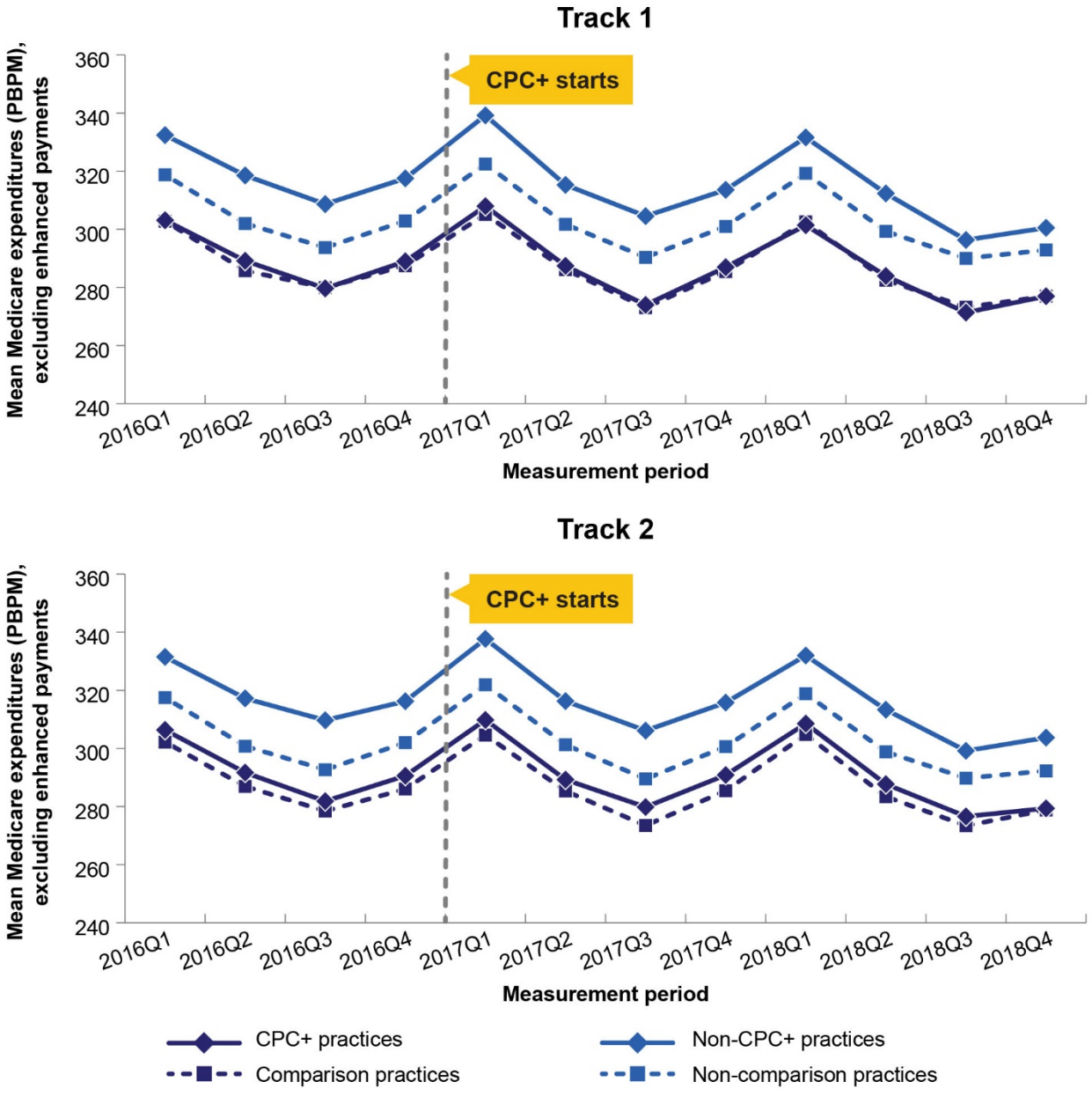
Source: Mathematica's analysis of Medicare claims data for January 2014–December 2018.

Notes: The figure shows weighted average expenditures without regression adjustment.

Non-CPC+ practices = nonparticipating practices in CPC+ regions; Non-comparison practices = unselected practices in comparison regions; PBPM = per beneficiary per month; Q = quarter.

Figure 5.G.2. Quarterly trends in average number of acute hospitalizations, per 1,000 beneficiaries per year, for Track 1 and Track 2

The triple-differences model assumption holds during the baseline period. During the intervention, the average number of acute hospitalizations for CPC+ practices remains similar to those of comparison practices, and the average number of acute hospitalizations for non-CPC+ practices remains higher than those of non-comparison practices. As a result, impacts of the triple-differences estimates are similar to those of the difference-in-differences estimates.



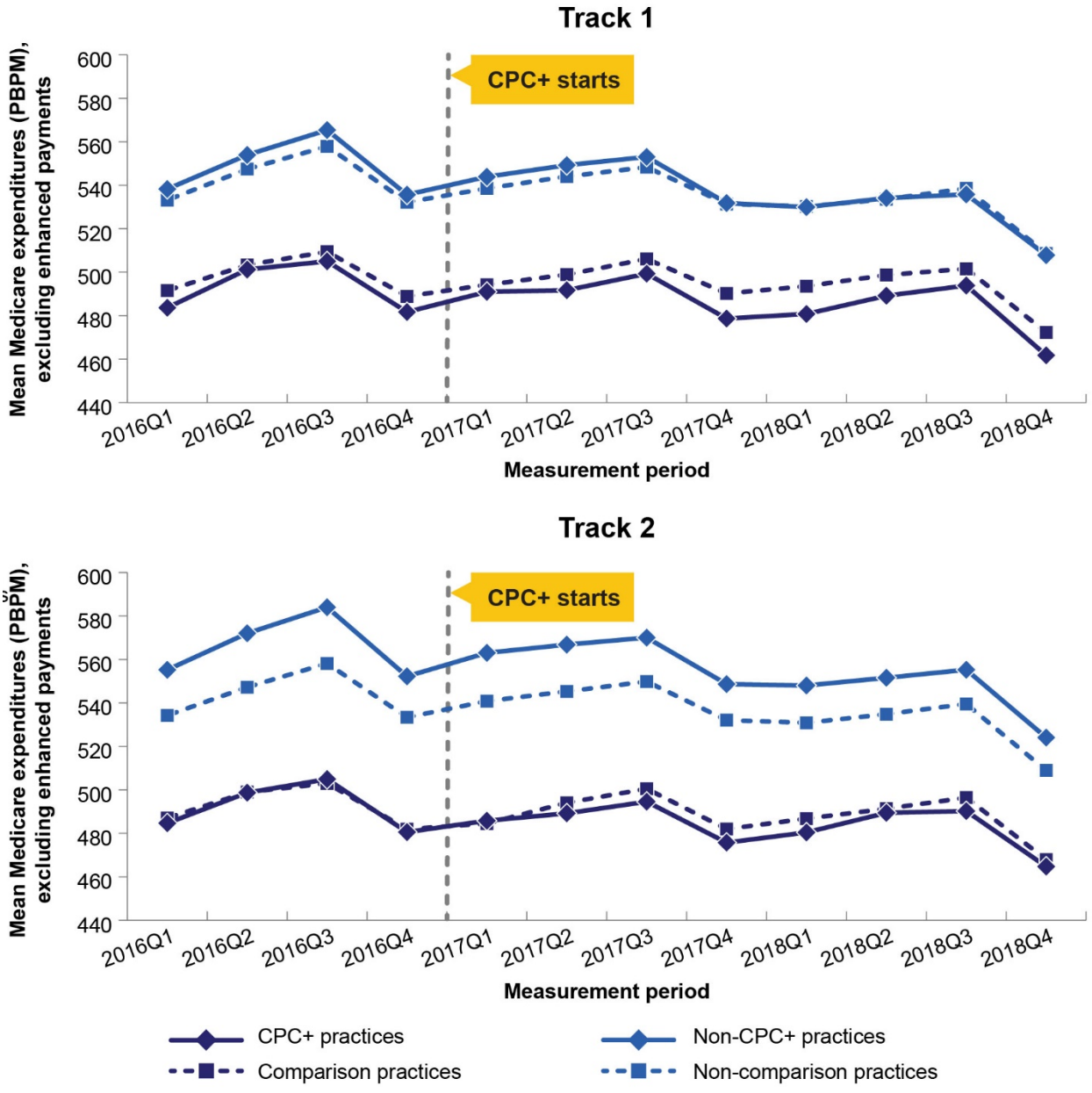
Source: Mathematica's analysis of Medicare claims data for January 2014–December 2018.

Notes: The figure shows weighted average expenditures without regression adjustment.

Non-CPC+ practices = nonparticipating practices in CPC+ regions; Non-comparison practices = unselected practices in comparison regions; PBPM = per beneficiary per month; Q = quarter.

Figure 5.G.3. Quarterly trends in average number of outpatient ED visits, per 1,000 beneficiaries per year, for Track 1 and Track 2

The triple-differences model assumption holds during the baseline period. During the intervention, the average number of ED visits for CPC+ practices declined compared to those of comparison practices, and the average number of ED visits for non-CPC+ practices similarly declined compared to those of non-comparison practices. As a result, impacts of the triple-differences estimates are less favorable than those of the difference-in-differences estimates.



Source: Mathematica's analysis of Medicare claims data for January 2014–December 2018.

Notes: The figure shows weighted average expenditures without regression adjustment.

ED = emergency department; Non-CPC+ practices = nonparticipating practices in CPC+ regions; Non-comparison practices = unselected practices in comparison regions; PBPM = per beneficiary per month; Q = quarter.

We tested the triple-differences model assumption during the baseline period by conducting regressions on baseline trends and testing whether the trend divergence (if any) between CPC+ and comparison practices was similar to the trend divergence (if any) between non-CPC+ practices and non-comparison practices. We did not find any evidence that the triple-differences assumption does not hold during baseline (Table 5.G.3).

Table 5.G.3. Results from testing triple-differences model assumption during baseline quarters

	Track 1			Track 2		
	Estimate[a] (SE)	90% confidence interval	*p*-value	Estimate[a] (SE)	90% confidence interval	*p*-value
Medicare expenditures without enhanced payments	-$1.4 ($2.2)	(-$5.0, $2.3)	0.540	-$2.4 ($2.3)	(-$6.2, $1.5)	0.310
Acute hospitalizations	-0.5 (1.0)	(-2.2, 1.2)	0.651	-0.4 (1.1)	(-2.2, 1.4)	0.724
Total ED visits	0.1 (1.8)	(-2.8, 3.1)	0.935	1.1 (1.9)	(-2.0, 4.2)	0.565
Outpatient ED visits	0.0 (1.4)	(-2.4, 2.3)	0.994	0.6 (1.5)	(-1.9, 3.2)	0.674

Source: Mathematica's analysis of Medicare claims data for January 2013–December 2016.

[a] Estimates are regression-adjusted for pre-CPC+ beneficiary characteristics (including HCC scores) and practice fixed effects. Each estimate reflects the difference between (1) the trend divergence (if any) between CPC+ and comparison practices and (2) the trend divergence (if any) between non-CPC+ practices and non-comparison practices.

*/**/*** Significantly different from zero at the 0.10/0.05/0.01 level, two-tailed test.

ED = emergency department; HCC = hierarchical condition category; non-comparison = unselected practices in CPC+ comparison regions; non-CPC+ = nonparticipating practices in CPC+ regions; SE = standard error.

B. Triple-differences estimates

For both Track 1 and Track 2, the triple-differences estimates indicate that after controlling for regional shocks, relative to comparison practices, CPC+ practices in both tracks experienced a net increase of 1 percent ($p < 0.05$) in Medicare FFS expenditures without CMS's enhanced payments during the first two intervention years (Tables 5.G.4 and 5.G.5). Quarterly estimates indicate that this small increase mostly originates from a relative increase in expenditures in PY 2.

There was no discernible difference between CPC+ and comparison practices in acute hospitalizations, outpatient ED visits, and total ED visits as shown by both cumulative and quarterly estimates for the first two program years.

C. Comparison with difference-in-differences results in second annual report

The triple-differences estimates and difference-in-differences estimates in the second annual report are largely similar. Both sets of estimates suggest that CPC+ had minimal effects on

Medicare FFS beneficiaries' outcomes in the first two years. There are slight differences between these two sets of estimates for expenditures and ED visits (Tables 5.G.4 and 5.G.5):[132]

- **Expenditures.** Difference-in-differences estimates in the second annual report indicate that there was no discernible difference in Medicare FFS expenditures without CMS's enhanced payments ($4 per beneficiary per month, or 0.4 percent, $p = 0.23$ for Track 1; $5 per beneficiary per month, or 0.5 percent, $p = 0.14$ for Track 2). The triple-differences estimates indicate a net increase of $8 per beneficiary per month (0.9 percent, $p = 0.04$) for Track 1, and $10 per beneficiary per month (1.1 percent, $p = 0.02$) for Track 2. The differences between the triple-differences and difference-in-differences cumulative estimates are statistically significant ($p = 0.1$ for Track 1, and $p = 0.05$ for Track 2).
- **ED visits.** Difference-in-differences estimates in the second annual report indicate that for both Track 1 and Track 2, the outpatient ED visits decreased by 6 visits per 1,000 beneficiaries per year (1.3 percent, $p < 0.01$) among CPC+ practices during the first two program years. The triple-differences estimates indicate that there was no discernable difference (-1.8 visits per 1,000 beneficiaries per year, or -0.4 percent, $p = 0.53$ for Track 1; -1.4 visits per 1,000 beneficiaries per year, or -0.3 percent, $p = 0.66$ for Track 2). The differences between the triple-differences and difference-in-differences cumulative estimates are statistically significant ($p = 0.02$ for track 1, and $p = 0.04$ for Track 2).

  The discrepancies for total ED visits and outpatient ED visits were similar (see Tables 5.G.4 and 5.G.5).
- **Hospitalizations.** Both the difference-in-differences estimates in the second annual report and the triple-differences estimates indicate that CPC+ had no discernable effect on acute hospitalizations in the first two years.

D. Sensitivity tests of the triple-differences findings

The estimates from the two sets of sensitivity tests concurred with the main results (Tables 5.G.6 and 5.G.7):

- Varying the sensitivity weights did not alter results. For both Track 1 and Track 2, the triple-differences impact estimates when excluding the concentration weights and when winsorizing the concentration weights at the 99th percentile are consistent with the estimates from the main triple-differences model, suggesting the triple-differences findings are robust to the use of concentration weights.
- Excluding non-CPC+ (and non-comparison) practices that shared the same TIN with CPC+ (or comparison) practices did not alter results. For both Track 1 and Track 2, the estimates using this restricted sample are consistent with the estimates from the main triple-differences model, suggesting that the estimates are not driven by potential spillover of CPC+ effects within the TIN.

[132] Because of the large sample size, the triple-differences analysis is able to detect that the relatively small differences between the triple-differences estimates and the difference-in-differences estimates are statistically significant.

Table 5.G.4. Regression-adjusted means and estimated triple-differences and difference-in-differences impacts of CPC+ on selected outcomes for attributed Medicare FFS beneficiaries during the first eight program quarters, Track 1

	Triple-differences regression-adjusted means				Triple-differences estimates				Difference-in-differences estimates in the second annual report			
	CPC+ mean[a]	Comparison mean[a]	Non-CPC+ mean[a]	Non-comparison mean[a]	Impact estimate[b] (SE)	Percentage impact[c]	90% confidence interval	*p*-value	Impact estimate[b] (SE)	Percentage impact[c]	90% confidence interval	*p*-value
Medicare expenditures (per beneficiary per month)												
Total Medicare Part A and B expenditures without additional payments												
Baseline	$881	$883	$938	$943	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Q1	$884	$885	$941	$947	$3.7 ($5.8)	0.4%	(-$5.8, $13.1)	0.525	$2.1 ($4.6)	0.2%	(-$5.4, $9.6)	0.642
Q2	$903	$899	$959	$965	$8.2 ($5.8)	0.9%	(-$1.4, $17.8)	0.158	$6.8 ($4.5)	0.8%	(-$0.6, $14.2)	0.130
Q3	$886	$888	$941	$950	$5.9 ($5.7)	0.7%	(-$3.5, $15.2)	0.301	$1.5 ($4.4)	0.2%	(-$5.7, $8.6)	0.737
Q4	$922	$918	$976	$981	$8.2 ($5.9)	0.9%	(-$1.4, $17.9)	0.161	$7.8* ($4.5)	0.9%	($0.4, $15.2)	0.081
Q5	$928	$929	$988	$999	$7.1 ($6.1)	0.8%	(-$2.9, $17.1)	0.243	$1.5 ($4.7)	0.2%	(-$6.2, $9.2)	0.752
Q6	$949	$948	$1,014	$1,022	$7.2 ($5.9)	0.8%	(-$2.6, $16.9)	0.227	$3.6 ($4.6)	0.4%	(-$3.9, $11.1)	0.433
Q7	$934	$935	$989	$1,003	$10.8* (5.9)	1.2%	($1.1, $20.5)	0.068	$1.7 ($4.6)	0.2%	(-$5.9, $9.2)	0.714
Q8	$949	$947	$1,005	$1,017	$12.8** ($5.9)	1.4%	($3.1, $22.5)	0.030	$5.4 ($4.5)	0.6%	(-$2.1, $12.8)	0.235
Q1 through Q8	$921	$920	$975	$984	$8.0** ($4.0)	0.9%	($1.5, $14.6)	0.044	$3.8 ($3.1)	0.4%	(-$1.3, $8.9)	0.225
Service use (per 1,000 beneficiaries per year)												
Acute hospitalizations (short-stay acute care and critical access hospitals)												
Baseline	290	289	319	304	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Q1	308	306	339	323	-0.7 (2.8)	-0.2%	(-5.2, 3.8)	0.805	0.3 (2.1)	0.1%	(-3.1, 3.8)	0.882
Q2	287	287	316	303	0.7 (2.7)	0.2%	(-3.7, 5.2)	0.791	-1.2 (2.1)	-0.4%	(-4.6, 2.2)	0.568
Q3	274	274	305	291	-0.2 (2.6)	-0.1%	(-4.6, 4.1)	0.933	-1.3 (2.1)	-0.5%	(-4.7, 2.1)	0.520
Q4	287	286	314	302	1.9 (2.7)	0.7%	(-2.5, 6.3)	0.480	-0.7 (2.0)	-0.2%	(-4.1, 2.7)	0.726
Q5	301	303	336	323	-1.5 (2.8)	-0.5%	(-6.1, 3.0)	0.581	-3.2 (2.1)	-1.1%	(-6.7, 0.2)	0.125
Q6	284	283	317	303	0.3 (2.7)	0.1%	(-4.1, 4.7)	0.910	-0.5 (2.1)	-0.2%	(-4.0, 2.9)	0.797

Table 5.G.4. ***(continued)***

	Triple-differences regression-adjusted means				Triple-differences estimates				Difference-in-differences estimates in the second annual report			
	CPC+ mean[a]	Comparison mean[a]	Non-CPC+ mean[a]	Non-comparison mean[a]	Impact estimate[b] (SE)	Percentage impact[c]	90% confidence interval	*p*-value	Impact estimate[b] (SE)	Percentage impact[c]	90% confidence interval	*p*-value
Q7	271	274	302	293	3.5 (2.7)	1.3%	(-0.9, 8.0)	0.195	-3.5* (2.1)	-1.3%	(-7.0, 0.0)	0.098
Q8	277	277	306	296	3.9 (2.8)	1.4%	(-0.6, 8.5)	0.157	-1.5 (2.2)	-0.5%	(-5.1, 2.1)	0.487
Q1 through Q8	286	286	315	303	1.0 (1.8)	0.3%	(-2.0, 4.0)	0.586	-1.5 (1.4)	-0.5%	(-3.9, 0.8)	0.281
Outpatient ED visits, including observation stays												
Baseline	493	498	548	543	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Q1	491	498	545	542	1.1 (3.9)	0.2%	(-5.4, 7.6)	0.778	-1.8 (2.9)	-0.4%	(-6.6, 3.0)	0.541
Q2	492	503	551	548	-2.7 (3.9)	-0.6%	(-9.2, 3.7)	0.483	-5.6* (3.0)	-1.1%	(-10.5, -0.6)	0.063
Q3	499	510	554	552	-2.1 (3.9)	-0.4%	(-8.6, 4.4)	0.592	-5.0* (2.9)	-1.0%	(-9.8, -0.2)	0.085
Q4	479	494	533	535	-2.6 (4.2)	-0.6%	(-9.6, 4.3)	0.530	-9.7*** (3.2)	-2.0%	(-15.0, -4.3)	0.003
Q5	481	496	544	543	-5.0 (4.2)	-1.0%	(-11.8, 1.9)	0.236	-10.3*** (3.2)	-2.1%	(-15.4, -5.1)	0.001
Q6	489	501	548	547	-2.9 (4.2)	-0.6%	(-9.9, 4.1)	0.498	-7.0** (3.2)	-1.4%	(-12.3, -1.7)	0.029
Q7	494	503	550	551	2.5 (4.2)	0.5%	(-4.4, 9.4)	0.549	-4.3 (3.3)	-0.9%	(-9.6, 1.1)	0.191
Q8	462	474	523	521	-2.7 (4.3)	-0.6%	(-9.8, 4.5)	0.541	-7.1** (3.3)	-1.5%	(-12.5, -1.6)	0.034
Q1 through Q8	485	497	542	541	-1.8 (2.9)	-0.4%	(-6.6, 3.0)	0.531	-6.4*** (2.2)	-1.3%	(-10.1, -2.7)	0.004
Total ED visits, including observation stays												
Baseline	708	706	785	762	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Q1	721	721	799	778	0.9 (4.9)	0.1%	(-7.2, 9.0)	0.849	-0.9 (3.6)	-0.1%	(-6.9, 5.0)	0.794
Q2	705	710	785	767	-2.1 (4.8)	-0.3%	(-10.0, 5.8)	0.663	-6.9* (3.6)	-1.0%	(-12.9, -0.8)	0.060
Q3	701	707	780	762	-2.9 (4.8)	-0.4%	(-10.8, 5.0)	0.546	-7.5** (3.6)	-1.1%	(-13.5, -1.6)	0.037
Q4	692	703	768	756	-1.9 (5.1)	-0.3%	(-10.3, 6.4)	0.706	-12.2*** (3.9)	-1.7%	(-18.6, -5.8)	0.002
Q5	709	721	799	783	-7.0 (5.1)	-1.0%	(-15.5, 1.4)	0.169	-14.6*** (3.9)	-2.0%	(-21.0, -8.2)	0.000
Q6	701	708	785	769	-2.4 (5.2)	-0.3%	(-10.9, 6.1)	0.645	-9.2** (3.9)	-1.3%	(-15.7, -2.7)	0.020

Table 5.G.4. ***(continued)***

	Triple-differences regression-adjusted means				Triple-differences estimates				Difference-in-differences estimates in the second annual report			
	CPC+ mean[a]	Comparison mean[a]	Non-CPC+ mean[a]	Non-comparison mean[a]	Impact estimate[b] (SE)	Percentage impact[c]	90% confidence interval	*p*-value	Impact estimate[b] (SE)	Percentage impact[c]	90% confidence interval	*p*-value
Q7	697	704	776	767	5.0 (5.0)	0.7%	(-3.3, 13.2)	0.323	-9.1** (3.8)	-1.3%	(-15.4, -2.8)	0.017
Q8	670	679	754	741	-0.4 (5.3)	-0.1%	(-9.1, 8.2)	0.933	-11.3*** (4.1)	-1.7%	(-17.9, -4.6)	0.006
Q1 through Q8	699	706	778	763	-1.4 (3.6)	-0.2%	(-7.3, 4.4)	0.687	-9.2*** (2.7)	-1.3%	(-13.6, -4.7)	0.001
Unweighted sample sizes												
Number of practices	1,373	5,243	8,648	21,093								
Number of beneficiaries	1,192,360	3,977,113	3,566,880	9,797,595								
Number of beneficiary quarters	10,277,905	34,003,567	30,977,493	85,236,566								

Source: Mathematica's analysis of Medicare claims data from January 2013 through December 2018.

Notes: Although this table indicates which estimates are statistically significant, when we interpret evidence, we combine evidence from the magnitude of the effect, the *p*-values, findings on related outcomes, and sensitivity tests.

[a] We report the actual, unadjusted CPC+ mean for each time period shown in the table. For comparison group practices, non-CPC+ practices, and non-comparison practices, we report the actual, unadjusted mean during the baseline period but the adjusted mean during each intervention period. We obtain the adjusted mean by subtracting the regression-adjusted difference between the CPC+ mean and each group's mean in each time period from the CPC+ mean in that same time period.

[b] Impact estimates are regression-adjusted for pre-CPC+ beneficiary characteristics (including HCC scores) and practice fixed effects. Each impact estimate is based on a triple-differences analysis and reflects the difference between (1) the difference in the regression-adjusted average outcome for attributed Medicare FFS beneficiaries in CPC+ practices in the first eight program quarters compared with baseline relative to the same difference over time for attributed Medicare FFS beneficiaries in comparison practices, and (2) the difference in the regression-adjusted average outcome for attributed Medicare FFS beneficiaries in non-CPC+ practices in the first eight program quarters compared with baseline relative to the same difference over time for attributed Medicare FFS beneficiaries in non-comparison practices.

[c] We calculate percentage impacts relative to what the CPC+ mean would have been in each quarter in the absence of the intervention—that is, the unadjusted CPC+ mean minus the impact estimate.

[d] After accounting for weights that adjust for matching, time observed in Medicare FFS, and the concentration of CPC+ in each geographic area, the effective sample sizes fall. For non-CPC+ practices, the effective sample size (in terms of beneficiary-quarters) is 43 percent of the actual group size. For non-comparison practices, the effective sample size (in terms of beneficiary-quarters) is 46 percent of the actual group size. For the comparison group, the effective sample size (in terms of beneficiary-quarters) is 47 percent of the size of the actual comparison group. Because CPC+ sample size is affected only by time observed (and is not affected by the matching weights), the effective sample size for the CPC+ group is about 99.7 percent of the actual sample size.

*/**/*** Significantly different from zero at the 0.10/0.05/0.01 level, two-tailed test.

ED = emergency department; FFS = fee-for-service; HCC = hierarchical condition category; n.a. = not applicable; Non-comparison = unselected practices in CPC+ comparison regions; Non-CPC+ = nonparticipating practices in CPC+ regions; Q = quarter; SE = standard error.

Table 5.G.5. Regression-adjusted means and estimated triple-differences and difference-in-differences impacts of CPC+ on selected outcomes for attributed Medicare FFS beneficiaries during the first eight program quarters, Track 2

	Triple-differences regression-adjusted means				Triple-differences estimates				Difference-in-differences estimates in the second annual report			
	CPC+ mean[a]	Comparison mean[a]	Non-CPC+ mean[a]	Non-comparison mean[a]	Impact estimate[b] (SE)	Percentage impact[c]	90% confidence interval	*p*-value	Impact estimate[b] (SE)	Percentage impact[c]	90% confidence interval	*p*-value
Medicare expenditures (per beneficiary per month)												
Total Medicare Part A and B expenditures without additional payments												
Baseline	$876	$877	$927	$933	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Q1	$881	$877	$928	$940	$11.8** ($5.8)	1.4%	($2.3, $21.4)	0.041	$5.5 ($4.4)	0.6%	(-$1.8, $12.8)	0.213
Q2	$899	$897	$950	$958	$4.9 ($6.3)	0.5%	(-$5.5, $15.3)	0.440	$2.9 ($4.7)	0.3%	(-$4.9, $10.7)	0.542
Q3	$886	$885	$933	$942	$5.8 ($5.8)	0.7%	(-$3.7, $15.3)	0.317	$2.5 ($4.4)	0.3%	(-$4.7, $9.7)	0.567
Q4	$920	$913	$967	$974	$8.8 ($6.2)	1.0%	(-$1.4, $19.0)	0.154	$8.3* ($4.7)	0.9%	($0.6, $16.0)	0.078
Q5	$930	$927	$979	$993	$10.9* ($6.5)	1.2%	($0.2, $21.5)	0.093	$4.0 ($5.1)	0.4%	(-$4.5, $12.4)	0.437
Q6	$948	$942	$1,005	$1,016	$11.9* ($6.2)	1.3%	($1.6, $22.2)	0.056	$6.7 ($4.7)	0.7%	(-$1.0, $14.5)	0.153
Q7	$934	$929	$982	$997	$14.5** ($6.4)	1.6%	($3.9, $25.1)	0.025	$5.5 ($4.9)	0.6%	(-$2.6, $13.6)	0.263
Q8	$948	$945	$997	$1,011	$12.2* ($6.4)	1.3%	($1.8, $22.7)	0.055	$4.3 ($4.9)	0.5%	(-$3.8, $12.4)	0.383
Q1 through Q8	$920	$916	$966	$977	$10.1** ($4.3)	1.1%	($3.1, $17.2)	0.018	$5.0 ($3.4)	0.5%	(-$0.6, $10.5)	0.141
Service use (per 1,000 beneficiaries per year)												
Acute hospitalizations (short-stay acute care and critical access hospitals)												
Baseline	292	288	318	303	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Q1	310	307	337	323	-0.1 (2.8)	0.0%	(-4.7, 4.5)	0.968	-1.0 (2.1)	-0.3%	(-4.4, 2.5)	0.644
Q2	289	287	316	302	-0.4 (2.9)	-0.1%	(-5.3, 4.4)	0.886	-1.9 (2.2)	-0.6%	(-5.5, 1.8)	0.402
Q3	280	275	306	291	0.5 (2.7)	0.2%	(-4.0, 5.0)	0.845	0.8 (2.1)	0.3%	(-2.6, 4.3)	0.697
Q4	291	287	316	302	0.9 (2.8)	0.3%	(-3.8, 5.6)	0.753	-0.1 (2.2)	0.0%	(-3.8, 3.6)	0.967
Q5	309	305	337	324	1.0 (2.9)	0.3%	(-3.8, 5.8)	0.735	-0.9 (2.2)	-0.3%	(-4.6, 2.8)	0.683
Q6	288	284	319	304	0.3 (2.8)	0.1%	(-4.4, 4.9)	0.924	-0.2 (2.1)	-0.1%	(-3.7, 3.3)	0.933

Table 5.G.5. ***(continued)***

	Triple-differences regression-adjusted means				Triple-differences estimates				Difference-in-differences estimates in the second annual report			
	CPC+ mean[a]	Comparison mean[a]	Non-CPC+ mean[a]	Non-comparison mean[a]	Impact estimate[b] (SE)	Percentage impact[c]	90% confidence interval	*p*-value	Impact estimate[b] (SE)	Percentage impact[c]	90% confidence interval	*p*-value
Q7	277	273	305	295	4.2 (2.9)	1.5%	(-0.5, 8.9)	0.142	-0.9 (2.2)	-0.3%	(-4.5, 2.6)	0.671
Q8	279	278	310	297	-0.5 (2.9)	-0.2%	(-5.3, 4.3)	0.863	-3.3 (2.2)	-1.2%	(-6.9, 0.3)	0.131
Q1 through Q8	290	287	317	303	0.7 (1.9)	0.3%	(-2.4, 3.9)	0.705	-1.0 (1.5)	-0.3%	(-3.4, 1.5)	0.513
Outpatient ED visits, including observation stays												
Baseline	492	493	566	543	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Q1	486	488	562	543	0.8 (4.2)	0.2%	(-6.2, 7.8)	0.844	-2.1 (3.0)	-0.4%	(-7.1, 2.8)	0.478
Q2	489	498	566	547	-4.7 (4.2)	-0.9%	(-11.5, 2.2)	0.260	-8.1*** (3.0)	-1.6%	(-12.9, -3.2)	0.006
Q3	495	504	570	551	-4.8 (4.2)	-1.0%	(-11.6, 2.0)	0.248	-8.9*** (3.0)	-1.8%	(-13.9, -3.9)	0.003
Q4	476	485	549	533	-1.6 (4.4)	-0.3%	(-8.9, 5.8)	0.726	-9.1*** (3.3)	-1.9%	(-14.5, -3.7)	0.005
Q5	480	488	562	544	-3.0 (4.5)	-0.6%	(-10.5, 4.4)	0.505	-7.7** (3.2)	-1.6%	(-13.0, -2.4)	0.017
Q6	489	493	566	548	1.5 (4.5)	0.3%	(-5.9, 8.8)	0.745	-3.5 (3.3)	-0.7%	(-8.9, 1.9)	0.286
Q7	490	497	571	553	-1.6 (4.6)	-0.3%	(-9.1, 5.9)	0.730	-6.8** (3.3)	-1.4%	(-12.2, -1.3)	0.041
Q8	465	469	540	522	1.5 (4.6)	0.3%	(-6.0, 9.0)	0.743	-3.6 (3.4)	-0.8%	(-9.1, 1.9)	0.286
Q1 through Q8	484	490	559	541	-1.4 (3.2)	-0.3%	(-6.7, 3.9)	0.657	-6.2*** (2.3)	-1.3%	(-10.0, -2.5)	0.007
Total ED visits, including observation stays												
Baseline	707	702	800	761	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Q1	716	713	812	777	1.6 (5.1)	0.2%	(-6.8, 10.1)	0.751	-2.9 (3.7)	-0.4%	(-9.0, 3.3)	0.441
Q2	703	706	798	765	-3.0 (5.2)	-0.4%	(-11.5, 5.6)	0.567	-8.2** (3.8)	-1.2%	(-14.5, -2.0)	0.029
Q3	700	703	794	760	-2.9 (5.1)	-0.4%	(-11.2, 5.4)	0.568	-7.8** (3.7)	-1.1%	(-13.9, -1.7)	0.036
Q4	692	696	784	753	-1.6 (5.4)	-0.2%	(-10.5, 7.4)	0.771	-10.0** (4.1)	-1.4%	(-16.7, -3.2)	0.015
Q5	713	718	818	785	-4.1 (5.6)	-0.6%	(-13.3, 5.1)	0.465	-9.8** (4.1)	-1.4%	(-16.5, -3.1)	0.016
Q6	703	702	803	771	1.9 (5.4)	0.3%	(-7.1, 10.8)	0.730	-4.7 (4.0)	-0.7%	(-11.3, 1.8)	0.233

Table 5.G.5. ***(continued)***

	Triple-differences regression-adjusted means				Triple-differences estimates				Difference-in-differences estimates in the second annual report			
	CPC+ mean[a]	Comparison mean[a]	Non-CPC+ mean[a]	Non-comparison mean[a]	Impact estimate[b] (SE)	Percentage impact[c]	90% confidence interval	*p*-value	Impact estimate[b] (SE)	Percentage impact[c]	90% confidence interval	*p*-value
Q7	695	699	797	769	1.5 (5.6)	0.2%	(-7.7, 10.7)	0.788	-9.4** (4.1)	-1.3%	(-16.1, -2.7)	0.021
Q8	672	677	772	742	-0.3 (5.6)	0.0%	(-9.5, 8.8)	0.953	-10.2** (4.1)	-1.5%	(-17.0, -3.4)	0.014
Q1 through Q8	699	701	794	762	-0.9 (3.9)	-0.1%	(-7.3, 5.6)	0.824	-8.0*** (2.8)	-1.1%	(-12.7, -3.3)	0.005
Unweighted sample sizes												
Number of practices	1,515	3,783	7,972	20,519								
Number of beneficiaries	1,447,153	3,363,028	3,185,220	9,503,307								
Number of beneficiary quarters	12,470,703	28,851,538	27,568,399	82,629,892								

Source: Mathematica's analysis of Medicare claims data from January 2013 through December 2018.

Notes: Although this table indicates which estimates are statistically significant, when we interpret evidence, we combine evidence from the magnitude of the effect, the *p*-values, findings on related outcomes, and sensitivity tests.

[a] We report the actual, unadjusted CPC+ mean for each time period shown in the table. For comparison group practices, non-CPC+ practices, and non-comparison practices, we report the actual, unadjusted mean during the baseline period but the adjusted mean during each intervention period. We obtain the adjusted mean by subtracting the regression-adjusted difference between the CPC+ mean and each group's mean in each time period from the CPC+ mean in that same time period.

[b] Impact estimates are regression-adjusted for pre-CPC+ beneficiary characteristics (including HCC scores) and practice fixed effects. Each impact estimate is based on a triple-differences analysis and reflects the difference between (1) the difference in the regression-adjusted average outcome for attributed Medicare FFS beneficiaries in CPC+ practices in the first eight program quarters compared with baseline relative to the same difference over time for attributed Medicare FFS beneficiaries in comparison practices, and (2) the difference in the regression-adjusted average outcome for attributed Medicare FFS beneficiaries in non-CPC+ practices in the first eight program quarters compared with baseline relative to the same difference over time for attributed Medicare FFS beneficiaries in non-comparison practices.

[c] We calculate percentage impacts relative to what the CPC+ mean would have been in each quarter in the absence of the intervention—that is, the unadjusted CPC+ mean minus the impact estimate.

[d] After accounting for weights that adjust for matching, time observed in Medicare FFS, and the concentration of CPC+ in each geographic area, the effective sample sizes fall. For non-CPC+ practices, the effective sample size (in terms of beneficiary-quarters) is 43 percent of the actual group size. For non-comparison practices, the effective sample size (in terms of beneficiary-quarters) is 46 percent of the actual group size. For the comparison group, the effective sample size (in terms of beneficiary-quarters) is 47 percent of the size of the actual comparison group. Because CPC+ sample size is affected only by time observed (and is not affected by the matching weights), the effective sample size for the CPC+ group is about 99.7 percent of the actual sample size.

*/**/*** Significantly different from zero at the 0.10/0.05/0.01 level, two-tailed test.

ED = emergency department; FFS = fee-for-service; HCC = hierarchical condition category; n.a. = not applicable; Non-comparison = unselected practices in CPC+ comparison regions; Non-CPC+ = nonparticipating practices in CPC+ regions; Q = quarter; SE = standard error.

Table 5.G.6. Triple-differences impact estimates of two-year impact of CPC+ on selected outcomes for Track 1, from main analysis and sensitivity tests

	Main triple-differences estimates				Without using concentration weight				With winsorized concentration weight				Excluding practices that share the same TIN as CPC+ or comparison practices			
	Impact estimate[a] (SE)	Percentage impact[b]	90% confidence interval	*p*-value	Impact estimate[a] (SE)	Percentage impact[b]	90% confidence interval	*p*-value	Impact estimate[a] (SE)	Percentage impact[b]	90% confidence interval	*p*-value	Impact estimate[a] (SE)	Percentage impact[b]	90% confidence interval	*p*-value
Medicare expenditures (per beneficiary per month)																
Total Medicare Part A and B expenditures without additional payments																
Q1 through Q8	$8.0** ($4.0)	0.9%	($1.5, $14.6)	0.044	$7.6** ($3.6)	0.8%	($1.7, $13.5)	0.035	$8.3** ($3.9)	0.9%	($1.9, $14.8)	0.034	$8.4* ($4.9)	0.9%	($0.4, $16.4)	0.084
Service use (per 1,000 beneficiaries per year)																
Acute hospitalizations (short-stay acute care and critical access hospitals)																
Q1 through Q8	1.0 (1.8)	0.3%	(-2.0, 4.0)	0.586	-0.3 (1.6)	-0.1%	(-3.0, 2.3)	0.837	0.8 (1.8)	0.3%	(-2.2, 3.7)	0.661	0.6 (2.2)	0.2%	(-3.0, 4.2)	0.773
Outpatient ED visits, including observation stays																
Q1 through Q8	-1.8 (2.9)	-0.4%	(-6.6, 3.0)	0.531	-0.5 (2.6)	-0.1%	(-4.7, 3.8)	0.854	-2.0 (2.9)	-0.4%	(-6.7, 2.7)	0.485	-1.4 (3.6)	-0.3%	(-7.3, 4.6)	0.701
Total ED visits, including observation stays																
Q1 through Q8	-1.4 (3.6)	-0.2%	(-7.3, 4.4)	0.687	-1.5 (3.1)	-0.2%	(-6.7, 3.7)	0.630	-1.8 (3.5)	-0.3%	(-7.5, 4.0)	0.607	-0.3 (4.4)	0.0%	(-7.5, 6.9)	0.954

Source: Mathematica's analysis of Medicare claims data from January 2013 through December 2018.

Notes: Although this table indicates which estimates are statistically significant, when we interpret evidence, we combine evidence from the magnitude of the effect, the *p*-values, findings on related outcomes, and sensitivity tests.

[a] Impact estimates are regression-adjusted for pre-CPC+ beneficiary characteristics (including HCC scores) and practice fixed effects. Each impact estimate is based on a triple-differences analysis and reflects the difference between (1) the difference in the regression-adjusted average outcome for attributed Medicare FFS beneficiaries in CPC+ practices in the first eight program quarters compared with baseline relative to the same difference over time for attributed Medicare FFS beneficiaries in comparison practices, and (2) the difference in the regression-adjusted average outcome for attributed Medicare FFS beneficiaries in non-CPC+ practices in the first eight program quarters compared with baseline relative to the same difference over time for attributed Medicare FFS beneficiaries in non-comparison practices.

[b] We calculate percentage impacts relative to what the CPC+ mean would have been in each quarter in the absence of the intervention—that is, the unadjusted CPC+ mean minus the impact estimate.

*/**/*** Significantly different from zero at the 0.10/0.05/0.01 level, two-tailed test.

ED = emergency department; FFS = fee-for-service; HCC = hierarchical condition category; non-comparison = unselected practices in CPC+ comparison regions; non-CPC+ = nonparticipating practices in CPC+ regions; Q = quarter; SE = standard error; TIN = Tax Identification Number.

Table 5.G.7. Triple-differences impact estimates of two-year impact of CPC+ on selected outcomes for Track 2, from main analysis and sensitivity tests

	Main triple-differences estimates				Without using concentration weight				With winsorized concentration weight				Excluding practices that share the same TIN as CPC+ or comparison practices			
	Impact estimate[a] (SE)	Percentage impact[b]	90% confidence interval	*p*-value	Impact estimate[a] (SE)	Percentage impact[b]	90% confidence interval	*p*-value	Impact estimate[a] (SE)	Percentage impact[b]	90% confidence interval	*p*-value	Impact estimate[a] (SE)	Percentage impact[b]	90% confidence interval	*p*-value
Medicare expenditures (per beneficiary per month)																
Total Medicare Part A and B expenditures without additional payments																
Q1 through Q8	$10.1** ($4.3)	1.1%	($3.1, $17.2)	0.018	$8.1** ($3.9)	0.9%	($1.8, $14.5)	0.036	$10.3** ($4.2)	1.1%	($3.4, $17.2)	0.015	$11.3** ($5.5)	1.2%	($2.3, $20.4)	0.040
Service use (per 1,000 beneficiaries per year)																
Acute hospitalizations (short-stay acute care and critical access hospitals)																
Q1 through Q8	0.7 (1.9)	0.3%	(-2.4, 3.9)	0.705	0.1 (1.7)	0.0%	(-2.7, 2.9)	0.935	0.4 (1.9)	0.1%	(-2.7, 3.5)	0.838	0.5 (2.3)	0.2%	(-3.3, 4.3)	0.829
Outpatient ED visits, including observation stays																
Q1 through Q8	-1.4 (3.2)	-0.3%	(-6.7, 3.9)	0.657	-2.2 (2.6)	-0.4%	(-6.5, 2.2)	0.412	0.5 (3.0)	0.1%	(-4.4, 5.4)	0.870	-1.4 (4.4)	-0.3%	(-8.5, 5.8)	0.754
Total ED visits, including observation stays																
Q1 through Q8	-0.9 (3.9)	-0.1%	(-7.3, 5.6)	0.824	-2.1 (3.3)	-0.3%	(-7.5, 3.3)	0.525	0.7 (3.6)	0.1%	(-5.3, 6.7)	0.840	0.5 (5.1)	0.1%	(-7.9, 9.0)	0.917

Source: Mathematica's analysis of Medicare claims data from January 2013 through December 2018.

Notes: Although this table indicates which estimates are statistically significant, when we interpret evidence, we combine evidence from the magnitude of the effect, the *p*-values, findings on related outcomes, and sensitivity tests.

[a] Impact estimates are regression-adjusted for pre-CPC+ beneficiary characteristics (including HCC scores) and practice fixed effects. Each impact estimate is based on a triple-differences analysis and reflects the difference between (1) the difference in the regression-adjusted average outcome for attributed Medicare FFS beneficiaries in CPC+ practices in the first eight program quarters compared with baseline relative to the same difference over time for attributed Medicare FFS beneficiaries in comparison practices, and (2) the difference in the regression-adjusted average outcome for attributed Medicare FFS beneficiaries in non-CPC+ practices in the first eight program quarters compared with baseline relative to the same difference over time for attributed Medicare FFS beneficiaries in non-comparison practices.

[b] We calculate percentage impacts relative to what the CPC+ mean would have been in each quarter in the absence of the intervention—that is, the unadjusted CPC+ mean minus the impact estimate.

*/**/*** Significantly different from zero at the 0.10/0.05/0.01 level, two-tailed test.

ED = emergency department; FFS = fee-for-service; HCC – hierarchical condition category; non-comparison = unselected practices in CPC+ comparison regions; non-CPC+ = nonparticipating practices in CPC+ regions; Q = quarter; SE = standard error; TIN = Tax Identification Number.

5.G.4. Discussion

Both the triple-differences and second annual report analyses found no large effects of CPC+ on Medicare FFS beneficiaries' outcomes in the first two intervention years. The exact magnitude of the impact estimates from the triple-differences model and the difference-in-differences model in the second annual report are slightly different for expenditures and ED visits, and these differences are statistically significant in the cumulative models. Such differences suggest that there might be some regional shocks during the first two program years that could violate the difference-in-differences model assumption and lead to bias in the difference-in-differences estimates. However, the impact estimates from both models are small, with the magnitude of favorable or unfavorable effects being less than 1.5 percent for all four outcomes. In other words, both sets of findings lead to the consistent conclusion that there were no large effects on Medicare FFS beneficiaries' outcomes and no evidence that CPC+ met the statutory requirements for model expansion in the first two years. As discussed in the second annual report, we did not expect to see favorable effects of CPC+ on the outcomes after only two years of the five-year intervention, because primary care transformation is a complex process that takes time to implement, and changes in care delivery take time to translate into improvement in outcomes.

The triple-differences estimates are robust to the concentration weights used in our regression specification and to potential spillover of CPC+ effects within a TIN. It is possible that there are other channels of spillover from CPC+ aside from those experienced by practices that share the same TIN. For example, payers that participate in CPC+ might implement changes that would affect both CPC+ and non-CPC+ practices due to their participation in CPC+. In fact, we estimated that, among 2017 Starters, 19 percent of total enhanced payments from all partnering payers that were new as a result of CPC+ in PY 2 were available to non-CPC+ practices in the region. However, given that the triple-differences estimates are robust to potential spillover of CPC+ effects among practices that shared the *same* parent entity (TIN), it is unlikely that spillovers *across* TINs will lead to discernable dilution in the estimated effects of the intervention.

The stability in estimates across the three years examined (the year before and first two years of CPC+) suggest that the evaluation's main results may also be robust to possible differences in market conditions and trends during the third program year examined in this report. However, we do not think these findings will necessarily hold in the final two years of the model, due to the large and geographically varying shocks from the COVID-19 pandemic. If we find that the COVID-19 pandemic affected CPC+ and comparison practices and beneficiaries differentially, we will consider continuing to use the triple-differences analysis as a sensitivity test on the main analysis in future CPC+ annual reports, as it rigorously controls for regional differences.[133]

[133] Even if there are differential practice closures or mergers between CPC+ and comparison practices due to COVID-19, it is unclear ex ante whether the corresponding changes in the concentration weights would affect the results of the triple-differences analysis. As shown in Section 5.G.3, the triple-differences estimates are robust to various specifications of the concentration weights. In addition, the ITT approach of assigning beneficiaries to the first attributed CPC+ or comparison practice during the baseline or intervention period, regardless of whether the beneficiaries continued to receive care at that practice, will also alleviate the potential effects of differential practice closures or mergers on the triple-differences estimates.

5.H. Trends in ambulatory care fragmentation over time among CPC+ and comparison beneficiaries

In this Appendix, we examine the impact of the Comprehensive Primary Care Plus (CPC+) Model on the extent of continuity or fragmentation of ambulatory care for Medicare fee-for-service (FFS) beneficiaries during the first three years of CPC+. We focus on beneficiaries with highly fragmented care at baseline, because their care patterns may have changed the most in response to CPC+. In Section 1, we describe the motivation for this analysis, including the link between care fragmentation and patient outcomes as well as an overview of the potential of CPC+ to impact continuity of care. We next explain the analytic methods, study population, and key outcomes of interest (Section 2). Finally, we describe the results (Section 3) and discuss their implications and the limitations of this analysis (Section 4).

5.H.1. Introduction

Fragmented ambulatory care—that is, receipt of care from multiple ambulatory practitioners, with no single practitioner accounting for a substantial proportion of visits—has been linked to undesirable consequences, such as increased hospitalizations and emergency department use, unnecessary testing, and increased medical costs (Kern et al. 2018, 2019; Nyweide et al. 2013; Romano et al. 2015; Pham et al. 2007; Frandsen et al. 2015; Liu et al. 2010). Continuity of care is particularly important for patients with multiple chronic conditions, because those conditions require careful oversight (Hussey et al. 2014; O'Malley et al. 2015a). Consequently, initiatives to strengthen continuity of care in the Medicare fee-for-service population, which includes more than two-thirds of beneficiaries with multiple chronic conditions, have the potential to improve patient outcomes and reduce costs on a large scale (Lochner et al. 2013).

One of the five key Comprehensive Primary Care Functions that CPC+ targets is "Access and Continuity." Interpersonal continuity of care—that is, recurrent visits with same practitioner over time—is included as a function of primary care, because it is considered critical for high-quality patient care (O'Malley et al. 2015a; CMMI 2017b). Despite having a similar goal, the Comprehensive Primary Care (CPC Classic) initiative was not found to increase continuity of care for patients in CPC practices, relative to those in comparison practices (CMMI 2019b; Peikes et al. 2018b). Studies suggest that looking at the inverse of continuity—fragmentation—can yield more nuanced results (Kern et al. 2018). Two patients can have the same amount of continuity (for example, 50 percent of visits with the most frequently seen provider) but different amounts of fragmentation (for example, the remaining 50 percent of visits spread across two providers versus four providers) (Kern et al. 2019). To date, measures of care fragmentation have not yet been applied to evaluations of large-scale interventions.

This study examines continuity and fragmentation of care over time for Medicare FFS beneficiaries with highly fragmented care at baseline in CPC+ and comparison practices. Given that CPC+ practices had specific care delivery requirements that included continuity of care, we expected to see improvements in CPC+ practices relative to those in comparison practices. We use multiple outcomes to examine ambulatory care patterns among CPC+ and comparison practices. We focus on the subset of beneficiaries with the most fragmented care at baseline, and follow these beneficiaries over time, because we expected this population to have changed the most in response to the intervention. We also present results for the remaining beneficiaries to

illustrate the clinical distinction between high versus low fragmentation of care. This study expands the evidence base on how large-scale primary care interventions can affect ambulatory care patterns. By applying a cutpoint to identify beneficiaries with high fragmentation, we focus on a policy-relevant group whose care patterns may respond the most.

5.H.2. Methods

A. Study design

We compared Medicare beneficiaries attributed to 2,883 practices that started CPC+ in 2017 with those attributed to 6,912 comparison practices. As in the main impact analysis for this report, we attributed beneficiaries to the practice that had delivered the largest share of their primary care visits over the prior two years. Using an intent-to-treat design, beneficiaries remained in the analysis for the baseline or intervention period once they were attributed in that period (see Appendix 5.B in this report).

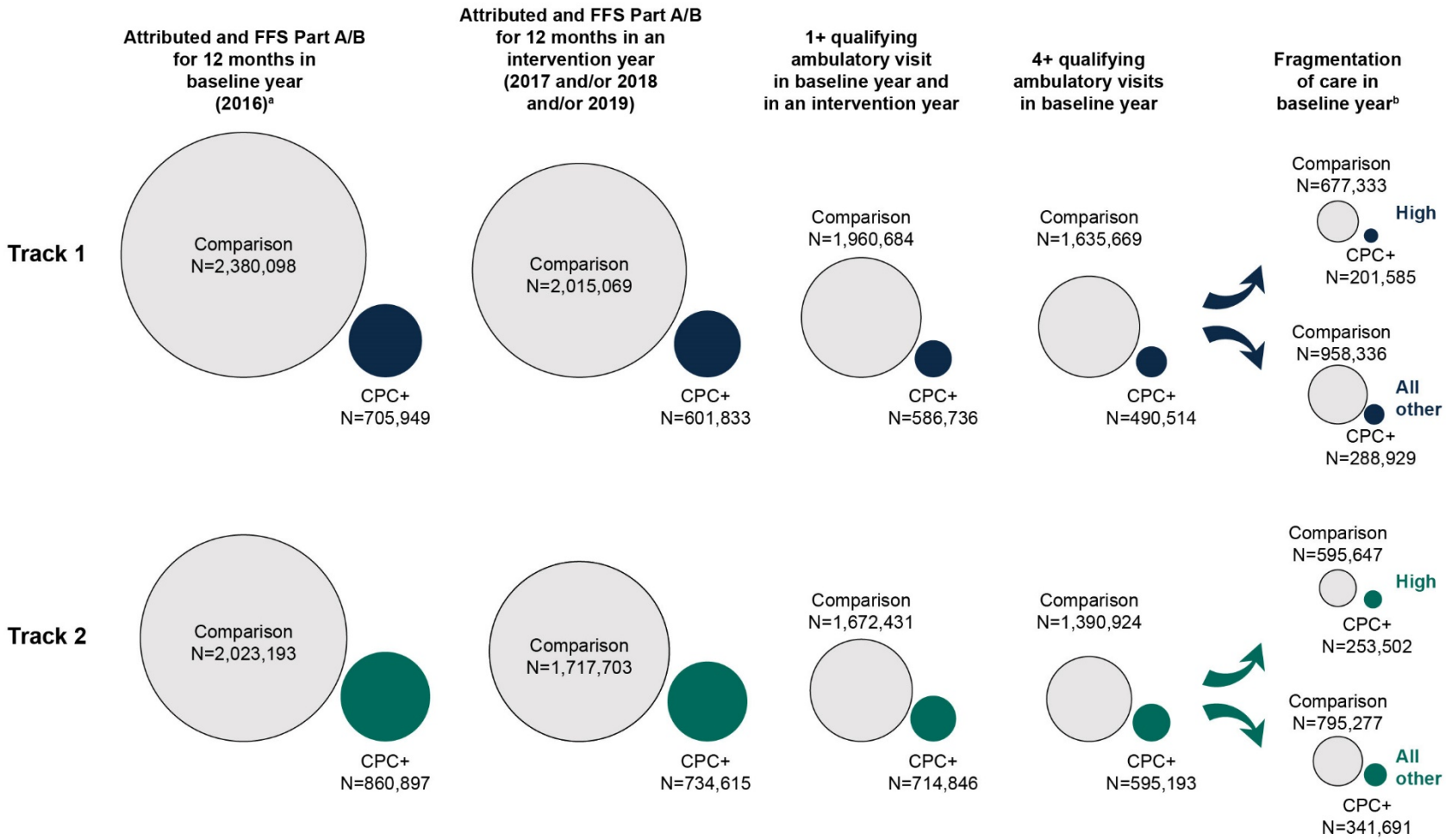
Comparison practices were selected separately by track, using propensity score matching of practice, market, and beneficiary characteristics. By design, comparison and CPC+ practices had very similar observable characteristics before CPC+, such as practice size, electronic health record use, attributed Medicare beneficiary demographics, and Medicare spending and service use (Anglin et al. 2020).

B. Data and study population

We analyzed Medicare claims from the CMS Virtual Research Data Center over the baseline period (2016) and the first three program years (January 2017 through December 2019). We restricted the analysis to practices that joined CPC+ in 2017 and their comparison practices to ensure a three-year follow-up period.

In line with previous studies of fragmentation of care, we imposed a series of sample restrictions (Figure 5.H.1) (Kern et al. 2018, 2019). Starting with those attributed to CPC+ and comparison practices, we selected beneficiaries who were continuously enrolled in Medicare Part A and Part B throughout each year. We imposed the requirement that beneficiaries be observed in both the baseline and the follow-up period. We then used a modified version of the National Committee for Quality Assurance's definition of ambulatory visits to identify beneficiaries with office or other outpatient visits (such as to rural health clinics and critical access hospitals) for evaluation and management, ophthalmological services for medical examination and evaluation, or new enrollee and annual wellness visits (Kern et al. 2017; NCQA 2015). We required beneficiaries to have at least four ambulatory visits in the baseline year for categorization into the high-fragmentation group, because measures of continuity may not be reliable if based on three or fewer visits (Nyweide et al. 2013). We relaxed this criterion in the intervention period, when we required beneficiaries to have at least one ambulatory visit, to allow for the possibility that CPC+ affected the number of visits (Nyweide et al. 2013).

Figure 5.H.1. Sample selection of Medicare FFS beneficiaries in CPC+ and comparison practices, by track



Source: Mathematica's analysis of Medicare claims data for January 2016 through December 2019.

[a] Baseline refers to the year before CPC+ started (January through December 2016).

[b] The high-fragmentation group has an rBBI of 0.85 or greater at baseline.

FFS = fee-for-service; rBBI = reversed Bice-Boxerman Index.

We found that similar rates of beneficiaries were dropped from our CPC+ and comparison group samples at each step of the sample construction process, suggesting differential sample attrition is not biasing our findings (Table 5.H.1). Further, we conducted checks to determine whether baseline beneficiary and practice characteristics were well balanced across CPC+ and comparison group beneficiaries in each of the fragmentation groups (beneficiaries with high fragmentation and remaining beneficiaries with less fragmentation), by track and by Medicare Shared Savings Program (SSP) status. The standardized difference, calculated as the difference in weighted means between the CPC+ and comparison groups on the standard deviation scale, is the accepted metric for assessing balance when using a matched comparison group. Standardized differences less than 0.25 in absolute value are typically considered adequate to proceed with impact analysis, using regression adjustment to account for differences that persist after matching. We found all the standardized differences were less than 0.1 (results not shown). Our final sample at baseline consisted of 490,514 and 595,193 Medicare beneficiaries attributed to 1,370 and 1,513 Track 1 and Track 2 CPC+ practices, respectively, and 1,635,669 and 1,390,924 beneficiaries attributed to 5,236 and 3,780 comparison practices in both tracks (Table 5.H.1).

Table 5.H.1. Reasons for sample attrition, by track and CPC+ status

	Track 1		Track 2	
Percentage of sample kept at each selection step	CPC+	Comparison	CPC+	Comparison
No. of beneficiaries assigned to a practice in 2016	874,096	2,900,814	1,067,162	2,462,838
No. of practices at baseline	1,373	5,243	1,515	3,783
Assigned in Q1 2016	84.9	86.5	85.0	86.5
Continuously enrolled in 2016	80.8	82.0	80.7	82.1
Assigned in Q1 of any program year (PY 1, PY 2, or PY 3)	73.1	73.7	73.0	74.0
Same track in baseline and in any program year[a]	72.3	73.0	72.3	73.2
Continuously enrolled in any program year	68.9	69.5	68.8	69.7
At least 1 qualifying ambulatory visit	67.1	67.6	67.0	67.9
At least 4 qualifying ambulatory visits	56.1	56.4	55.8	56.5
Final number of beneficiaries in our analytic sample	490,514	1,635,669	595,193	1,390,924
Final number of practices in our analytic sample at baseline	1,370	5,236	1,513	3,780

Source: Mathematica's analysis of Medicare claims data for January 2016 through December 2019.

[a] Baseline refers to the year before CPC+ started (January through December 2016). PY 1 is January through December 2017; PY 2 is January through December 2018; PY 3 is January through December 2019.

PY = program year; Q1 = Quarter 1.

C. Outcome measures

In our claims-based analysis, we studied four key outcomes measured in each calendar year:

1. **Number of qualifying ambulatory visits.** We summed the number of ambulatory visits over each measurement year at the beneficiary level. In addition to the total number of visits, we also report visits by practitioner type: primary care physicians, specialists, or nurse practitioners (NPs)/physician assistants (PAs)/clinical nurse specialists (CNSs).
2. **Number of unique practitioners.** This measure represents the number of unique practitioners seen by the beneficiary over the year for the ambulatory visits identified above. We also report this measure by practitioner type.

3. **Percentage of visits with the usual provider of care**. This measure represents the percentage of visits with the most frequently seen ambulatory practitioner and could be either a primary care practitioner or a specialist (Breslau and Reeb 1975; Pollack et al. 2016). See Appendix 5.C in this report for more details on this measure.
4. **Reversed Bice-Boxerman Continuity of Care Index.** The Bice-Boxerman Index (BBI) is based on the number of visits, the number of practitioners, and the distribution of visits across practitioners. To measure fragmentation, we reversed raw BBI scores, calculating 1 minus BBI, so that higher scores reflect more fragmentation, with scores ranging from 0 (least fragmentation) to 1 (most fragmentation). Fragmentation scores are inherently skewed toward 1 because there are more permutations of visits and providers that yield fragmented care than concentrated care (Kern et al. 2017). We used a cutpoint of 0.85 or higher to designate highly fragmented care (Kern et al. 2020). We selected this cutpoint based on the observed distribution of scores because it maximized discrimination between the cluster of scores at the skewed end of the scale and the rest. Measuring the percentage of visits with the UPC alongside the reversed Bice-Boxerman Index (rBBI) can make the findings more transparent because the difference between two usual provider of care (UPC) scores (e.g., 30 percent of visits versus 50 percent of visits with the most frequently seen provider) is easier to interpret than the clinical difference between two rBBI scores (e.g., 0.9 vs 0.7). See Appendix 5.C in this report for more details on this measure.

In our claims-based analysis, we focus on measures of *interpersonal* continuity and fragmentation of care—that is, the extent to which care is distributed across different practitioners and there is a lack of recurrent visits with the same practitioner over time. We use this approach, as opposed to an alternative measure based on visits to different practice sites, because there is strong evidence supporting interpersonal continuity of care, with studies showing that even one patient handoff among team members within the same practice site, or to those outside of the practice site, can result in reduced efficiency (Wasson et al. 1984; Lofgren et al. 1990).

D. Statistical analysis

We used a difference-in-differences (DD) framework and compared the changes in mean fragmentation and continuity measures for Medicare beneficiaries in CPC+ practices between the 12 months before CPC+ (baseline) and the first three years of CPC+ with changes among beneficiaries in the comparison practices over the same period. We estimated DD models separately by track due to the differences in care delivery requirements and payments. The regression models were identical to those used in the main CPC+ impact estimation and controlled for beneficiary characteristics at baseline and practice fixed effects to net out prior observable differences between CPC+ and comparison beneficiaries not fully eliminated by matching (see Appendix 5.D in this report).

All p-values were two-sided and considered statistically significant at $p < 0.05$. There was no formal statistical adjustment of p-values for having multiple comparisons; therefore, these results should be considered exploratory. Data analyses were performed using Stata version 16.1 (StataCorp). All regressions accounted for clustering of the standard error at the practice level.

5.H.3. Results

A. Descriptive analyses

Characteristics of beneficiaries with highly fragmented care. We designated more than 40 percent of beneficiaries as having highly fragmented care (rBBI ≥ 0.85) at baseline for both CPC+ and comparison practices. Beneficiaries in CPC+ and comparison practices were similar (Table 5.H.2). Compared with the remaining beneficiaries, individuals with highly fragmented care were more likely to be in practice sites that were larger, part of a hospital or health system, and had experience participating in prior primary care transformation initiatives. They were less likely to be dually eligible for Medicaid or 85 years or older. There were no meaningful differences in average Hierarchical Condition Category (HCC) scores, which measure risk for subsequent expenditures, across the two fragmentation groups.

Table 5.H.2. Baseline characteristics (2016) for CPC+ and comparison groups, by track and fragmentation group[a]

	Track 1, High fragmentation[b]		Track 1, All other beneficiaries		Track 2, High fragmentation[b]		Track 2, All other beneficiaries	
	CPC+ (N = 201,585)	Comparison (N = 677,333)	CPC+ (N = 288,929)	Comparison (N = 958,336)	CPC+ (N = 253,502)	Comparison (N = 595,647)	CPC+ (N = 341,691)	Comparison (N = 795,277)
Beneficiary characteristics								
Demographics								
Age categories								
< 65	9.0	9.5	13.2	13.4	9.0	10.0	12.9	13.5
65–74 (reference category)	51.3	50.3	45.8	45.4	51.4	50.0	46.2	45.4
75–84	30.5	30.8	28.7	28.9	30.2	30.6	28.6	28.8
≥ 85	9.2	9.4	12.3	12.3	9.4	9.4	12.3	12.4
Race categories								
White (reference category)	91.5	91.7	88.1	88.4	90.5	91.3	87.5	87.5
Black	4.0	4.2	5.5	5.7	4.8	4.7	5.7	6.5
All other/unknown	4.1	3.5	5.8	5.1	4.4	3.4	6.1	5.3
Gender (binary indicator for male)	40.7	40.7	40.6	40.6	41.0	41.0	40.8	40.7
Original Medicare eligibility categories								
Age (reference category)	84.0	83.6	79.2	79.4	83.9	83.0	79.7	79.5
Disability only	15.5	15.9	20.4	20.3	15.6	16.4	20.0	20.1
ESRD only or ESRD with disability	0.5	0.5	0.3	0.3	0.5	0.6	0.3	0.3
Dual eligibility								
Percentage with Medicare and full or partial Medicaid benefits according to Master Beneficiary Summary File	8.3	10.0	13.1	15.4	8.4	10.4	12.5	15.5
Chronic conditions[c]								
Diabetes with chronic complications (HCC 18)	13.7	13.7	14.0	14.0	14.4	13.8	14.7	14.3
Morbid obesity (HCC 22)	5.2	5.0	5.1	4.6	5.3	5.3	4.9	4.8
Other significant endocrine and metabolic disorders (HCC 23)	4.5	4.6	3.0	3.1	4.6	4.7	3.1	3.1
Congestive heart failure (HCC 85)	11.5	11.3	10.0	10.0	11.7	11.4	10.0	9.9

Table 5.H.2 *(continued)*

	Track 1, High fragmentation[b]		Track 1, All other beneficiaries		Track 2, High fragmentation[b]		Track 2, All other beneficiaries	
	CPC+ (N = 201,585)	Comparison (N = 677,333)	CPC+ (N = 288,929)	Comparison (N = 958,336)	CPC+ (N = 253,502)	Comparison (N = 595,647)	CPC+ (N = 341,691)	Comparison (N = 795,277)
Specified heart arrhythmias (HCC 96)	17.0	16.9	13.5	13.3	17.4	17.2	13.5	13.5
Chronic obstructive pulmonary disease (HCC 111)	12.5	12.0	13.1	12.6	11.9	12.0	12.4	12.2
Rheumatoid arthritis and inflammatory connective tissue disease or disorders of immunity (HCC 40 or 47)	10.1	9.6	7.6	7.0	9.7	9.6	7.3	7.0
Severe hematological disorders, or coagulation defects and other specified hematological disorders (HCC 46 or 48)	5.9	5.6	4.6	4.3	5.9	5.6	4.6	4.5
Drug/alcohol psychosis or dependence (HCC 54 or 55)	1.7	1.7	2.1	2.1	1.8	1.8	2.2	2.3
Schizophrenia or major depressive, bipolar, and paranoid disorders (HCC 57 or 58)	6.9	7.7	7.8	8.5	7.5	8.0	8.5	8.9
Acute myocardial infarction, unstable angina and other acute ischemic heart disease, or angina pectoris (HCC 86, 87, or 88)	6.2	5.5	4.9	4.4	6.0	5.5	4.8	4.3
Cerebral hemorrhage, or ischemic or unspecified stroke (HCC 99 or 100)	3.6	3.7	3.5	3.4	3.8	3.6	3.5	3.4
Vascular disease, with complications (HCC 107 or 108)	18.6	18.1	15.6	15.4	18.6	18.0	15.6	15.5
Chronic Conditions Warehouse indicator Alzheimer's disease or dementia	5.0	4.8	5.8	5.7	4.9	4.8	5.9	5.7
Risk score								
HCC score[d]	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Percentage of beneficiaries assigned a new enrollee HCC score (i.e., HCC score was calculated on the basis of demographic characteristics only)	1.8	1.8	1.9	2.0	1.8	1.8	2.0	2.0

Table 5.H.2 *(continued)*

	Track 1, High fragmentation[b]		Track 1, All other beneficiaries		Track 2, High fragmentation[b]		Track 2, All other beneficiaries	
	CPC+ (N = 201,585)	Comparison (N = 677,333)	CPC+ (N = 288,929)	Comparison (N = 958,336)	CPC+ (N = 253,502)	Comparison (N = 595,647)	CPC+ (N = 341,691)	Comparison (N = 795,277)
Characteristics of the beneficiary's assigned practice[e]								
Prior transformation								
Practice participated in prior primary care transformation initiatives (recognized as a medical home or participated in MAPCP or CPC Classic)[f]	56.9	55.0	50.7	49.9	84.0	77.4	79.7	73.5
Size[g]								
Small (1–2 primary care practitioners)	17.1	16.8	25.3	25.2	9.9	10.1	15.2	16.1
Medium (3–5 primary care practitioners)	31.4	33.7	32.7	34.4	29.9	31.3	33.9	33.5
Large (6+ primary care practitioners)	51.5	49.5	42.0	40.4	60.3	58.6	50.9	50.5
Ownership[g]								
Hospital- or system-owned	57.3	58.5	49.9	50.9	61.0	62.0	54.3	55.9
Multispecialty[h]								
Practice is multispecialty versus primary care only	21.2	20.3	18.0	18.7	27.4	26.5	24.4	23.9
Urbanicity of practice's county[i]								
Urban	76.1	74.9	69.7	70.5	80.3	77.3	73.8	73.9
Suburban	16.2	18.0	18.9	17.9	14.3	16.5	16.7	17.1
Rural	7.7	7.1	11.4	11.5	5.3	6.2	9.5	9.0

[a] All values in this table are reported as percentages (multiplied by 100), with the exception of HCC scores.

[b] The high-fragmentation group has an rBBI of 0.85 or greater at baseline, and all other beneficiaries have an rBBI of less than 0.85 at baseline.

[c] Several chronic conditions were identified for less than 1 percent of the sample and had no differences between the CPC+ and comparison groups: metastatic cancer and acute leukemia (HCC 8); protein calorie malnutrition (HCC 21); atherosclerosis of the extremities with ulceration or gangrene (HCC 106); traumatic amputations and complications (HCC 173); major organ transplant or replacement status (HCC 186); quadriplegia or paraplegia (HCC 70 or 71); coma, brain compression/anoxic damage or respirator dependence/tracheostomy status (HCC 80 or 82); and pressure ulcer of skin with necrosis through to muscle, tendon, or bone; or of skin with full thickness skin loss (HCC 157 or 158).

[d] The HCC score in the baseline year is based on beneficiaries' diagnoses in 2015. HCC scores are a measure of risk for subsequent expenditures. CMS calculates them such that the average for the Medicare FFS population nationally is 1.0. A patient with a risk score of 1.30 is predicted to have expenditures that would be approximately 30 percent above the average, whereas a patient with a risk score of 0.70 is expected to have expenditures that would be approximately 30 percent below the average.

[e] Practice is defined as a physical location or practice site.

Table 5.H.2 *(continued)*

[f] We define prior transformation experience as CPC Classic or MAPCP participation, or NCQA, TJC, AAAHC, URAC, or state medical-home recognition status (whether practice is in a medical home). Data from 2016 on patient-centered medical home recognition from NCQA, TJC, AAAHC, URAC, and state-specific data sources. Data from 2016 on participation in MAPCP and in CPC Classic from CMS.

[g] Data on practice size and ownership from 2016 SK&A data.

[h] We define multispecialty as having at least one practitioner, according to SK&A, with a specialty other than general practice, internal medicine, family medicine, or geriatrics.

[i] The urbanicity of a practice's county (rural, urban, suburban) is derived from the 2013 (latest year available) rural-urban continuum codes (https://www.ers.usda.gov/data-products/rural-urban-continuum-codes/documentation/) available in the ARF.

AAAHC = Accreditation Association for Ambulatory Health Care; ARF = Area Resource File; ESRD = end-stage renal disease; FFS = fee-for-service; HCC = Hierarchical Condition Category; MAPCP = Multi-Payer Advanced Primary Care Practice; NCQA = National Committee for Quality Assurance; rBBI = reversed Bice-Boxerman Index; TJC = The Joint Commission; URAC = Utilization Review Accreditation Commission.

Fragmentation and continuity of care in the baseline period. In Track 1, at baseline, beneficiaries with high fragmentation attributed to CPC+ practices had an average of 13 ambulatory visits with 7 unique practitioners, 28 percent of visits with the usual provider of care, and a fragmentation score of 0.91. By contrast, the remaining beneficiaries had an average of 10 ambulatory visits with 4 unique practitioners, 54 percent of visits with the usual provider of care, and a fragmentation score of 0.68 (Table 5.H.3a).

Visits to specialists drove patterns of care among those with high fragmentation. Beneficiaries with high fragmentation had an average of 8 visits to 5 specialists and an average of 3 visits to 2 primary care physicians. By contrast, the remaining beneficiaries with less fragmented care had more visits with primary care physicians (an average of 4 visits with 1 practitioner) and saw fewer specialists (5 visits with 2 unique practitioners). The means and medians of our measures were similar (not shown). Results were similar for beneficiaries in comparison practices and across both tracks (see Table 5.H.3b for Track 2).

Table 5.H.3a. Descriptive statistics on outcome measures at baseline (2016) for CPC+ and comparison groups by fragmentation group, Track 1

	High fragmentation[a] CPC+ (N = 201,585)		High fragmentation[a] Comparison (N = 677,333)		All other beneficiaries[a] CPC+ (N = 288,929)		All other beneficiaries[a] Comparison (N = 958,336)	
	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation
No. of ambulatory visits[b,c]	12.6	7.4	12.5	7.3	10.1	6.2	10.1	6.2
Visits with primary care physicians	3.2	2.4	3.2	2.5	4.1	3.3	4.1	3.3
Visits with specialists	7.6	5.5	7.4	5.4	4.9	4.6	4.8	4.6
Visits with NPs/PAs/CNSs	1.3	1.9	1.4	2.0	0.7	1.7	0.8	1.9
No. of unique practitioners[c]	7.3	2.8	7.3	2.9	4.1	1.9	4.1	1.9
Primary care physicians	1.5	1.0	1.5	1.0	1.1	0.6	1.2	0.7
Specialists	4.5	2.4	4.5	2.4	2.3	1.6	2.3	1.6
NPs/PAs/CNSs	0.9	1.1	1.0	1.2	0.4	0.7	0.4	0.7
Percentage of visits with the usual provider of care[d]	27.8	6.9	27.8	7.0	53.6	16.3	53.6	16.1
Reversed Bice-Boxerman Index[e]	0.91	0.04	0.91	0.04	0.68	0.19	0.68	0.19

Source: Mathematica's analysis of Medicare claims data for January 2016 through December 2019.

[a] The high-fragmentation group has an rBBI of 0.85 or greater at baseline, and all other beneficiaries have an rBBI of less than 0.85 at baseline.

[b] Ambulatory visits are defined as office or other outpatient visits (such as to rural health clinics and critical access hospitals) for evaluation and management, ophthalmological services for medical examination and evaluation, or new enrollee and annual wellness visits.

[c] The sum of visits to primary care physicians, specialists, and NPs/PAs/CNSs is less than total visits, because total visits include those to other practitioners not categorized. Therefore, the sum of unique practitioners for primary care physicians, specialists, and NPs/PAs/CNSs is less than total unique practitioners.

[d] The percentage of visits with the usual provider of care (that is, the most frequently seen ambulatory provider) measures continuity of care.

[e] The reversed Bice-Boxerman Index measures fragmentation of care, with higher numbers indicating more fragmented care.

CNS = clinical nurse specialist; E&M = evaluation and management; NP = nurse practitioner; PA = physician assistant; rBBI = reversed Bice-Boxerman Index.

Table 5.H.3b. Descriptive statistics on outcome measures at baseline (2016) for CPC+ and comparison groups by fragmentation group, Track 2

	High fragmentation[a] CPC+ (N = 201,585)		High fragmentation[a] Comparison (N = 677,333)		All other beneficiaries[a] CPC+ (N = 288,929)		All other beneficiaries[a] Comparison (N = 958,336)	
	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation
No. of ambulatory visits[b,c]	12.4	7.2	12.4	7.2	10.0	6.1	10.0	6.2
Visits with primary care physicians	3.3	2.4	3.3	2.5	4.1	3.2	4.1	3.3
Visits with specialists	7.4	5.3	7.2	5.2	4.7	4.5	4.7	4.5
Visits with NPs/PAs/CNSs	1.3	1.9	1.5	2.0	0.8	1.8	0.9	1.9
No. of unique practitioners[c]	7.3	2.9	7.3	2.9	4.1	1.9	4.1	1.9
Primary care physicians	1.6	1.0	1.6	1.0	1.2	0.6	1.2	0.7
Specialists	4.5	2.4	4.4	2.3	2.3	1.6	2.3	1.6
NPs/PAs/CNSs	0.9	1.1	1.0	1.2	0.4	0.7	0.5	0.8
Percentage of visits with the usual provider of care[d]	27.8	7.0	27.8	7.0	53.2	15.9	53.2	15.8
Reversed Bice-Boxerman Index[e]	0.91	0.04	0.91	0.04	0.68	0.18	0.68	0.18

Source: Mathematica's analysis of Medicare claims data for January 2016 through December 2019.

[a] The high-fragmentation group has an rBBI of 0.85 or greater at baseline, and all other beneficiaries have an rBBI of less than 0.85 at baseline.

[b] Ambulatory visits are defined as office or other outpatient visits (such as to rural health clinics and critical access hospitals) for evaluation and management, ophthalmological services for medical examination and evaluation, or new enrollee and annual wellness visits.

[c] The sum of visits to primary care physicians, specialists, and NPs/PAs/CNSs is less than total visits, because total visits include those to other practitioners not categorized. Therefore, the sum of unique practitioners for primary care physicians, specialists, and NPs/PAs/CNSs is less than total unique practitioners.

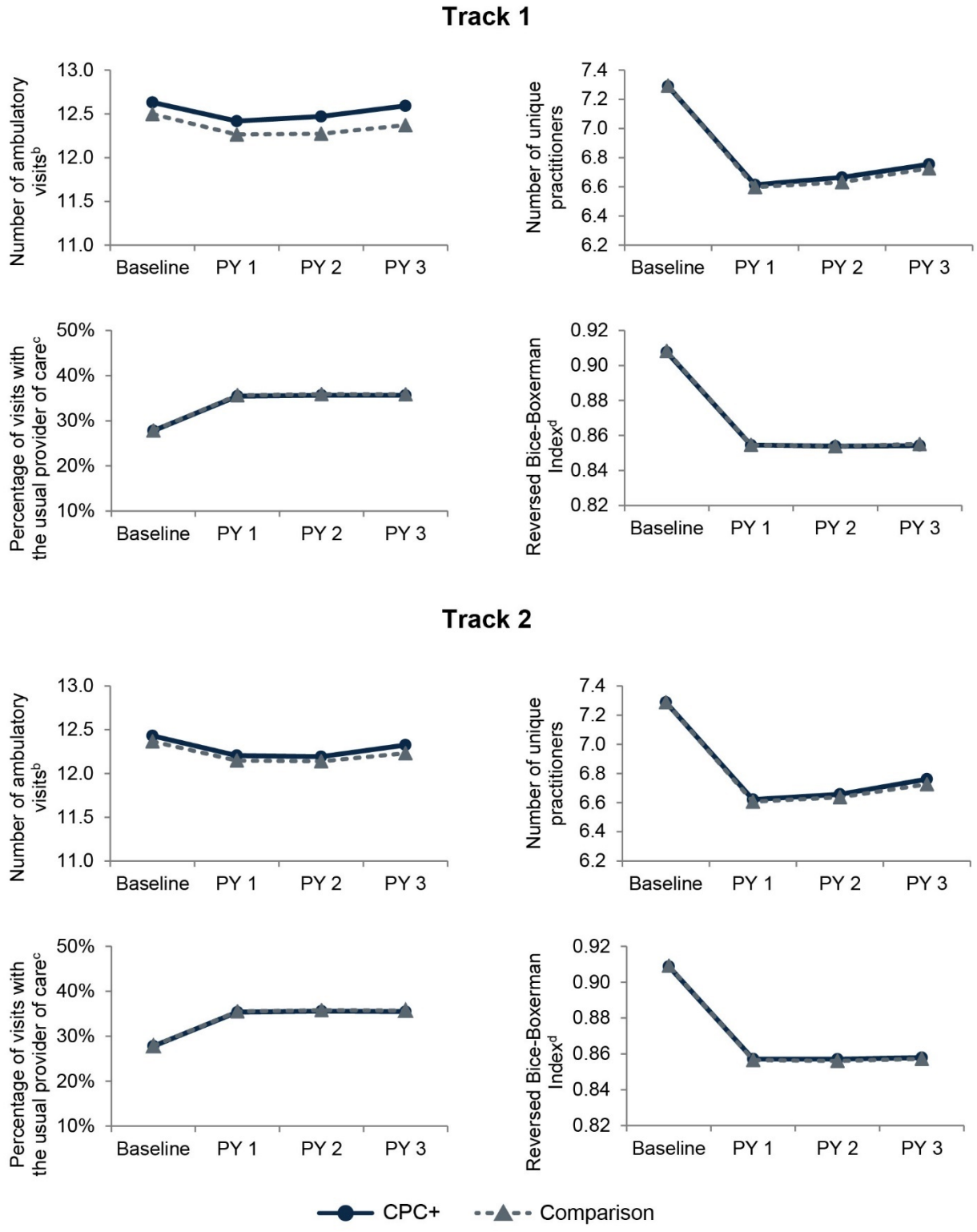
[d] The percentage of visits with the usual provider of care (that is, the most frequently seen ambulatory provider) measures continuity of care.

[e] The reversed Bice-Boxerman Index measures fragmentation of care, with higher numbers indicating more fragmented care.

CNS = clinical nurse specialist; E&M = evaluation and management; NP = nurse practitioner; PA = physician assistant; rBBI = reversed Bice-Boxerman Index.

Fragmentation and continuity of care over time. Beneficiaries with highly fragmented care at baseline had an increase in the continuity of care and a reduction in fragmentation between baseline and the intervention period in both CPC+ and comparison practices (Figure 5.H.2). The average percentage of visits with the UPC increased from 28 percent at baseline to 36 percent in program year (PY) 3 for Track 1 CPC+ beneficiaries, and the average rBBI decreased from 0.91 to 0.85 over the same period. This was due to little change in the average number of ambulatory visits (about 13 visits at baseline and in PY 3) but a small decline in the number of unique practitioners seen (7.3 practitioners at baseline and 6.7 in PY 3). Similar patterns can be seen for beneficiaries in Track 1 comparison practices, as well as for beneficiaries in Track 2 CPC+ and comparison practices. Among beneficiaries not in the high-fragmentation group, we observe small declines in continuity of care and increases in fragmentation between baseline and the intervention period (Figure 5.H.3).

Figure 5.H.2. Adjusted means of outcome measures over time for high-fragmentation[a] CPC+ and comparison groups, by track



Source: Mathematica's analysis of Medicare claims data for January 2016 through December 2019

[a] The high-fragmentation group has an rBBI of 0.85 or greater at baseline. Baseline refers to the year before CPC+ started (January through December 2016). Predicted means are regression-adjusted for baseline patient

Figure 5.H.2 *(continued)*

characteristics (including Hierarchical Condition Category scores, which are a measure of risk for subsequent expenditures) and practice fixed effects. PY 1 is January through December 2017; PY 2 is January through December 2018; PY 3 is January through December 2019.

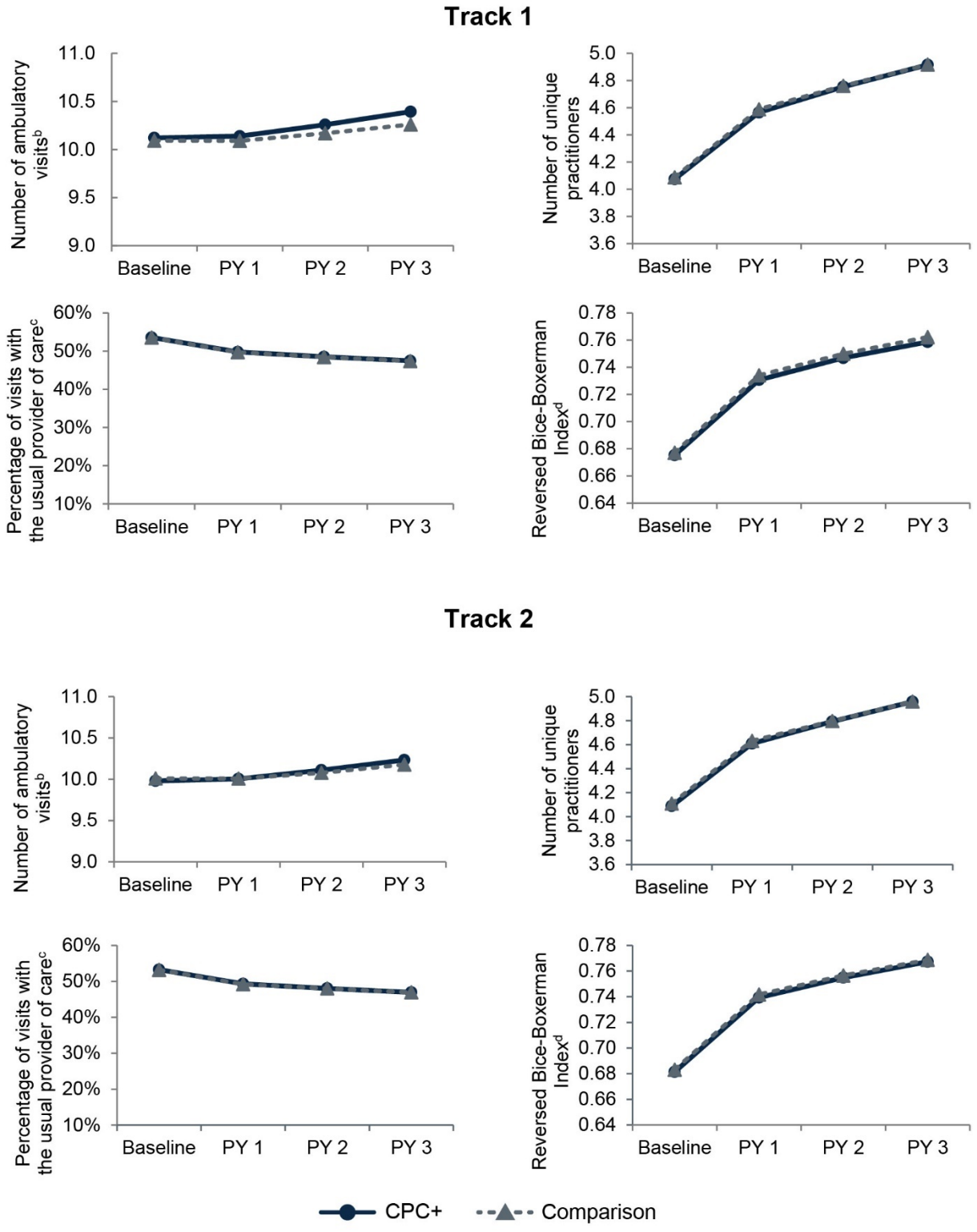
[b] Ambulatory visits are defined as office or other outpatient visits (such as to rural health clinics and critical access hospitals) for evaluation and management, ophthalmological services for medical examination and evaluation, or new enrollee and annual wellness visits.

[c] The percentage of visits with the usual provider of care (that is, the most frequently seen ambulatory provider) measures continuity of care.

[d] The reversed Bice-Boxerman Index measures fragmentation of care, with higher numbers indicating more fragmented care.

PY = program year; rBBI = reversed Bice-Boxerman Index.

Figure 5.H.3. Adjusted means of outcome measures over time for beneficiaries not in the high-fragmentation group at baseline[a] in CPC+ and comparison practices, by track



Source: Mathematica's analysis of Medicare claims data for January 2016 through December 2019.

[a] The beneficiaries not in the high-fragmentation group have an rBBI of less than 0.85 at baseline. Baseline refers to the year before CPC+ started (January through December 2016). Predicted means are regression-adjusted for

Figure 5.H.3 *(continued)*

baseline patient characteristics (including Hierarchical Condition Category scores, which are a measure of risk for subsequent expenditures) and practice fixed effects. PY 1 is January through December 2017; PY 2 is January through December 2018; and PY 3 is January through December 2019.
[b] Ambulatory visits are defined as office or other outpatient visits (such as to rural health clinics and critical access hospitals) for evaluation and management, ophthalmological services for medical examination and evaluation, or new enrollee and annual wellness visits.
[c] The percentage of visits with the usual provider of care (that is, the most frequently seen ambulatory provider) measures continuity of care.
[d] The rBBI measures fragmentation of care, with higher numbers indicating more fragmented care.

PY = program year; rBBI = reversed Bice-Boxerman Index.

B. The effect of CPC+ on patterns of ambulatory care

The number of ambulatory visits. For beneficiaries with highly fragmented care at baseline, regression-adjusted DD estimates show that CPC+ did not affect the number of qualifying ambulatory visits over time in CPC + practices relative to those in comparison practices. Both Track 1 and Track 2 practices had similar changes in the average number of visits for CPC+ and comparison practices (Tables 5.H.4a and 5.H.4b). Although some DD estimates are statistically significant, their magnitude is small, indicating no substantive change in the number of visits.

The number of unique practitioners. We did not find meaningful reductions in the number of unique practitioners seen by beneficiaries with highly fragmented care in CPC+ practices, relative to those in comparison practices. The regression-adjusted DD estimates are small for both Track 1 (0.03; $p = 0.05$) and Track 2 (0.02; $p = 0.12$). We find similar results when we examine the number of unique practitioners by type of specialty (Tables 5.H.4a and 5.H.4b).

Continuity of care. We found no discernable difference between CPC+ and comparison practices in the change in the percentage of visits with the UPC measure over time. Although the regression-adjusted percentage increased over the course of CPC+—from 28 percent to 36 percent for both Track 1 and Track 2 CPC+ practice beneficiaries—there were similar increases for beneficiaries in comparison practices (Tables 5.H.4a and 5.H.4b).

Fragmentation of care. Regression-adjusted DD estimates also show CPC+ did not affect fragmentation of care, as measured by the rBBI, for beneficiaries with highly fragmented care at baseline in CPC+ relative to comparison practices (Tables 5.H.4a and 5.H.4b).

Table 5.H.4a. Difference-in-differences estimates for high-fragmentation[a] CPC+ and comparison groups, Track 1

Measure	Baseline[b], CPC+ mean[c]	Baseline[b], Comparison mean[d]	Years 1–3, CPC+ mean[c]	Years 1–3, Comparison mean[d]	DD estimate (SE)	95% confidence interval	*p-value*
No. of ambulatory visits[e,f]	12.6	12.5	12.5	12.3	0.05 (0.03)	(0.00, 0.11)	0.038
Visits with primary care physicians	3.2	3.2	3.2	3.2	0.03 (0.02)	(0.00, 0.07)	0.049
Visits with specialists	7.6	7.4	7.1	6.8	0.05 (0.02)	(0.01, 0.08)	0.019
Visits with NPs/PAs/CNSs	1.3	1.4	1.5	1.6	-0.01 (0.01)	(-0.04, 0.02)	0.643
No. of unique practitioners[f]	7.3	7.3	6.7	6.6	0.03 (0.01)	(0.00, 0.06)	0.047
Primary care physicians	1.5	1.5	1.3	1.3	0.01 (0.01)	(-0.01, 0.03)	0.295
Specialists	4.5	4.5	4.0	3.9	0.03 (0.01)	(0.01, 0.05)	0.001
NPs/PAs/CNSs	0.9	1.0	1.0	1.1	0.01 (0.01)	(-0.01, 0.03)	0.440
Percentage of visits with the usual provider of care[g]	27.8	27.8	35.6	35.8	-0.16 (0.11)	(-0.38, 0.05)	0.130
Reversed Bice-Boxerman Index[h]	0.91	0.91	0.85	0.85	0.00 (0.00)	(-0.00, 0.00)	0.698

Source: Mathematica's analysis of Medicare claims data for January 2016 through December 2019.

Note: No. of practices sample size: 1,371 (CPC+); 5,237 (comparison).
No. of beneficiaries sample size: 202,110 (CPC+); 677,908 (comparison).
No. of beneficiary-years sample size: 745,978 (CPC+); 2,506,006 (comparison).

[a] The high-fragmentation group has an rBBI of 0.85 or greater at baseline.

[b] Baseline refers to the year before CPC+ started (January 2016–December 2016). Estimates are regression-adjusted for baseline patient characteristics (including Hierarchical Condition Category scores, which are a measure of risk for subsequent expenditures) and baseline practice fixed effects. We based each estimate on a DD analysis, and it reflects the difference in the regression-adjusted average outcome for attributed Medicare FFS beneficiaries in CPC+ practices in Years 1 through 3 compared with baseline relative to the same difference over time for attributed Medicare FFS beneficiaries in matched comparison practices.

[c] We report the actual, unadjusted CPC+ mean for each time period shown in the table.

[d] For comparison group practices, we report the actual, unadjusted mean during the baseline period but the adjusted mean during each intervention period. We obtain the adjusted mean by subtracting the regression-adjusted difference between the CPC+ and comparison means in each time period from the CPC+ mean in that same time period.

[e] Ambulatory visits are defined as office or other outpatient visits (such as to rural health clinics and critical access hospitals) for evaluation and management, ophthalmological services for medical examination and evaluation, or new enrollee and annual wellness visits.

[f] The sum of visits to primary care physicians, specialists, and NPs/PAs/CNS is less than total visits, because total visits include those to other practitioners not categorized. Therefore, the sum of unique practitioners for primary care physicians, specialists, and NPs/PAs/CNS is less than total unique practitioners.

[g] The percentage of visits with the usual provider of care (that is, the most frequently seen ambulatory provider) measures continuity of care.

[h] The reversed Bice-Boxerman Index measures fragmentation of care, with higher numbers indicating more fragmented care.

[i] The number of practices included in the regression analysis may differ from the number of practices with attributed beneficiaries because beneficiaries can switch practices between the baseline and the intervention period. Therefore, practices with no attributed beneficiaries meeting the sample selection criteria in the baseline period can have some attributed beneficiaries meeting the criteria in the intervention period (and vice versa).

CNS = clinical nurse specialist; DD = difference-in-differences; FFS = fee-for-service; NP = nurse practitioner; PA = physician assistant; rBBI = reversed Bice-Boxerman Index; SE = standard error.

Table 5.H.4b. Difference-in-differences estimates for high-fragmentation[a] CPC+ and comparison groups, Track 2

Measure	Baseline[b], CPC+ mean[c]	Baseline[b], Comparison mean[d]	Years 1–3, CPC+ mean[c]	Years 1–3, Comparison mean[d]	DD estimate (SE)	95% confidence interval	*p*-value
No. of ambulatory visits[e,f]	12.4	12.4	12.2	12.2	0.00 (0.03)	(-0.05, 0.05)	0.931
Visits with primary care physicians	3.3	3.3	3.3	3.3	0.02 (0.02)	(-0.02, 0.05)	0.357
Visits with specialists	7.4	7.2	6.8	6.6	-0.01 (0.02)	(-0.04, 0.03)	0.687
Visits with NPs/PAs/CNSs	1.3	1.5	1.5	1.7	0.00 (0.01)	(-0.03, 0.03)	0.883
No. of unique practitioners[f]	7.3	7.3	6.7	6.7	0.02 (0.01)	(-0.01, 0.05)	0.119
Primary care physicians	1.6	1.6	1.4	1.4	0.01 (0.01)	(-0.01, 0.03)	0.183
Specialists	4.5	4.4	3.9	3.9	0.00 (0.01)	(-0.01, 0.02)	0.662
NPs/PAs/CNSs	0.9	1.0	1.0	1.1	0.02 (0.01)	(-0.00, 0.03)	0.078
Percentage of visits with the usual provider of care[g]	27.8	27.8	35.5	35.7	-0.16 (0.11)	(-0.36, 0.05)	0.144
Reversed Bice-Boxerman Index[h]	0.91	0.91	0.86	0.86	0.00 (0.00)	(-0.00, 0.00)	0.148

Source: Mathematica's analysis of Medicare claims data for January 2016 through December 2019.

Note: No. of practices sample size: 1,514 (CPC+); 3,778 (comparison).
No. of beneficiaries sample size: 254,035 (CPC+); 596,154 (comparison).
No. of beneficiary-years sample size: 939,219 (CPC+); 2,206,100 (comparison).

[a] The high-fragmentation group has an rBBI of 0.85 or greater at baseline.

[b] Baseline refers to the year before CPC+ started (January 2016–December 2016). Estimates are regression-adjusted for baseline patient characteristics (including Hierarchical Condition Category scores, which are a measure of risk for subsequent expenditures) and baseline practice fixed effects. We based each estimate on a DD analysis, and it reflects the difference in the regression-adjusted average outcome for attributed Medicare FFS beneficiaries in CPC+ practices in Years 1 through 3 compared with baseline relative to the same difference over time for attributed Medicare FFS beneficiaries in matched comparison practices.

[c] We report the actual, unadjusted CPC+ mean for each time period shown in the table.

[d] For comparison group practices, we report the actual, unadjusted mean during the baseline period but the adjusted mean during each intervention period. We obtain the adjusted mean by subtracting the regression-adjusted difference between the CPC+ and comparison means in each time period from the CPC+ mean in that same time period.

[e] Ambulatory visits are defined as office or other outpatient visits (such as to rural health clinics and critical access hospitals) for evaluation and management, ophthalmological services for medical examination and evaluation, or new enrollee and annual wellness visits.

[f] The sum of visits to primary care physicians, specialists, and NPs/PAs/CNS is less than total visits, because total visits include those to other practitioners not categorized. Therefore, the sum of unique practitioners for primary care physicians, specialists, and NPs/PAs/CNS is less than total unique practitioners.

[g] The percentage of visits with the usual provider of care (that is, the most frequently seen ambulatory provider) measures continuity of care.

[h] The reversed Bice-Boxerman Index measures fragmentation of care, with higher numbers indicating more fragmented care.

[i] The number of practices included in the regression analysis may differ from the number of practices with attributed beneficiaries because beneficiaries can switch practices between the baseline and the intervention period. Therefore, practices with no attributed beneficiaries meeting the sample selection criteria in the baseline period can have some attributed beneficiaries meeting the criteria in the intervention period (and vice versa).

CNS = clinical nurse specialist; DD = difference-in-differences; FFS = fee-for-service; NP = nurse practitioner; PA = physician assistant; rBBI = reversed Bice-Boxerman Index; SE = standard error.

C. Additional analyses

CPC+ was not associated with changes in key outcomes in any intervention year when we examined year-by-year DD estimates, instead of the combined three-year estimates presented above (Tables 5.H.5a and 5.H.5b).

Table 5.H.5a. Difference-in-differences estimates for high-fragmentation[a] CPC+ and comparison groups (annual model), Track 1

Measure	Intervention year	Baseline[b], CPC+ mean[c]	Baseline[b], Comparison mean[d]	Intervention year, CPC+ mean[c]	Intervention year, Comparison mean[d]	DD estimate (SE)	95% confidence interval	*p*-value
No. of ambulatory visits[e,f]	PY 1	12.6	12.5	12.4	12.3	0.02 (0.02)	(-0.03, 0.07)	0.406
	PY 2	12.6	12.5	12.5	12.3	0.06 (0.03)	(0.01, 0.12)	0.029
	PY 3	12.6	12.5	12.6	12.4	0.09 (0.03)	(0.02, 0.15)	0.009
Visits with primary care physicians	PY 1	3.2	3.2	3.3	3.3	0.02 (0.01)	(-0.01, 0.05)	0.163
	PY 2	3.2	3.2	3.2	3.2	0.04 (0.02)	(0.00, 0.08)	0.033
	PY 3	3.2	3.2	3.2	3.2	0.04 (0.02)	(-0.00, 0.08)	0.081
Visits with specialists	PY 1	7.6	7.4	7.2	7.0	0.04 (0.02)	(-0.00, 0.07)	0.062
	PY 2	7.6	7.4	7.1	6.8	0.06 (0.02)	(0.02, 0.10)	0.006
	PY 3	7.6	7.4	6.9	6.7	0.05 (0.02)	(-0.00, 0.09)	0.063
Visits with NPs/PAs/CNSs	PY 1	1.3	1.4	1.3	1.5	-0.01 (0.01)	(-0.03, 0.01)	0.368
	PY 2	1.3	1.4	1.5	1.6	-0.02 (0.02)	(-0.05, 0.02)	0.305
	PY 3	1.3	1.4	1.6	1.8	0.01 (0.02)	(-0.03, 0.05)	0.574
No. of unique practitioners[f]	PY 1	7.3	7.3	6.6	6.6	0.02 (0.01)	(-0.01, 0.05)	0.151
	PY 2	7.3	7.3	6.7	6.6	0.04 (0.02)	(0.00, 0.07)	0.024
	PY 3	7.3	7.3	6.8	6.7	0.03 (0.02)	(-0.00, 0.07)	0.066
Primary care physicians	PY 1	1.5	1.5	1.4	1.4	0.01 (0.01)	(-0.00, 0.03)	0.141
	PY 2	1.5	1.5	1.3	1.3	0.01 (0.01)	(-0.01, 0.03)	0.181
	PY 3	1.5	1.5	1.3	1.3	0.00 (0.01)	(-0.02, 0.03)	0.803
Specialists	PY 1	4.5	4.5	4.1	4.0	0.03 (0.01)	(0.01, 0.04)	0.007
	PY 2	4.5	4.5	4.0	3.9	0.04 (0.01)	(0.02, 0.06)	0.000
	PY 3	4.5	4.5	3.9	3.8	0.03 (0.01)	(0.01, 0.05)	0.010
NPs/PAs/CNSs	PY 1	0.9	1.0	0.9	1.0	0.00 (0.01)	(-0.01, 0.02)	0.589
	PY 2	0.9	1.0	1.0	1.1	0.00 (0.01)	(-0.02, 0.02)	0.835
	PY 3	0.9	1.0	1.1	1.2	0.02 (0.01)	(-0.01, 0.04)	0.164
Percentage of visits with the usual provider of care[g]	PY 1	27.8	27.8	35.5	35.6	-0.14 (0.11)	(-0.36, 0.08)	0.204
	PY 2	27.8	27.8	35.6	35.9	-0.19 (0.12)	(-0.43, 0.04)	0.101
	PY 3	27.8	27.8	35.6	35.8	-0.16 (0.12)	(-0.39, 0.07)	0.181
rBBI[h]	PY 1	0.91	0.91	0.85	0.85	0.00 (0.00)	(-0.00, 0.00)	0.541
	PY 2	0.91	0.91	0.85	0.85	0.00 (0.00)	(-0.00, 0.00)	0.468
	PY 3	0.91	0.91	0.85	0.86	-0.00 (0.00)	(-0.00, 0.00)	0.767

Source: Mathematica's analysis of Medicare claims data for January 2016 through December 2019.

Table 5.H.5a *(continued)*

Note: No. of practices sample size: 1,371 (CPC+); 5,237 (comparison).
No. of beneficiaries sample size: 202,110 (CPC+); 677,908 (comparison).
No. of beneficiary-years sample size: 745,978 (CPC+); 2,506,006 (comparison).

[a] The high-fragmentation group has an rBBI of 0.85 or greater at baseline.

[b] Baseline refers to the year before CPC+ started (January 2016–December 2016). Estimates are regression-adjusted for baseline patient characteristics (including Hierarchical Condition Category scores, which are a measure of risk for subsequent expenditures) and baseline practice fixed effects. We based each estimate on a DD analysis, and it reflects the difference in the regression-adjusted average outcome for attributed Medicare FFS beneficiaries in CPC+ practices in Years 1 through 2 compared with baseline relative to the same difference over time for attributed Medicare FFS beneficiaries in matched comparison practices.

[c] We report the actual, unadjusted CPC+ mean for each time period shown in the table.

[d] For comparison group practices, we report the actual, unadjusted mean during the baseline period but the adjusted mean during each intervention period. We obtain the adjusted mean by subtracting the regression-adjusted difference between the CPC+ and comparison means in each time period from the CPC+ mean in that same time period.

[e] Ambulatory visits are defined as office or other outpatient visits (such as to rural health clinics and critical access hospitals) for evaluation and management, ophthalmological services for medical examination and evaluation, or new enrollee and annual wellness visits.

[f] The sum of visits to primary care physicians, specialists, and NPs/PAs/CNS is less than total visits, because total visits include those to other practitioners not categorized. Therefore, the sum of unique practitioners to primary care physicians, specialists, and NPs/PAs/CNS is less than total unique practitioners.

[g] The percentage of visits with the usual provider of care (that is, the most frequently seen ambulatory provider) measures continuity of care.

[h] The rBBI measures fragmentation of care, with higher numbers indicating more fragmented care.

[i] The number of practices included in the regression analysis may differ from the number of practices with attributed beneficiaries at baseline, because beneficiaries can switch practices between the baseline and the intervention period. Therefore, practices with no attributed beneficiaries meeting the sample selection criteria in the baseline period can have some attributed beneficiaries meeting the criteria in the intervention period (and vice versa).

CNS = clinical nurse specialist; DD = difference-in-differences; FFS = fee-for-service; NP = nurse practitioner; PA = physician assistant; PY = program year; rBBI = reversed Bice-Boxerman Index; SE = standard error.

Table 5.H.5b. Difference-in-differences estimates for high-fragmentation[a] CPC+ and comparison groups (annual model), Track 2

Measure	Intervention year	Baseline[b], CPC+ mean[c]	Baseline[b], Comparison mean[d]	Intervention year, CPC+ mean[c]	Intervention year, Comparison mean[d]	DD estimate (SE)	95% confidence interval	*p*-value
No. of ambulatory visits[e,f]	PY 1	12.4	12.4	12.2	12.1	-0.01 (0.02)	(-0.05, 0.04)	0.772
	PY 2	12.4	12.4	12.2	12.1	-0.01 (0.03)	(-0.07, 0.04)	0.696
	PY 3	12.4	12.4	12.3	12.2	0.03 (0.03)	(-0.04, 0.09)	0.374
Visits with primary care physicians	PY 1	3.3	3.3	3.4	3.4	0.03 (0.01)	(-0.00, 0.06)	0.056
	PY 2	3.3	3.3	3.3	3.3	0.01 (0.02)	(-0.02, 0.05)	0.505
	PY 3	3.3	3.3	3.2	3.2	0.00 (0.02)	(-0.04, 0.05)	0.865
Visits with specialists	PY 1	7.4	7.2	7.0	6.8	-0.01 (0.02)	(-0.04, 0.03)	0.689
	PY 2	7.4	7.2	6.8	6.6	-0.01 (0.02)	(-0.05, 0.03)	0.665
	PY 3	7.4	7.2	6.7	6.5	-0.01 (0.02)	(-0.05, 0.04)	0.828
Visits with NPs/PAs/CNSs	PY 1	1.3	1.5	1.4	1.5	-0.01 (0.01)	(-0.03, 0.01)	0.327
	PY 2	1.3	1.5	1.5	1.7	-0.00 (0.02)	(-0.04, 0.03)	0.759
	PY 3	1.3	1.5	1.7	1.8	0.03 (0.02)	(-0.01, 0.06)	0.190
No. of unique practitioners[f]	PY 1	7.3	7.3	6.6	6.6	0.02 (0.01)	(-0.01, 0.04)	0.278
	PY 2	7.3	7.3	6.7	6.6	0.02 (0.02)	(-0.01, 0.05)	0.202
	PY 3	7.3	7.3	6.8	6.7	0.04 (0.02)	(-0.00, 0.07)	0.054
Primary care physicians	PY 1	1.6	1.6	1.4	1.4	0.02 (0.01)	(0.00, 0.03)	0.042
	PY 2	1.6	1.6	1.4	1.4	0.01 (0.01)	(-0.01, 0.03)	0.167
	PY 3	1.6	1.6	1.3	1.3	0.00 (0.01)	(-0.02, 0.03)	0.657
Specialists	PY 1	4.5	4.4	4.0	3.9	0.01 (0.01)	(-0.01, 0.03)	0.399
	PY 2	4.5	4.4	3.9	3.8	0.00 (0.01)	(-0.02, 0.02)	0.765
	PY 3	4.5	4.4	3.9	3.8	0.00 (0.01)	(-0.02, 0.03)	0.895
NPs/PAs/CNSs	PY 1	0.9	1.0	0.9	1.0	0.01 (0.01)	(-0.01, 0.02)	0.477
	PY 2	0.9	1.0	1.0	1.1	0.01 (0.01)	(-0.01, 0.03)	0.211
	PY 3	0.9	1.0	1.1	1.2	0.03 (0.01)	(0.01, 0.06)	0.010
Percentage of visits with the usual provider of care[g]	PY 1	27.8	27.8	35.4	35.5	-0.11 (0.10)	(-0.31, 0.10)	0.313
	PY 2	27.8	27.8	35.6	35.8	-0.17 (0.12)	(-0.40, 0.07)	0.162
	PY 3	27.8	27.8	35.5	35.7	-0.20 (0.12)	(-0.44, 0.03)	0.087
rBBI[h]	PY 1	0.91	0.91	0.86	0.86	0.00 (0.00)	(-0.00, 0.00)	0.217
	PY 2	0.91	0.91	0.86	0.86	0.00 (0.00)	(-0.00, 0.00)	0.122
	PY 3	0.91	0.91	0.86	0.86	0.00 (0.00)	(-0.00, 0.00)	0.205

Source: Mathematica's analysis of Medicare claims data for January 2016 through December 2019.

Table 5.H.5b *(continued)*

Note: No. of practices sample size: 1,514 (CPC+); 3,778 (comparison).
No. of beneficiaries sample size: 254,035 (CPC+); 596,154 (comparison).
No. of beneficiary-years sample size: 939,219 (CPC+); 2,206,100 (comparison).

[a] The high-fragmentation group has an rBBI of 0.85 or greater at baseline.

[b] Baseline refers to the year before CPC+ started (January–December 2016). Estimates are regression-adjusted for baseline patient characteristics (including Hierarchical Condition Category scores, which are a measure of risk for subsequent expenditures) and baseline practice fixed effects. We based each estimate on a DD analysis, and it reflects the difference in the regression-adjusted average outcome for attributed Medicare FFS beneficiaries in CPC+ practices in Years 1 through 2 compared with baseline relative to the same difference over time for attributed Medicare FFS beneficiaries in matched comparison practices.

[c] We report the actual, unadjusted CPC+ mean for each time period shown in the table.

[d] For comparison group practices, we report the actual, unadjusted mean during the baseline period but the adjusted mean during each intervention period. We obtain the adjusted mean by subtracting the regression-adjusted difference between the CPC+ and comparison means in each time period from the CPC+ mean in that same time period.

[e] Ambulatory visits are defined as office or other outpatient visits (such as to rural health clinics and critical access hospitals) for evaluation and management, ophthalmological services for medical examination and evaluation, or new enrollee and annual wellness visits.

[f] The sum of visits to primary care physicians, specialists, and NPs/PAs/CNS is less than total visits, because total visits include those to other practitioners not categorized. Therefore, the sum of unique practitioners to primary care physicians, specialists, and NPs/PAs/CNS is less than total unique practitioners.

[g] The percentage of visits with the usual provider of care (that is, the most frequently seen ambulatory provider) measures continuity of care.

[h] The rBBI measures fragmentation of care, with higher numbers indicating more fragmented care.

[i] The number of practices included in the regression analysis may differ from the number of practices with attributed beneficiaries at baseline, because beneficiaries can switch practices between the baseline and the intervention period. Therefore, practices with no attributed beneficiaries meeting the sample selection criteria in the baseline period can have some attributed beneficiaries meeting the criteria in the intervention period (and vice versa).

CNS = clinical nurse specialist; DD = difference-in-differences; FFS = fee-for-service; NP = nurse practitioner; PA = physician assistant; PY = program year; rBBI = reversed Bice-Boxerman Index; SE = standard error.

When we estimated DD models separately for the remaining beneficiaries not in the high-fragmentation group, we also found no effect of CPC+ on the continuity and fragmentation of care (Tables 5.H.6a and 5.H.6b).

Table 5.H.6a. Difference-in-differences estimates for beneficiaries not in the high-fragmentation[a] CPC+ and comparison groups, Track 1

Measure	Baseline[b], CPC+ mean[c]	Baseline[b], Comparison mean[d]	Years 1–3, CPC+ mean[c]	Years 1–3, Comparison mean[d]	DD estimate (SE)	95% confidence interval	*p*-value
No. of ambulatory visits[e,f]	10.1	10.1	10.3	10.2	0.06 (0.02)	(0.01, 0.10)	0.008
Visits with primary care physicians	4.1	4.1	3.6	3.6	0.03 (0.02)	(-0.01, 0.08)	0.103
Visits with specialists	4.9	4.8	5.0	4.9	0.03 (0.01)	(0.00, 0.06)	0.027
No. of E&M visits with NPs/PAs/CNSs	0.7	0.8	1.1	1.2	-0.01 (0.01)	(-0.04, 0.02)	0.398
No. of unique practitioners[f]	4.1	4.1	4.7	4.7	0.00 (0.01)	(-0.02, 0.02)	0.911
Primary care physicians	1.1	1.2	1.2	1.2	-0.01 (0.00)	(-0.02, 0.00)	0.131
Specialists	2.3	2.3	2.6	2.6	0.02 (0.01)	(0.00, 0.03)	0.013
NPs/PAs/CNSs	0.4	0.4	0.7	0.7	-0.01 (0.01)	(-0.03, 0.00)	0.073
Percentage of visits with the usual provider of care[g]	53.6	53.6	48.7	48.6	0.05 (0.10)	(-0.13, 0.24)	0.579
rBBI[h]	0.68	0.68	0.74	0.75	-0.00 (0.00)	(-0.00, 0.00)	0.098

Source: Mathematica's analysis of Medicare claims data for January 2016 through December 2019.

Note: No. of practices sample size: 1,371 (CPC+); 5,238 (comparison).
No. of beneficiaries sample size: 289,455 (CPC+); 958,833 (comparison).
No. of beneficiary-years sample size: 1,058,879 (CPC+); 3,520,556 (comparison).

[a] The beneficiaries who are not in the high-fragmentation group have an rBBI of less than 0.85 at baseline.

[b] Baseline refers to the year before CPC+ started (January–December 2016). Estimates are regression-adjusted for baseline patient characteristics (including Hierarchical Condition Category scores, which are a measure of risk for subsequent expenditures) and baseline practice fixed effects. We based each estimate on a DD analysis, and it reflects the difference in the regression-adjusted average outcome for attributed Medicare FFS beneficiaries in CPC+ practices in Years 1 through 3 compared with baseline relative to the same difference over time for attributed Medicare FFS beneficiaries in matched comparison practices.

[c] We report the actual, unadjusted CPC+ mean for each time period shown in the table.

[d] For comparison group practices, we report the actual, unadjusted mean during the baseline period but the adjusted mean during each intervention period. We obtain the adjusted mean by subtracting the regression-adjusted difference between the CPC+ and comparison means in each time period from the CPC+ mean in that same time period.

[e] Ambulatory visits are defined as office or other outpatient visits (such as to rural health clinics and critical access hospitals) for evaluation and management, ophthalmological services for medical examination and evaluation, or new enrollee and annual wellness visits.

[f] The sum of visits to primary care physicians, specialists, and NPs/PAs/CNS is less than total visits, because total visits include those to other practitioners not categorized. Therefore, the sum of unique practitioners to primary care physicians, specialists, and NPs/PAs/CNS is less than total unique practitioners.

[g] The percentage of visits with the usual provider of care (that is, the most frequently seen ambulatory provider) measures continuity of care.

[h] The rBBI measures fragmentation of care, with higher numbers indicating more fragmented care.

[l] The number of practices included in the regression analysis may differ from the number of practices with attributed beneficiaries at baseline because beneficiaries can switch practices between the baseline and the intervention period. Therefore, practices with no attributed beneficiaries meeting the sample selection criteria in the baseline period can have some attributed beneficiaries meeting the criteria in the intervention period (and vice versa).

CNS = clinical nurse specialist; DD = difference-in-differences; FFS = fee-for-service; NP = nurse practitioner; PA = physician assistant; rBBI = reversed Bice-Boxerman Index; SE = standard error.

Table 5.H.6b. Difference-in-differences estimates for beneficiaries not in the high-fragmentation[a] CPC+ and comparison groups, Track 2

Measure	Baseline[b], CPC+ mean[c]	Baseline[b], Comparison mean[d]	Years 1–3, CPC+ mean[c]	Years 1–3, Comparison mean[d]	DD estimate (SE)	95% confidence interval	*p*-value
No. of ambulatory visits [e,f]	10.0	10.0	10.1	10.1	0.06 (0.02)	(0.01, 0.10)	0.009
Visits with primary care physicians	4.1	4.1	3.7	3.6	0.04 (0.02)	(-0.00, 0.08)	0.083
Visits with specialists	4.7	4.7	4.9	4.8	0.03 (0.01)	(0.00, 0.06)	0.034
Visits with NPs/PAs/CNSs	0.8	0.9	1.1	1.2	-0.02 (0.01)	(-0.05, 0.01)	0.228
No. of unique practitioners[f]	4.1	4.1	4.8	4.8	0.01 (0.01)	(-0.01, 0.03)	0.298
Primary care physicians	1.2	1.2	1.2	1.2	0.01 (0.00)	(-0.00, 0.02)	0.121
Specialists	2.3	2.3	2.6	2.6	0.02 (0.01)	(0.01, 0.03)	0.006
NPs/PAs/CNSs	0.4	0.5	0.7	0.7	-0.02 (0.01)	(-0.03, -0.00)	0.019
Percentage of visits with the usual provider of care[g]	53.2	53.2	48.2	48.1	-0.02 (0.10)	(-0.21, 0.17)	0.815
rBBI[h]	0.68	0.68	0.75	0.75	-0.00 (0.00)	(-0.00, 0.00)	0.961

Source: Mathematica's analysis of Medicare claims data for January 2016 through December 2019.

Note: No. of practices sample size: 1,514 (CPC+); 3,780 (comparison).
No. of beneficiaries sample size: 342,197 (CPC+); 795,773 (comparison).
No. of beneficiary-years sample size: 1,253,078 (CPC+); 2,924,200 (comparison).

[a] The beneficiaries who are not in the high-fragmentation group have an rBBI of less than 0.85 at baseline.

[b] Baseline refers to the year before CPC+ started (January–December 2016). Estimates are regression-adjusted for baseline patient characteristics (including Hierarchical Condition Category scores, which are a measure of risk for subsequent expenditures) and baseline practice fixed effects. We based each estimate on a DD analysis, and it reflects the difference in the regression-adjusted average outcome for attributed Medicare FFS beneficiaries in CPC+ practices in Years 1 through 3 compared with baseline relative to the same difference over time for attributed Medicare FFS beneficiaries in matched comparison practices.

[c] We report the actual, unadjusted CPC+ mean for each time period shown in the table.

[d] For comparison group practices, we report the actual, unadjusted mean during the baseline period but the adjusted mean during each intervention period. We obtain the adjusted mean by subtracting the regression-adjusted difference between the CPC+ and comparison means in each time period from the CPC+ mean in that same time period.

[e] Ambulatory visits are defined as office or other outpatient visits (such as to rural health clinics and critical access hospitals) for evaluation and management, ophthalmological services for medical examination and evaluation, or new enrollee and annual wellness visits.

[f] The sum of visits to primary care physicians, specialists, and NPs/PAs/CNS is less than total visits, because total visits include those to other practitioners not categorized. Therefore, the sum of unique practitioners to primary care physicians, specialists, and NPs/PAs/CNS is less than total unique practitioners.

[g] The percentage of visits with the usual provider of care (that is, the most frequently seen ambulatory provider) measures continuity of care.

[h] The rBBI measures fragmentation of care, with higher numbers indicating more fragmented care.

[i] The number of practices included in the regression analysis may differ from the number of practices with attributed beneficiaries at baseline, because beneficiaries can switch practices between the baseline and the intervention period. Therefore, practices with no attributed beneficiaries meeting the sample selection criteria in the baseline period can have some attributed beneficiaries meeting the criteria in the intervention period (and vice versa).

CNS = clinical nurse specialist; DD = difference-in-differences; FFS = fee-for-service; NP = nurse practitioner; PA = physician assistant; rBBI = reversed Bice-Boxerman Index; SE = standard error.

Similarly, we found no discernable effects when we analyzed subgroups of patients based on their HCC risk scores or examined impacts on Track 1 and Track 2 practices separately based on whether the practice participated in an accountable care organization in the Medicare Shared Savings Program (results not shown).

5.H.4. Discussion

Medicare beneficiaries with high fragmentation at baseline (40 percent of the sample) received an average of 13 ambulatory visits across 7 practitioners (4 of them specialists), with the averages being similar to the median. On average, 28 percent of their visits were with the usual provider of care—in sharp contrast to the remaining beneficiaries, whose average was 54 percent. Patterns were the same across tracks and CPC+ versus comparison practices. Although we did observe improvements in continuity of care over time for beneficiaries in the high-fragmentation group—likely driven by a reversion to the mean given our categorization of beneficiaries at baseline—these improvements did not differ between CPC+ and comparison practices in either track.

Despite previous research showing improvements in care management practices and a reduction in emergency department visits over the first three years of CPC+ (Chapter 5 in Peikes et al. 2021), our findings suggest that CPC+ did not meaningfully change continuity or fragmentation of care for Medicare beneficiaries over the same period. At the end of the third year, beneficiaries with highly fragmented care at baseline continued to seek care from many practitioners who delivered small proportions of their ambulatory visits. We also find no evidence that CPC+ affected the number of ambulatory visits, which is particularly noteworthy for Track 2 practices, as the CPC+ payment scheme could weaken incentives for face-to-face visits.

There are a few possible reasons why these findings were not more favorable. First, practices may need more time to fully implement changes in care delivery. Practices have flexibility to decide which care delivery requirements to implement first, how to implement them, and which staff should be involved (Anglin et al. 2020). We look at only the first three years of the model, but deeper practice transformation and more familiarity with the CPC+ payment structure may translate into changes in key outcomes in the last two years of the model. Second, practices may require stronger, tailored learning supports or greater rewards-based payments to incentivize them to strengthen continuity of care (Peikes et al. 2020a). Third, CPC+ promotes team-based care and could have improved continuity of care at the practice level, but with our focus on interpersonal continuity of care—that is, care from individual practitioners, regardless of where they practice—we may not capture such improvements at the practice site. Related, CPC+ aimed to expand access to care at the practice level, but because NPs/PAs/CNSs often handle same-day appointments, fragmentation might worsen. That said, even in practice sites with the most robust team-based care, it is unlikely there is perfect communication between practitioners—which is one reason we focus on interpersonal continuity of care in this study. It is unclear how communication across practitioners within a practice translates into clinical decision making, particularly when multiple practitioners are involved, but it is unlikely to be the same decision-making process as when the patient directly communicates information to the provider. A fourth explanation for our findings is that although CPC+ incentivized primary care providers, it did not incentivize specialists. That is, specialists were not incentivized to engage in behaviors that

would have increased continuity with primary care and decreased fragmentation (such as referring patients back to primary care practitioners, avoiding specialist-to-specialist referrals, and minimizing the number of visits for problems that could be effectively managed by primary care practitioners). Finally, improvements in comparison practices over the same time, possibly due to other primary care initiatives, could mask improvements among CPC+ practices.

Limitations. This study has some important limitations. First, practices were not randomly assigned to CPC+ versus comparison group status. Despite having similar observable characteristics, CPC+ and comparison practices could have differences in unobservable characteristics that influenced outcomes. Second, high fragmentation is not equivalent to the absence of communication between practitioners. Our claims data do not capture the extent to which practitioners are coordinating beneficiaries' care, exchanging information, or developing a shared care plan. In addition, claims do not capture emails, texts, telephone, and many video visits. If such visits are concentrated among few providers, fragmentation measured using billable office visits may overstate the true extent to which care is fragmented.

Finally, the generalizability of our findings to other large-scale initiatives may be limited because CPC+ was tested in the regions, payers, and practices that volunteered to participate and were selected by CMS. Furthermore, given the flexibility of the CPC+ model, another set of practices might have transformed care differently, leading to different results.

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