

Evaluation of the Primary Care First Model

First Annual Report

December 2022

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Executive Summary

A. Introduction

1. Overview of Primary Care First

The 2021 launch of the Primary Care First (PCF) model by the Centers for Medicare & Medicaid Services (CMS) Innovation Center is a continuation of efforts from several previous models that aims to enhance primary care in the United States and to move primary care practitioners further away from fee-for-service (FFS) toward value-based payment. The goals of the PCF model are to improve care for Medicare FFS beneficiaries and to lower costs for CMS. As the successor to the Comprehensive Primary Care Plus (CPC+) Model, the voluntary PCF model builds on important lessons learned, with an emphasis on patients' outcomes over care delivery requirements. PCF differs substantially from CPC+, however, because it requires participating primary care practices from the outset to take on upside and downside financial risk for the most common primary care services for their attributed Medicare FFS population. Similar to CPC+, CMS partners with Medicaid and commercial payers that offer a payment model that aligns with PCF to their insured populations.

At the heart of PCF is an innovative payment structure intended to reward quality and value and reduce administrative burden. CMS assigns primary care practices participating in PCF to one of four risk groups based on the average Hierarchical Condition Category (HCC) score among the Medicare FFS beneficiaries they serve, as determined by an attribution process. Attribution is determined hierarchically based on voluntary attestation by beneficiaries or where beneficiaries have received select services (such as their most recent Annual Wellness Visit) or the plurality of their eligible primary care visits. Practice participants agree to forego reimbursement based on Medicare's physician fee schedule for a defined list of primary care services. Instead, practices receive a flat visit fee (FVF) when patients have an office visit such as an Annual Wellness Visit or other primary care visit. The intent of the FVF was to reduce administrative and documentation burdens related to justification of a particular billing code and also discourage stinting on care. In addition, on a quarterly basis, practices receive a population-based payment (PBP), which is a prospective, per-beneficiary-per-month (PBPM) payment for beneficiaries attributed to their practice. The PBP ranges from \$28 to \$175 depending on the risk group. The PBP was intended to pay for some portion of office visit costs as well as covering services that typically have not been reimbursed, such as follow-up with beneficiaries via telephone or patient portal or coordination with other providers. Together, the PBP and flat visit fee payments represent the total primary care payment (TPCP). After the first year of PCF participation, practices' TPCP is subject to a performance-based adjustment, which can increase payment by up to 50 percent or decrease it by as much as 10 percent based on practices' performance on acute hospitalizations (risk groups 1 and 2) or total cost of care (risk groups 3 and 4) as well as performance on the Quality Gateway measures that include, for example, patients' experience of care and documentation of an advance care plan. Additionally, CMS also will make a leakage adjustment to the PBP after each cohort's first year that will decrease payments to account for primary care services provided outside the PCF practice.

CMS designed the PCF model with two components: the PCF component and the seriously ill population (SIP) component. In the PCF component, CMS assigned practices to risk groups based on their attributed patients' risk scores and is described in this report. In the SIP component, CMS would have made higher model payments to participating practices that provide specialized care for high-need patients who have

complex, chronic needs and who also typically lack effective care coordination and receive fragmented care. Before the start of the model, practices had the option of applying to the PCF component, the SIP component, or as a hybrid practice that would participate in both components. After initially placing the SIP component on hold, CMS announced in November 2021 its decision to not move forward with this component. CMS explained that the proposed outreach method, which was designed to comply with statutory beneficiary privacy protections, was unlikely to result in sufficient beneficiary uptake to allow for model evaluation. CMS did not enroll any practices in the SIP component prior to this announcement. Practices that met the hybrid eligibility criteria were given the option to join only the PCF component or to decline to participate in the model.

As of late 2022, the PCF model has enrolled two cohorts of practices: the first began their participation in the model in 2021, and the second began their participation in the model in 2022. Each has a five-year period of performance. Organizations that offer services at multiple locations (or sites) submitted separate applications for each site. Primary care services at each practice site had to account for at least 50 percent of the practices' billing based on revenue (for a multispecialty practice, 50 percent of the primary care practitioners' combined revenue must come from primary care services). Each practice site also had to meet the PCF eligibility requirements, such as having a minimum of 125 attributed Medicare FFS beneficiaries. In addition, because CMS expected practices to already have advanced primary care capabilities, the practices had to meet at the outset certain care delivery requirements, such as following up with patients after emergency department visits or a hospital discharge.

2. Approach to the evaluation

CMS contracted with Mathematica to evaluate the PCF model. Mathematica will assess whether the model reduces hospitalizations and total Medicare expenditures for Medicare FFS beneficiaries served by PCF practices. Mathematica will also examine the changes PCF practices made to their care delivery and the model's effects on other intermediate outcomes and quality-of-care measures.

Building on previous primary care models, PCF emphasizes five comprehensive primary care functions: access and continuity, care management, comprehensiveness and coordination, patient and caregiver engagement, and planned care and population health. Model participants must agree to meet a limited set of care delivery requirements within these five functions, but CMS is less prescriptive in how these requirements are met than in the CPC+ model. This flexibility is attractive to model participants, but it might not inform policymakers about why the model ultimately is or is not effective if strategies vary considerably across practices.

For this reason, our evaluation uses hypothesized causal pathways to describe the mechanisms, such as care management strategies, through which we expect to see changes in outcomes. We developed these causal pathways based on the research literature and lessons from CPC+, as well as through discussions with CMS and early interviews with practices in Spring 2021. We will continually update these causal pathways throughout the life of the model based on our data collection and analyses. The process of developing and refining our causal pathways will also enable us to select appropriate measures to assess changes associated with the model. For example, our understanding of causal pathways will help us to identify leading indicators that will provide early signals of whether the model changes care in ways we hypothesize could reduce acute hospitalizations and Medicare spending, as CMS intends. In addition, causal pathways provide a framework for presenting findings on practices' implementation of the model and for using these findings to interpret estimates of the model's effect on outcomes.

3. Focus of this report

This report describes the first performance year of the PCF model for Cohort 1 practices. As it is too early to expect effects from the model to emerge on lowered hospitalization rates or cost, the report's focus is on advanced primary care attributes that Cohort 1 practices report they possessed at the start of PCF and the approaches these practices have taken or plan to take to change how they deliver advanced primary care. The evaluation team focused on the strategies PCF practices undertook to reduce hospitalizations or lower costs, with an emphasis on identifying whether any of these strategies were new to the practices.

This report also synthesizes findings on the 13 payers that are partnering with CMS as payer partners, (beginning in 2021). These findings include details on the characteristics of these payers and why they chose to partner with CMS, supplemented with findings from interviews with payers that did not partner with CMS in the PCF model. Additionally, the report describes payer partners' efforts to align their payments and other strategies, such as data feedback and quality measures with CMS in the PCF model.

This is the first in a series of annual reports covering the full duration of the model test. The next annual report will continue to focus on qualitative findings, bringing in the experiences of the second cohort of practices and payers. The second and subsequent reports will include initial impact estimates. Later reports will synthesize our qualitative findings about model implementation with quantitative data on model participation, changes in the causal pathways' leading indicators, and estimates of the model's effects on our evaluation's ultimate outcomes—acute hospitalizations and total Medicare spending—and secondary outcomes, following the causal pathway framework.

B. Practice participation in PCF

Primary care practices in all 18 of the CPC+ regions plus an additional 8 regions, including populous states such as California and Florida, were able to apply to participate in the PCF model. The model generated substantial interest: more than 1,700 practices applied to participate in Cohort 1 of the model, and nearly 1,300 met the PCF eligibility requirements.

When the model launched in 2021, 846 practices were participating, representing more than 4,000 practitioners and just over 500,000 attributed Medicare FFS beneficiaries. Nearly 85 percent of these practices were affiliated with at least one other PCF participant, such as belonging to the same health system or medical group, according to their applications. Participation increased further after CPC+ ended and CPC+ practices became eligible to join PCF: of the 2,228 practices that joined Cohort 2 in January 2022, more than two-thirds had participated in CPC+. The total number of participants falls short of the 8,000 practices that CMS anticipated would participate in the model (Centers for Medicare & Medicaid Services, 2020).

A factor that might have affected the number of practices that applied to the PCF model was the anticipated launch of the Global and Professional Direct Contracting Model, now known as the Accountable Care Organization Realizing Equity, Access, and Community Health [ACO REACH] Model. The Innovation Center began hosting webinars on this model in late 2019. Anecdotal evidence and enrollment trends suggest that many health organizations and practices were attracted to the greater opportunities for upside gains and willing to take the greater downside risk available through ACO REACH. The desire to join the ACO REACH model was the main reason discussed during interviews about why eligible practices decided not to join the PCF model or withdrew from the model.

Among Cohort 1 practices, respondents reported they participated in PCF to be at the forefront of care transformation and to improve quality of care. Respondents also appreciated the predictability of revenue from the PBPs. CMS paid more than \$190,000,000 in 2021 to PCF Cohort 1 practices for professional PBPs across all risk groups, most of which (83 percent) it paid to practices in risk group 1 that make up the largest proportion of PCF Cohort 1 practices. Median annual PBPs ranged from roughly \$144,000 for practices in risk group 1 to nearly \$767,000 for practices in risk group 4. Within a risk group, PBPs varied depending on attributed number of beneficiaries. Average annual flat visit fee payments per practice were roughly \$60,000 among practices in all risk groups, ranging from about \$600 to more than \$700,000.

Although respondents from a few practices—including those that withdrew from the model—expressed disappointment about not being in a higher-paying risk group, the general sentiment was that PCF payments were adequate if not higher than expected. Simulations by the evaluation team suggest that total payments in PCF—adjusted for leakage—are higher than expected Medicare FFS payments if practices had not joined the model—even though CMS intended for the payments to be about the same as remaining in traditional FFS. But interview respondents expressed concern about how payments might change after the performance-based adjustment is applied or leakage adjustments are made. These performance adjustments began in April 2022 when one-fifth of practices received a negative performance-based adjustment (averaging \$6,813 per practice) and more than one-third of practices received a positive adjustment (averaging \$14,266 per practice). Leakage adjustments began in July 2022; on average, practices received a 34 percent (median: 31 percent) decrease in their population-based payments because of leakage.

Interview respondents provided feedback on other supports available through the model. For example, more than half of respondents were familiar with the beneficiary-level data that CMS provides to PCF practices through downloadable claims and claim line feeds or through data feedback tools available through an online portal. Nevertheless, several respondents pointed out that the data feedback tools have a significant time lag that reduced their usefulness; respondents opted instead for timelier data sources such as their electronic health records. CMS also offers PCF practices access to webinars and other supports through a PCF learning system; usually the respondents most familiar with these supports were the staff administratively responsible for PCF at a participating practice. Finally, CMS sponsors a social media platform known as the Connect site to support model participants. Less than one-quarter of practices accessed this platform in 2021. Those that did usually asked questions about the model's requirements, though some users sought input from other practices on how to implement specific care delivery strategies.

C. Payer involvement in PCF

Of the 21 payers that applied to partner with CMS during the first performance year of PCF, 13 signed a memorandum of understanding with CMS to partner in PCF with one or more of their lines of business; an additional 10 payer organizations joined in 2022 (including two that submitted applications but chose not to participate in 2021). These payers are primarily commercial insurers, though a few state Medicaid agencies are partnering with CMS in PCF as well. Payers chose to partner in PCF because the PCF payment approach aligns with their existing or planned payment approaches, they were interested in continuing the momentum of primary care transformation from CPC+, and because they valued the opportunity to partner with CMS. Payers that did not opt to partner in PCF reported a desire to focus on their own payment initiatives, had concerns about their ability to offer a payment model that

aligned with CMS' PCF payment model, or expressed hesitation because of low practice and payer participation in PCF in 2021.

Payer participation in PCF was modest compared to CPC Classic and CPC+. Although multipayer collaboration is intended to be a tenet of the model's success, payer engagement in PCF has not achieved at the same level of payer participation as its predecessor models. Comparing at the region level across the CPC Classic, CPC+, and PCF models, CPC Classic had 38 payer partners in its seven regions, CPC+ had 80 payer partners in 18 regions, and PCF has 41 payer partners in 26 regions. However, one payer, Humana, represents 24 of the PCF payer partners though its interactions with PCF practices and other payer partners appears to have been relatively modest at the time of our data collection. Notably, eight regions with multipayer participation in CPC+ had no payers or only one payer partner in PCF in 2021.

A challenge facing payers is the uneven participation of practices across the 26 regions. Excluding the two regions with no payer partners in Cohorts 1 and 2, the average number of participating practices per region is 121, with the Ohio and Northern Kentucky region and Michigan having the highest number of practices at 535 and 321, respectively. Some payers questioned the value of offering a new payment approach in a region in which few practices are participating. Notably, some payers are offering a PCF-like payment approach to practices that are not participating in CMS' PCF payment model.

In 2021, only 5 of the 13 payer partners offered aligned financial incentives that included an alternative to FFS and a performance-based payment. These are the core elements of CMS' payment approach and signal alignment with CMS. The proportion of payer partners providing an alternative to FFS payments and performance-based payments falls short of CMS' goal that all payer partners do so for PCF practices. The five payer partners that offered an alternative to FFS payment paid practices, on average, 50 to 90 percent of total practice payments via a capitated arrangement, and four of these payers departed from CMS' PCF payment approach by offering care management fees. Three payer partners offered a performance-based payment with a potential upside ranging from 25 to 50 percent of total practice payments and four payer partners included downside potential ranging from 10 to 25 percent of practice payments. All five payer partners tied performance-based payments to outcome measures, not process measures, using cost and utilization metrics. Four of the remaining eight payer partners reported plans to implement aligned financial incentives in future years. Few payer partners reported new activity in other areas of alignment, such as data feedback reports to participating practices.

D. PCF and care delivery

CMS used the practice application process and self-reported care delivery reporting data via an online portal to ensure that PCF model participants have advanced primary care capabilities at baseline. Over the life of the model, CMS is relying on participating practices' annual self-reporting via the portal to assess changes in capabilities in the five comprehensive primary care functions (care management, access and continuity, coordination and collaboration, patient and caregiver engagement, and planned care and population health). Portal data provided by participating practices in spring 2021 suggested that practices' strongest capabilities at baseline were in the areas of access and continuity, care management, and patient and caregiver engagement. At baseline, most participating practices reported planned care delivery changes across many primary care functions—often all of them—suggesting that practices recognize there is room for improvement in how they deliver care.

In 2021, participating practices assigned to risk groups 1 and 2 generally planned to build upon their existing capabilities across multiple primary care functions, though care management and

access appeared to be their focus. For example, practices' efforts related to care management included better follow-up with patients after a hospital discharge or expanding the clinical conditions covered under their longitudinal care management programs. Likewise, nearly all practices interviewed described efforts to enhance patients' access to primary care services. Often, they singled out telehealth for this enhanced access, though the COVID-19 pandemic and not PCF was usually the reason for this change. Behavioral health integration emerged as an area in which practices are making changes, through providing on-site resources or securing community referrals. Few respondents brought up continuity of care as a strategy they were pursuing, but it is important to note that continuity is built into the design of the model by requiring empanelment of patients and through strategies such as care management that are inherently based on continuity. Respondents often struggled to identify new strategies funded by PCF to achieve the primary care functions; often, instead, the intensity of the strategy was new although the strategy itself was not.

Practices assigned to risk groups 3 and 4 had a somewhat different experience in PCF. These practices often treated homebound patients and were already set up to function as high-touch interdisciplinary teams. Respondents from many of these practices noted that PCF funding allowed them to increase staffing to better meet their patients' needs. In addition, risk group 3 and 4 practices reported they were more frequently reviewing advance care plans with patients and finding ways to better use data and data analytics to identify patients who need additional services.

Many PCF practices are affiliated with each other through a larger health system or medical group; these affiliations appear to play a meaningful role in the strategies the practices pursued and how they implemented them. Interview data suggest that corporate entities (such as health systems and medical groups) appear to be implementing their PCF strategies similarly across all affiliated practices in PCF and, in some cases, to their nonparticipating affiliated practices as well. If other corporate entities are taking a similar approach, this raises questions about the extent to which practices in the model operate independently—as CMS had intended—and how corporate entities make decisions on behalf of their participating practices.

Cohort 1 practices were confident that they could improve the outcomes PCF targeted. Based on a preliminary review of initial Quality Gateway measure data, most practices met benchmarks for quality measures related to diabetes control, high blood pressure control, and colorectal cancer screening; advance care planning was a pay-for-reporting measure in 2021. Further, using care management strategies practices aimed to reduce readmissions through improved post-discharge follow-up and fewer preventable hospitalizations among patient subgroups with complex conditions.

E. Looking forward

Future data collection will help us to refine our causal pathways to reflect the specific activities that practices undertake and to describe how practices intend these activities to result in changes to short-term and long-term outcomes. Data from 2021 suggest that care management was one of practices' leading strategies for reducing acute hospitalizations. Care management is a broad area of medicine, and future data collection will help us refine our understanding of the strategies that practices undertake and describe how practices intend for these strategies to result in changes in short-term and long-term outcomes. Importantly, because practices are not solely focused on care management, our future work will consider how causal pathways for other strategies—such as improved access, behavioral health integration, and advance care planning—independently and jointly affect hospitalizations and costs of care. Understanding these causal pathways will have important implications as we move forward in

defining metrics such as leading indicators to assess practices' progress in reducing hospitalizations or lowering costs.

Another area for future exploration is how the implementation of the PCF causal pathway strategies varies by organizational type (such as systems versus non-systems) or experiences with other value-based payment models. PCF—similar to its predecessor CPC+—is designed to be implemented at the practice site level. This brick-and-mortar definition means that, with a few exceptions, various locations of the same health organization are treated as separate practices. This design is intended for innovation and implementation to occur within an individual practice, with individual practitioners feeling as though they are invested in the outcomes and success. Initial data from 2021 suggests that more research is necessary to determine whether the strategies being implemented for PCF take place at a centralized or system level, at a practice level, or at some combination of these. How practices and practitioners are involved in designing and implementing changes will provide further insight into how model payments can incentivize behavior change to improve outcomes.

Insight from practice interviews and the portal data on practice activities in Year 1 also will further inform our evaluation of how practice care delivery activities might affect primary evaluation outcomes of acute hospitalizations and total Medicare expenditures. Using our hypothesized causal pathways, we will select leading indicators to measure care delivery changes before we anticipate impacts on more distal outcomes. If we do observe impacts, leading indicators can help us understand the drivers of changes in our primary outcomes. Now that Cohorts 1 and 2 have started, we will identify our set of comparison practices to serve as the counterfactual for our impact evaluation. In our next report, we will show the findings on our selected leading indicators and preliminary impact estimates for primary evaluation outcomes using our matched comparison group.

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1. Introduction

A. Overview of PCF Model

In 2021, the Center for Medicare & Medicaid Innovation (Innovation Center) launched the Primary Care First (PCF) Model to test whether financial risk and performance-based payments for outcomes will reduce total Medicare fee-for-service (FFS) expenditures and improve patient health outcomes. Primary care practices could join the model in 2021 (Cohort 1) or 2022 (Cohort 2). Each cohort has a five-year period of performance.

The PCF model builds on principles and lessons from past Innovation Center models, such as the Comprehensive Primary Care Initiative (CPC Classic) and Comprehensive Primary Care Plus (CPC+). CPC Classic showed some beneficial effects but did not reduce Medicare spending enough to cover care management fees (Peikes et al. 2018). CPC+, the successor to CPC Classic, ended in 2021 and introduced multiple tracks to engage practices at different levels of transformation, as well as stronger incentives, and increased the size of the test to 3,070 practices in 18 regions with more than 14,000 primary care clinicians providing care to more than 17 million patients. Through its first four years, CPC+ reduced outpatient emergency department (ED) visits, hospitalizations, and acute inpatient expenditures and improved some claims-based quality-of-care measures (Swankoski et al. 2022). Various stakeholders raised concerns, however, that CPC+ relied too heavily on specific requirements for practice transformation and traditional Medicare FFS billing, doing too little to reduce the billing and quality reporting burdens of primary care practices and to shift clinicians' focus to outcomes of care. The PCF model addresses these concerns by offering advanced primary care practices a flexible model focused on outcomes rather than processes, as well as increased reimbursement for practices that care for medically complex patients.

CMS anticipates that a new payment approach will encourage PCF practices to promote access to both visit-based and non-visit-based primary care services, resulting in care delivery changes that will reduce acute care utilization and lower Medicare Part A and B spending. Under the PCF model, practices receive a total primary care payment composed of a population-based payment (PBP) and a flat visit fee (FVF). The PBP is based on the total number of Medicare FFS beneficiaries attributed to each practice and ranges from \$28 to \$175 per beneficiary per month across four risk groups. The range in payment is based on the practice's average Hierarchical Condition Category (HCC) risk score for attributed beneficiaries. Attribution is determined hierarchically based on voluntary attestation by beneficiaries, where beneficiaries have received select services such as their most recent Annual Wellness Visit, or the plurality of their eligible primary care visits. CMS intends for the PBP to support the many elements of primary care not effectively compensated by Medicare FFS, such as round-the-clock access, non-face-to-face encounters, coordinated and comprehensive care, and in-depth patient engagement (Berenson and Rich 2010). The FVF is paid when attributed beneficiaries have an office visit. It supports the clinician-patient contacts that patients value and that could reduce unnecessary spending (O'Malley et al. 2015; Ghany et al. 2018). CMS anticipated this visit-based revenue, combined with the PBP, would approximate the overall reimbursement that these practices historically would have received under Medicare FFS for practices whose beneficiary panel have an average risk based on the HCC scores, though it would be somewhat higher for practices with a higher-risk beneficiary panel (Centers for Medicare & Medicaid Services 2019). Beginning in mid-2022, payments are subject to a quarterly performance-based adjustment (PBA) that will increase the highest performing practices' total primary

care payment by up to 50 percent and reduce the lowest performing practices' payments by up to 10 percent.

Exhibit 1.1 summarizes the goals, eligibility criteria, payment, and options for data that practices receive from CMS (and possibly other payers) for PCF practices.

Exhibit 1.1. Goals, practice eligibility criteria, payment, and data sharing options for PCF

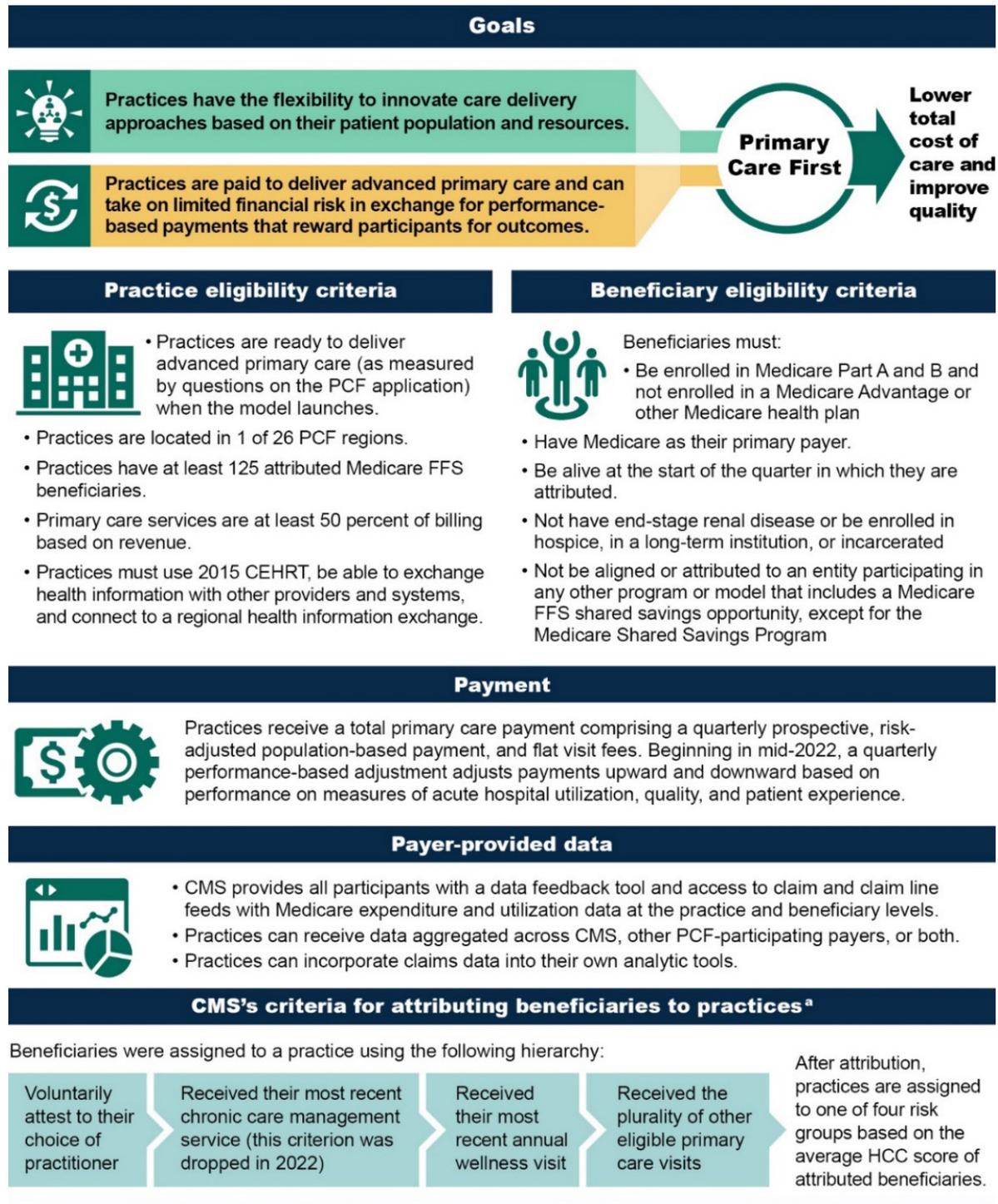


Exhibit 1.1 (continued)

Source: Mathematica summary of the Primary Care First request-for-applications and payment methodology. C

^a The impact evaluation uses a different attribution approach because we cannot account for voluntary alignment in assigning beneficiaries to comparison practices. Instead, this approach involves the place beneficiaries had their most recent Annual Wellness Visits or, in the absence of such visits, the plurality of eligible primary care visits and chronic care management claims.

CEHRT = certified electronic health record technology; CMS = Centers for Medicare & Medicaid Services; FFS = fee-for-service; HCC = Hierarchical Condition Category.

B. PCF evaluation goals for Year 1

The ultimate goal of the independent evaluation of PCF is to determine whether the model leads to better care for Medicare FFS beneficiaries and lower costs for CMS. Unlike CPC Classic and CPC+, the PCF model has fewer care delivery requirements in the five comprehensive primary care functions, such as access and continuity and care management, and more flexibility to determine how the requirements are met. Therefore, the evaluation focuses broadly on practices' choice of strategies within the five comprehensive primary care functions rather than their implementation of a limited set of care delivery requirements. The evaluation must assess the effectiveness of the model across different communities, beneficiary populations, and practice organizations. At the same time, it will be critical to disentangle the effects of PCF from various contextual factors (such as other concurrent and recent health care system transformation efforts) and environmental, market, and policy changes. Furthermore, the PCF evaluation takes place in the context of a rapidly changing health care landscape disrupted by the COVID-19 pandemic. In response, CMS expanded the use of selected services, such as allowing providers in more settings to substitute telehealth visits for face-to-face visits and be reimbursed at the substantially higher face-to-face visit rate. The CARES Act Provider Relief Fund provided grants and other financial assistance to certain healthcare providers for lost revenue and other expenses related to the COVID-19 pandemic. Many patients chose to delay or defer primary and elective care in 2020 which resulted in financial losses to practices (Alexander et al. 2020; Mehrotra 2021).

In this first annual report of the evaluation of the PCF model, the evaluation team describes the experiences of Cohort 1 practices and payers during 2021, the first performance year of PCF. In future reports, we will incorporate the experiences of Cohort 2 and, beginning with the second annual report, estimate the impact of the PCF model on acute hospitalizations, Medicare Part A and B expenditures, and other relevant outcomes relative to a comparison group.

C. Logic model, causal pathways, and data sources

The evaluation uses a logic model that presents the conceptualized relationship between the inputs, care delivery strategies, leading indicators, and outcomes of an intervention. Causal pathways represent hypotheses of strategies we anticipate practices might undertake and how these strategies might impact outcomes. We used a mixed-methods approach that relies on primary and secondary data to develop the logic model and the causal pathways.

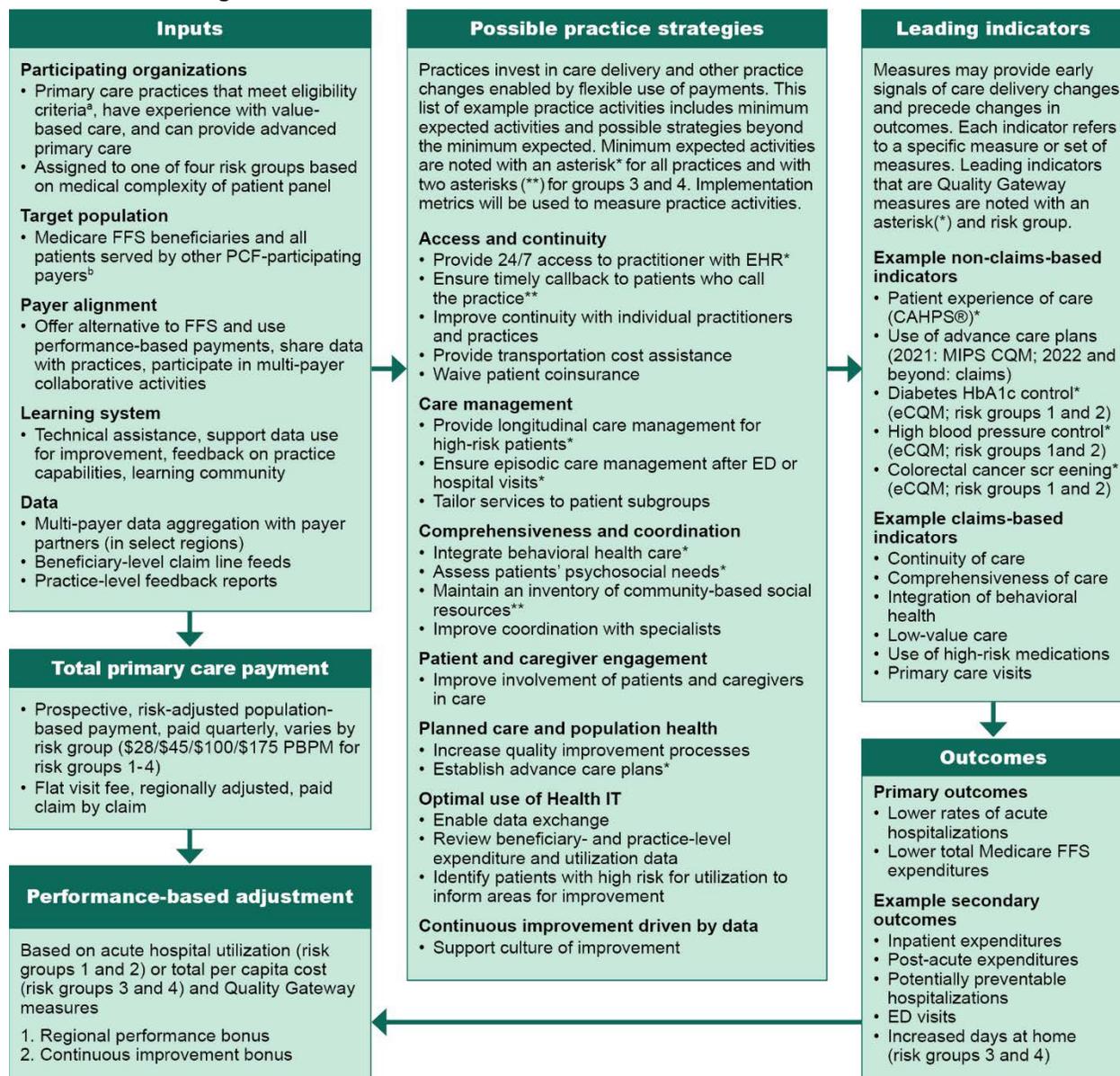
1. Logic model

The PCF logic model developed by Mathematica (Exhibit 1.2) illustrates how the PCF model aims to achieve the desired outcomes of fewer hospitalizations and lower Medicare Part A and B expenditures. Inputs for the PCF model include participating practices and their attributed Medicare FFS beneficiaries, payer alignment, learning system support, and data provided to practices. Participating practices receive a total primary care payment that is adjusted through the PBA and can be reinvested as

an input in the logic model. The flexibility of the PCF model also means that there likely is not a single approach that practices will use; the logic model reflects this by aligning the strategies that practices are likely to take with one or more of the five comprehensive primary care functions defined by CMS: care management, access and continuity, coordination and collaboration, patient and caregiver engagement, or planned care and population health. In addition, practices may take advantage of the model's flexible use of payments to invest in strategies such as optimal use of health information technology (health IT) and continuous process improvement driven by data.

The logic model also includes implementation metrics to measure practice strategies and leading indicators to provide early signals of care delivery changes. These signals could precede changes in the primary outcomes (acute hospitalizations and total Medicare Part A and B expenditures) or secondary outcomes such as include inpatient expenditures, post-acute care expenditures, and ED visits. Contextual factors might also affect the elements in the logic model and influence the relationships among them. Contextual factors could include practice-level factors such as practice size, health system affiliation, the share of patients who are Medicare FFS beneficiaries, and socioeconomic status of the practice's attributed Medicare population. Contextual factors might also be specific to geographic region, such as regional payer involvement in PCF, regional population utilization, and per capita Medicare spending at the start of model. Other important contextual events to consider will be national and world events with broad impacts on care delivery and health outcomes, such as the COVID-19 pandemic. The logic model is subject to change throughout the model.

Exhibit 1.2. PCF logic model



Note: Quality Gateway refers to the measures used to inform performance-based adjustments and assess quality of care delivered. Contextual factors include geographic region, urbanicity, participation in CPC+ (2022 cohort), practice size, health system affiliation, share of patients who are Medicare FFS beneficiaries, payer involvement in PCF, structure of payer alternative payments, socioeconomic status of patient population, population utilization and per capita costs at start of model, and changes due to COVID-19 pandemic.

^a Eligibility criteria: Located in 1 of 26 PCF regions; have at least 125 attributed Medicare beneficiaries or be able to reach minimum beneficiaries within one year of model participation; primary care services are at least 50% of billing based on revenue (could change); use 2015 CEHRT, support data exchange, connects to regional HIE

^b Inclusion of commercial payer members dependent on degree of payer participation

CAHPS = Consumer Assessment of Healthcare Providers and Systems; CEHRT = certified electronic health record technology; eCQM = electronic clinical quality measure; ED = emergency department; EHR = electronic health record; FFS = fee for service; HIE = health information exchange; HIT = health information technology; MIPS CQM = Merit-based Incentive Payment System clinical quality measure; PBPM = per beneficiary per month; PCF = Primary Care First.

2. Use of causal pathways to guide the implementation findings for Year 1

Because the PCF model does not prescribe specific care delivery strategies for participating practices, the casual pathways provide a tool for describing practice strategies and potential mechanisms of change in beneficiary care and outcomes. We hypothesize three causal pathways associated with the practices’ changes and strategies: (1) care management, (2) comprehensiveness and coordination, and (3) access and continuity (Exhibit 1.3). We identified these pathways with input from the Innovation Center model team and based them on existing evidence on the impact of primary care delivery changes on acute hospitalizations and lessons learned from CPC+. These three pathways are central to the model and align with the literature on the defining features of primary care (Starfield 1998, Institute of Medicine 1996, Agency for Healthcare Research and Quality 2011, World Health Organization 1978 and 2018). Other strategies, such as use of data and strategies related to planned care and population health, cut across the three causal pathways. These pathways are not meant to be static nor an exhaustive list nor are they mutually exclusive. We expect that these pathways will be continuously updated over the life of the Model based on data collection to reflect the primary means through which practices might use PCF supports to reduce acute hospitalizations. We also expect practices to implement strategies in multiple pathways.

Exhibit 1.3. Hypothesized causal pathways of how practice strategies may improve beneficiary care and outcomes

Care delivery domain	Causal pathway
Care Management	<p>Longitudinal care management: Practices provide longitudinal care management for beneficiaries at high risk for admission, readmission, or emergency department visits, customizing care to help beneficiaries manage their conditions effectively, resulting in reduced acute exacerbations and lower acute care utilization.</p> <p>Episodic care management: Practices follow up after emergency department and hospital visits, improving care transitions and adherence to post-discharge care plans resulting in fewer readmissions and/or emergency department visits.</p>
Access and Continuity	<p>Access to care: Practices hire and train staff to increase access in terms of affordability, availability, and accessibility, and they implement care delivery changes to enable earlier interventions, resulting in less reliance on acute care for conditions that are treatable in a primary care setting</p> <p>Continuity of care: Practices improve informational and interpersonal continuity to build trust and support practitioners in understanding of beneficiaries’ health status and goals leading to care improvements through reduced fragmentation and duplicative services and improved beneficiary engagement</p>
Comprehensive and Care Coordination	<p>Behavioral health integration. Practices systematically screen beneficiaries for behavioral health conditions and improve access to behavioral health care by implementing team-based care and coordinating with behavioral health specialists, which leads to better management of behavioral health conditions, resulting in lower Medicare expenditures and acute care utilization for behavioral health-related conditions.</p> <p>Address social determinants of health. Practices identify beneficiaries’ social determinants of health needs and connect patients to services to address social needs, which can reduce acute care utilization, especially emergency department use, leading to lower Medicare expenditures.</p> <p>Specialty care coordination. Practices improve coordination of care with specialists when specialty care is needed, reducing fragmented care, costs for specialty care, use of low value care, and duplication of services.</p>

These pathways map to three of CMS’ five comprehensive primary care functions central to the model. We expect that these pathways reflect the primary means through which practices might use PCF supports to reduce acute hospitalizations. Strategies that map to the other two primary care functions, patient and caregiver engagement and planned care and population health, likely have a more indirect effect on outcomes, mediated through one or more of these pathways.

3. Overview of data sources and methods

Our evaluation of the PCF model relies on a mixed-methods approach that uses primary and secondary data analyzed with quantitative and qualitative data analysis techniques. Exhibit 1.4 summarizes the data sources, their purpose, and the sample; additional details are available in Appendix A.

Exhibit 1.4. Our evaluation of the first performance year of the PCF model relied on numerous primary and secondary data sources

Data	Purpose	Sample
Secondary data		
Practice applications	Provide details on practice characteristics and advanced primary care functions at the time of application to inform analysis on participating practices and to sample practices for the telephone and in-person interviews	100 percent of practices that submitted an application for Cohort 1 or Cohort 2
CMS’ PCF practice portal	Track self-reported advanced primary care functions of intervention practices over time as well as planned changes to their practice staffing, infrastructure, or practice strategies (such as new services or capabilities)	Required annually of all participants; initial data for Cohort 1 were submitted March to April 2021
CMS payments	Describe population-based payments (including adjustments) made to practices	Available quarterly for all participants
Quality Gateway measures	Describe practices’ performance on quality metrics that are the basis of their performance-based adjustments beginning in April 2022	Available quarterly and/ or annually for all participants
Medicare FFS claims	Calculate the payments made to practices through FVFs and compare PCF component payments with payments under care as usual	Available for all participants
Payer applications	Characterize participating payers, including the payment arrangements and supports available to practices	Applications available for all applicants
Primary data: Practices		
Early experience interviews	Gain early information on how practices are approaching the model, including the strategies they plan to implement and challenges they experienced	One-time interviews with 26 practices conducted in spring 2021
Virtual site visits	Gain insight into practices’ implementation experiences over time, including (1) barriers and facilitators to implementation, (2) how practice strategies and/or activities change over time, (3) perspectives on model supports and the strategies that appear most effective in reducing hospitalizations or lowering total costs, and (4) why practices choose to remain in or leave the model	28 practices in Cohort 1 conducted annually each fall

Data	Purpose	Sample
Exit interviews	Identify factors that impeded practices' participation in the model, including practices that were accepted in the model but chose not to participate and those that withdrew after participating	27 practices in 2021 and 7 practices in 2022
Primary data: Payers		
Non-participating payers	Interview payers that applied for but chose not to participate in the model at its launch	One-time interview with 13 payers
Participating payers	Interview payers to review their payer worksheets and gain additional information on their experiences implementing the model	7 payers
Payer worksheet	Confirm details of the payment model and strategies for implementing the PCF model	All participating payers
CPC+ survey	Focus on reasons for participation in PCF	Fielded to payers participating in both CPC+ and PCF

CMS= Centers for Medicare & Medicaid Services; CPC+ = Comprehensive Primary Care Plus; PCF = Primary Care First.

D. Organization of the report

This first annual report will provide a comprehensive description of the PCF model's first performance year. In the chapters that follow, we describe practice participation (Chapter 2) and PCF model incentives and supports (Chapter 3). We discuss payer partnerships (Chapter 4), practices' baseline care delivery capabilities and plans to deliver advanced primary care under the PCF model (Chapter 5). We then describe practices' strategies to reduce hospitalizations or reduce total cost of care (Chapter 6). We finish with a chapter that ties this information together on the implications for refining causal pathways that will guide the evaluation going forward for measuring practice transformation and model performance (Chapter 7). Exhibit 1.5 provides a road map for the report, including identifying the research questions addressed and the chapters in which they are answered.

Exhibit 1.5. Road map to the first annual report of the PCF evaluation

Chapter	Content
1. Introduction	<ul style="list-style-type: none"> Overview of the PCF model, implementation goals, data sources, and report organization
2. Model participation	<ul style="list-style-type: none"> Which practices participate in PCF? Why do practices participate in PCF? What types of beneficiaries do they serve? Why did accepted practices choose not to participate or withdraw after participating?
3. PCF model incentives and supports	<ul style="list-style-type: none"> What are practices' perceptions of the new payments under PCF? What incentives and supports of the model do the practices find attractive? Which incentives and supports are they most concerned about? How do the total payments that PCF practices receive under the model differ from usual reimbursements under standard Medicare FFS?
4. Payers	<ul style="list-style-type: none"> Which payers participate in PCF and why? To what extent did payer partners offer an aligned payment approach? How did payer participation change in 2022?
5. Practices' initial care delivery capabilities and plans to implement PCF	<ul style="list-style-type: none"> What were Cohort 1 practices' reported care delivery capabilities at the start of the model? What changes did Cohort 1 practices expect to make to care delivery in the first year of PCF?
6. Implementation of the PCF model	<ul style="list-style-type: none"> How do practices implement the model? Have practices changed the way they care for patients under PCF? How do practices change the way they care for seriously ill patients and patients with the most complex needs? What barriers and facilitators do practices face in implementing the model? What effect does the model have on providers?
7. Tying it together	<ul style="list-style-type: none"> Next steps in the evaluation

FFS = fee for service; PCF = Primary Care First.

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2. Participation



Key takeaways

- **Over 800 practices participated in PCF Cohort 1.** Among the 846 practices that joined Cohort 1 in January 2021, most self-identified as single-specialty primary care practices and part of a larger integrated delivery system or hospital system, raising questions about how access to organizational resources influences practice participation. In addition, about half are part of a Medicare Shared Savings Program accountable care organization (ACO) and may have significant experience with value-based initiatives.
- **Across all risk groups, Cohort 1 practices serve a disproportionately White and affluent population.** Most beneficiaries assigned to Cohort 1 practices were non-Hispanic White, and only 14 percent were dually eligible for Medicare and Medicaid. Among beneficiaries assigned to risk group 4 practices, a higher proportion were Black or Hispanic, and nearly half were dually eligible for Medicare and Medicaid. Beneficiaries assigned to risk group 4 practices were often older, frailer, and had higher utilization rates than beneficiaries assigned to risk group 1 practices.
- **Practices reported they chose to participate in PCF to be at the forefront of care transformation and to improve quality of care.** Among Cohort 1 practices that chose not to participate in the model in 2022, joining the Global and Professional Direct Contracting Model (now called the ACO REACH Model) was the most commonly cited reason for withdrawing from PCF.
- **The launch of Cohort 2 more than doubled the number of practices participating in PCF.** Starting in 2022, an additional 2,228 practices joined PCF Cohort 2, including practices that previously participated in CPC+ and were not previously eligible to participate in PCF as a result. With the addition of these new practices, the number of practices that have ever participated in PCF is similar to the number that participated in CPC+.

A. Focus of this chapter

This chapter describes the practices that participated in Cohort 1 in 2021 and why these practices chose to participate in the PCF model.¹ The chapter also describes the characteristics of beneficiaries assigned to PCF practices as part of the model. Although most of the findings included in this report focus on Cohort 1, we include in this chapter a brief description of Cohort 2 practices that joined PCF in 2022.

Enhancing health equity was not an initial goal of the model, but CMS has recently made it a strategic priority. Although participating practices serve in diverse geographic locations, including rural and urban settings, Cohort 1 practices serve a disproportionately White and affluent population. This in part reflects the model's design because organizations such as Federally Qualified Health Centers and Rural Health Clinics were excluded from participating in the model. Low representation of beneficiaries from historically underserved racial and ethnic subgroups and under-resourced communities might limit our ability to detect disparities within these key subgroups. Consideration of approaches to bring an equity lens to the evaluation is ongoing.

¹ The PCF model defines a practice as a brick-and-mortar physical location; if a practice offers patient care services at more than one physical location, the model considers each location a separate PCF practice. An exception to defining practices as separate brick-and-mortar locations is that if all PCF practitioners in a practice provide care at more than one location, those locations might be considered one PCF practice.

Key data sources used in this chapter

Practice participation

- Application data provided by PCF Cohort 1 and Cohort 2 practices when they applied to participate in the PCF model, including self-described characteristics about practices.
- Interviews with 28 PCF Cohort 1 practices (October 2021 to February 2022) providing details on motivation for model participation and 35 exit interviews with practices that were accepted but chose not to participate in Cohort 1 (January to March, 2021) or withdrew in the first year of participation (March 2022) on reasons for non-participation or withdrawal.
- Self-reported data from PCF Practice Portal (March to April 2021) from 827 participating Cohort 1 practices reporting responses on reasons for participation.

Beneficiary participation

- Medicare claims and enrollment data related to beneficiaries who visit PCF Cohort 1 practices; the claims and enrollment data provide demographic and clinical information.▲

B. Participation

CMS expected PCF Cohort 1 practices to have experience with value-based initiatives and providing advanced primary care. As we described in Chapter 1, participation requirements include being located in one of 26 PCF regions, having at least 125 attributed Medicare FFS beneficiaries, being able to connect to a regional health information exchange, and meeting care delivery requirements. Practices that were enrolled in CPC+ were ineligible to participate in Cohort 1, but CPC+ practices could join PCF in 2022 as part of PCF Cohort 2.

1. Practice participation

Over 800 practices participated in Cohort 1 in 2021. Though 1,711 practices applied to participate in PCF in Cohort 1,² about one-quarter were not eligible to participate because they did not meet requirements such as the minimum number of beneficiaries, the percentage of revenue from primary care, or the advanced primary care delivery requirements that are listed in Appendix B, Exhibit B.1. The remaining quarter were eligible but withdrew their applications before the model began in January 2021. Exhibit 2.1 shows the characteristics of practices that applied to participate in Cohort 1.

Exhibit 2.1. Characteristics of practices that were eligible to participate in PCF Cohort 1 in 2021

	Eligible for Cohort 1 and participated in model starting in January 2021	Eligible for Cohort 1 and withdrew before the model began in January 2021	Ineligible for Cohort 1
Total PCF applicants, by eligibility	846	464	401
Is your practice owned and operated by a larger health care organization or parent organization, such as a health system or a group practice?	85%	75%	49%

² This number (1,711 practices) does not include practices that applied to participate only in the Seriously Ill Population component of the model, which was not implemented by CMS.

Chapter 2. Participation

Exhibit 2.1 (continued)

	Eligible for Cohort 1 and participated in model starting in January 2021	Eligible for Cohort 1 and withdrew before the model began in January 2021	Ineligible for Cohort 1
Practice Size			
Large (10 or more practitioners)	12%	18%	6%
Medium (3 to 9 practitioners)	60%	55%	35%
Small (1 or 2 practitioners)	28%	26%	59%
Which of the following best describes your practice?^a			
Practice within hospital system	31%	23%	15%
Practice within an integrated delivery system	36%	20%	12%
Medical group practice	30%	45%	58%
Practice within a network of individual practices	1%	1%	5%
Other	2%	10%	10%
Practice specialty type (respondents could choose all that apply)^a			
The practice is a single-specialty primary care practice	72%	62%	77%
The practice is a primary care practice with other integrated practitioners, or is a multi-specialty practice	22%	27%	14%
More than one specialty types selected	5%	7%	6%
The practice is a single-specialty hospice and/or palliative care practice	0%	<1%	1%
The practice participates in other lines of business besides primary care, such as urgent care on weekends and/or physical exams for an insurance company	<1%	1%	1%
Other	<1%	3%	1%
Participation in Medicare Shared Savings Program			
Yes, practice is part of an ACO that is participating in the Shared Savings Program at time of PCF application and planned to continue participation	56%	51%	45%
No, practice was not participating or applying to participate in the Shared Savings Program at time of PCF application or planned to stop participating in Shared Savings Program before joining PCF.	43%	49%	55%
Risk group^b			
Group 1	90%	72%	n/a
Group 2	7%	6%	n/a
Group 3	2%	1%	n/a
Group 4	1%	<1%	n/a
Ineligible or withdrew prior to risk group assignment	0%	21%	100%

Source: Mathematica's analysis of PCF practice application data submitted in 2019

Note: Percentages shown are within the column. Percentages might not sum to 100 because of rounding.

^a Responses to questions about practice description and specialty type are worded as they were in the PCF practice application. Unless otherwise noted, response options were mutually exclusive.

^b After CMS determined a practice was eligible, the practice received its preliminary risk group assignment. The final risk group assignment for 2021 was made available before the model's launch.

ACO = accountable care organization; CMS = Centers for Medicare & Medicaid Services; PCF = Primary Care First.

The vast majority of practices were assigned to risk group 1 (see Exhibit 2.2); these practices had an average risk score of 0.96. Fewer than 100 practices belonged to risk groups 2 through 4, with average risk scores ranging from 1.30 to 2.26, respectively.

Exhibit 2.2. Cohort 1 practice HCC risk scores for 2021, by risk group

	Total (N = 846)	Risk Group			
		1 (N = 760)	2 (N = 56)	3 (N = 21)	4 (N = 9)
Mean	1.02	0.96	1.30	1.69	2.26
25th percentile	0.90	0.89	1.24	1.54	2.04
Median	0.98	0.96	1.28	1.71	2.08
75th percentile	1.08	1.04	1.35	1.76	2.33

Source: Mathematica’s analysis of PCF practice risk scores for Cohort 1 practices that started in January 2021 and received any PCF payment.

HCC = Hierarchical Condition Category; PCF = Primary Care First.

In their applications to participate in PCF, most practices (85 percent) reported that their practice was owned by a larger health care organization such as a health system or group practice. In write-in responses, practices named 105 unique health systems that owned and operated at least one practice in PCF. Most of those systems had fewer than 5 affiliated practices participating in Cohort 1, although a few systems had 10 or more practices in the model in 2021. About two-thirds of Cohort 1 practices (67 percent) reported being part of an integrated delivery system or a hospital system. Most described their practices as a single-specialty primary care practice (72 percent) and about half (56 percent) of Cohort 1 practices were part of a Medicare Shared Savings Program ACO. Practices participating in the model were assigned to one of four risk groups based on the average HCC score of attributed beneficiaries, and most (90 percent) Cohort 1 practices were assigned to risk group 1, the lowest-acuity group. Characteristics of practices by risk group are available in Appendix B, Exhibit B.2.

PCF Cohort 1 practices were located in 23 of the 26 regions eligible for PCF (Appendix B, Exhibit B.2).³ These regions included 18 of the CPC+ regions, plus an additional eight regions that CMS selected to increase the footprint of the model, as CMS expected that participation in Cohort 1 would exceed CPC+ model participation (Centers for Medicare & Medicaid Services 2019). Among these regions, Florida, Ohio/Northern Kentucky, California, and New Jersey had the most Cohort 1 practices active at the start of the model in 2021 (more than 80 practices in each region). Other regions with relatively large numbers of participating practices include Massachusetts, the Greater Philadelphia region, Virginia, and Maine (more than 40 practices in each region). A few regions, such as Hawaii and New Hampshire, have fewer than 10 practices participating in Cohort 1 in 2021.

About one-quarter of practices that applied to participate in PCF in 2021 were not eligible because they did not meet eligibility requirements (for example, a practice must have a minimum of 125 attributed Medicare beneficiaries, and primary care services must account for at least 50 percent of the practices’ primary care practitioners’ billing based on revenue). These ineligible practices were similar to eligible ones regarding participation in the Medicare Shared Savings Program. A notable difference is that a smaller proportion of ineligible practices (49 percent) were owned and operated by a health system or

³ In addition to the 26 eligible PCF regions, practices participating in the Independence at Home Demonstration were also eligible to apply to participate in the model even if the practice was not located in a PCF region.

larger organization than eligible practices were (85 percent). Likewise, only 27 percent of ineligible practices were part of an independent delivery network or health system, suggesting that practices with system or larger health care organization resources might be more likely to participate in the model. Model participation, or lack of participation, could have implications for health equity. In future years, we will compare characteristics of PCF practices with those of other practices that were potentially eligible to participate but did not apply to the PCF model.

Eligible practices that applied to PCF but chose not to participate cited different reasons for doing so during interviews. One commonly cited reason for declining to participate was that the assigned risk group and attributed beneficiaries did not match practices' expectations of the size or medical complexity of their Medicare patient population or the costs associated with caring for these patients, so model participation seemed financially infeasible. Practices that declined to participate also perceived a significant administrative burden to participate in the model that potential upside performance incentives did not outweigh. Small practices in particular cited the time required for digesting information provided and attending informational webinars and investments in health IT. Large systems cited challenges in consolidating administrative tasks across multiple practices. A few practices that declined to participate reported they thought a different model (such as the ACO REACH Model, formerly known as the GPDC Model) would be a better fit for their organization. The COVID-19 pandemic affected the opt-out decision for a few practices interviewed.

2. Beneficiary characteristics

Here we report characteristics of beneficiaries that are included in the evaluation sample. This population varies slightly from CMS' attributed population because we use a methodology that must assign beneficiaries to both intervention and comparison practices, and this methodology does not account for voluntary attestation. Based on this methodology, we assigned a total of 517,075 Medicare FFS beneficiaries to Cohort 1 practices over a two-year baseline period (2019–2020). Because CMS attributes beneficiaries to PCF practices every calendar quarter during the model, starting with the first quarter of 2021, we defined the baseline-period population by (1) attributing beneficiaries to the PCF practices for eight calendar quarters in 2019 and 2020, before the model began, and (2) assigning attributed beneficiaries for the entire two-year baseline period to the first practice at which they were attributed. Appendix A.1 describes our attribution and assignment methods in more detail.

Across all risk groups, Cohort 1 practices serve a disproportionately White and affluent population.

In particular, in risk group 1, 85 percent of beneficiaries were non-Hispanic White. Although 19 percent of Medicare FFS beneficiaries were dually eligible for Medicare and Medicaid in 2019, the proportion of dually eligible people in PCF was 14 percent (MACPAC n.d.). Compared with risk group 1 practices, risk group 4 practices had a higher proportion of assigned beneficiaries who were dually eligible (48 percent) and Black (21 percent) or Hispanic (10 percent). In addition, as Exhibit 2.3 shows, most beneficiaries assigned during the baseline period were age 65 or older (91 percent), and more than half of beneficiaries were female (58 percent). About 15 percent of PCF beneficiaries received Medicare Part D low-income subsidy. Beneficiaries assigned to risk group 4 practices had a higher percentage that were age 84 or older (47 percent) compared with only 15 percent of all beneficiaries in the model. Consistent with model expectations, practices in higher risk groups provided care for beneficiaries with greater medical complexity. Among all beneficiaries, about 15 percent had five or more medical conditions; among beneficiaries assigned to practices in risk group 4, nearly half (45 percent) had five or more conditions. More than one-third of all beneficiaries in the model were frail compared with 74 percent of beneficiaries assigned to risk group 4, using a claims-based measure of frailty (Appendix A, Exhibit A.3).

Exhibit 2.3. Characteristics of beneficiaries assigned to PCF Cohort 1 practices over a two-year baseline period (2019–2020)^a

	Total	Risk Group			
		1	2	3	4
Number of PCF practices ^b	834	748	55	22	9
Number of assigned Medicare beneficiaries	517,075	480,521	25,041	8,006	3,507
Age categories (%)					
18 to 64	9	9	10	8	9
65 to 74	41	42	32	19	17
75 to 84	34	34	34	31	27
84 or older	15	14	23	42	47
Female (%)	58	58	61	64	69
Race categories (%)^c					
Non-Hispanic White	84	85	72	77	61
Black (or African American)	6	6	12	7	21
Hispanic	4	4	5	4	10
Asian/Pacific Islander	3	3	8	10	4
American Indian/Alaska Native	0	0	0	1	0
Other	2	2	2	2	2
Poverty indicators					
Part D low-income subsidy (%)	15	15	23	29	49
Partial or full dual eligibility (%)	14	13	22	28	48
Number of medical conditions^d (%)					
Number of medical conditions ^d (%)					
0	26	27	15	10	6
1 or 2	40	41	35	31	22
3 or 4	19	18	26	28	27
5 or more	15	14	24	32	45
Frailty indicator and frailty-related utilization (%)					
Frailty (%) ^e	34	33	43	58	74
Any DME utilization ^e	29	28	32	40	50
Frailty-related DME utilization ^e	14	13	16	25	33
Any home health agency utilization ^e	11	10	15	29	42

Source: Mathematica's analysis of Medicare claims, the Medicare Enrollment DataBase, OneKey, Medicare Bayesian Improved Surname Geocoding

^a All values in this table are reported as percentages (multiplied by 100) and are measured as of December 2020 except age, which is calculated as of April 2022. Percentages might not sum to 100 because of rounding.

^b Only 834 PCF Cohort 1 practices had assigned beneficiaries in the two-year baseline period (2019–2020). PCF practices might lack assigned beneficiaries if, for example, they did not exist in 2019 or they had no primary care practitioners in 2019.

^c From Medicare Bayesian Improved Surname Geocoding. There are fewer than 0.1 percent of beneficiaries with race unknown (not shown in the table).

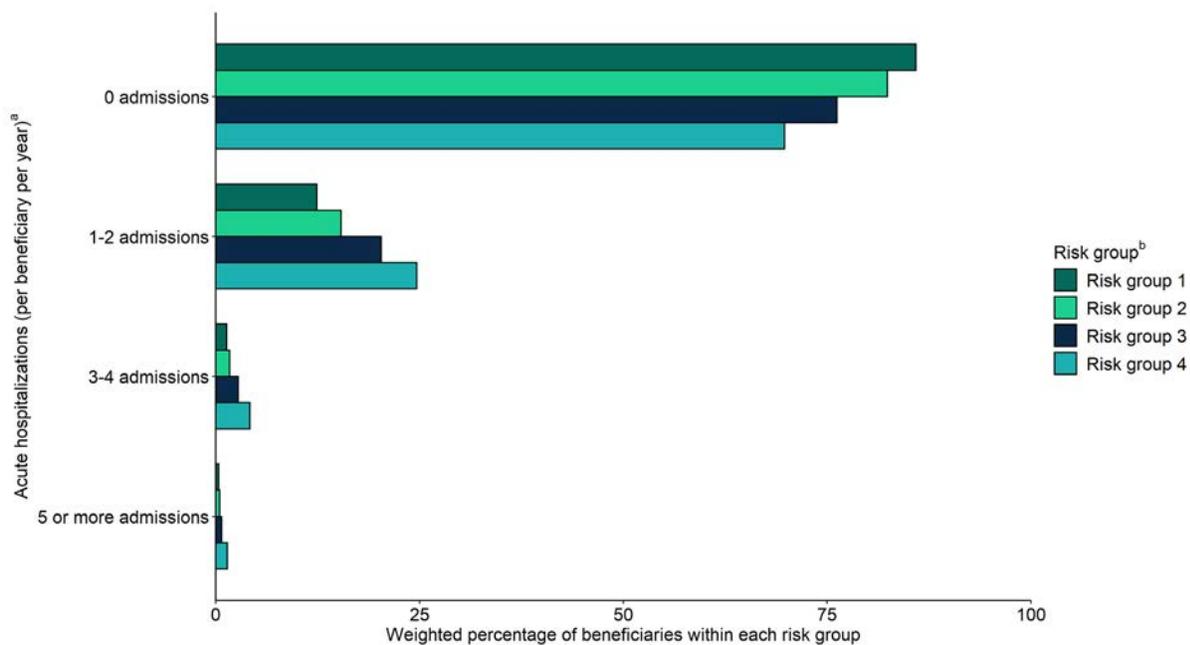
^d This includes all 189 HCCs used to generate the HCC score, not just the selected conditions shown in this table.

^e Frailty is defined by a claims-based measures based on HEDIS® exclusion criteria to beneficiaries with frailty-related diagnosis codes. The DME expenditure measure includes Medicare payments for Medicare-covered equipment under the Part B benefit. The frailty-related DME use is a binary measure; the beneficiary is identified as having frailty-related DME if one of a set of frailty-related DME HCPCS codes is on the claim. These codes are derived from Kim et al. 2018. The home health expenditure measure includes Part A and Part B expenditures paid to Medicare home health agency providers. Appendix A.3 provides more detail on these measures.

DME = durable medical equipment; FFS = fee for service; HCC = Hierarchical Condition Category; HEDIS = Healthcare Effectiveness Data and Information Set; PCF = Primary Care First.

Although the rate of acute hospitalizations is the key outcome used to determine performance-based adjustments for risk group 1 and 2 practices, it is also informative to examine hospitalizations across all risk groups because hospitalizations are an important driver of total expenditures (the outcome for risk group 3 and 4 practices). The proportion of assigned beneficiaries with any acute hospitalization in 2020 was greater among beneficiaries assigned to practices in risk groups 3 and 4 than among beneficiaries in risk group 1 and 2 practices (Exhibit 2.4). Total Medicare expenditures among all beneficiaries were \$946 dollars per beneficiary per month; among beneficiaries assigned to risk group 4, total Medicare expenditures were \$2,655 per beneficiary per month. More detail on beneficiary characteristics is available in Appendix B, Exhibits B.3 to B.6.

Exhibit 2.4. Acute hospitalizations in 2020 for beneficiaries assigned to PCF Cohort 1 practices



Source: Mathematica’s analysis of Medicare claims, the Medicare Enrollment DataBase, and OneKey.

^a For each beneficiary, we measure hospitalizations over the period of 2020 in which the beneficiary was eligible for analysis. Beneficiaries are eligible if they are alive, enrolled in Medicare Part A and B with Medicare as the primary payer, and not covered under a managed care plan.

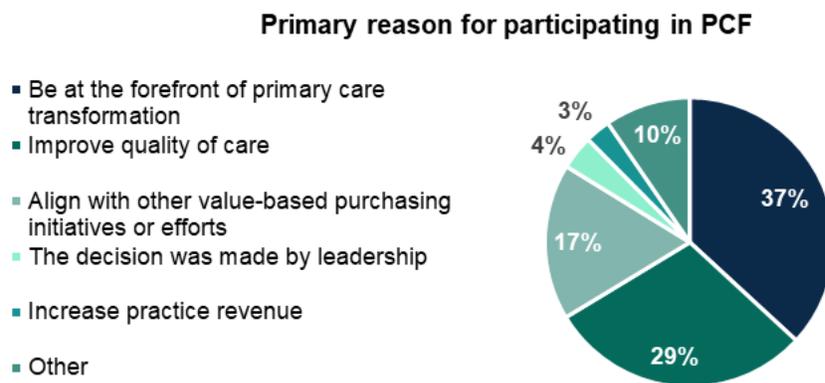
^b CMS assigns practices to risk groups based on the average HCC score of attributed beneficiaries. HCC scores are a measure of risk for subsequent expenditures based on the beneficiaries’ chronic conditions, as identified in Medicare claims data.

CMS = Centers for Medicare & Medicaid Services; HCC = Hierarchical Condition Category; PCF = Primary Care First.

C. Reasons practices participated in PCF

Cohort 1 practices chose to participate in the PCF model so that they could be at the forefront of care transformation (37 percent) and improve quality of care (29 percent), as reported in responses to the PCF Practice Portal that practices completed early in 2021 (Exhibit 2.5). In all, 10 percent of practices selected “other,” and, in written comments, most noted that their reasons were multifactorial or some combination of the other reasons listed.

Exhibit 2.5. PCF Cohort 1 practices cited being at the forefront of primary care transformation as the most common reason for participating in the PCF model



Source: Mathematica’s analysis of PCF Practice Portal data completed by PCF Cohort 1 practices.

Notes: N = 814 for this portal question; 13 practices that did not respond were excluded.

PCF = Primary Care First.

PCF practice staff similarly emphasized the shift toward value-based care as their motivation for joining PCF in interviews with Cohort 1 practices. Most practices said that shifting toward value-based care was a key reason they participated. These practices see PCF as a way to transition toward risk-based models. A few practices said that PCF was an opportunity to enter a capitated model because of a scarcity of value-based payment opportunities in their states. Many practices reported that PCF will help them improve patient care and outcomes and invest in staff and other resources needed to improve care. For example, a respondent from one system-affiliated practice whose system also had practices in CPC+ said that PCF participation allows them to standardize the availability of resources across all practices in their system.

Although portal responses suggested that only 3 percent of practices identified increased revenue as the primary reason for participating in the model, in interviews, many practices noted that financial considerations also were at the forefront of their decision making. Several practices noted that the model would better compensate for care of high-risk patients. These practices, especially those in risk groups 3 or 4, stated that PCF better supports the resource-intensive care that they provide to high-risk populations. Several other practices noted that the PCF payment structure helps reimburse them for work for which they would otherwise be unreimbursed.

Many practices noted that experience with similar models or initiatives will help them perform well in PCF. Several practices mentioned that the PCF model aligned with incentives from their Medicare Shared Savings ACO, Patient-centered Medical Home (PCMH), or other value-based and quality initiatives. A few interview respondents from practices belonging to a system that also has practices with CPC+ experience said their CPC+ experience is valuable. Two respondents from practices with experience in the Independence at Home model saw PCF as a vehicle for continuing care delivery activities initiated under the Independence at Home model. Practices cited how PCF aligned with Medicare Shared Savings Plan ACOs, other value-based payment initiatives, or PCMH experience. One respondent from a system-affiliated PCF practice noted how practitioners in other system-affiliated practices that participated in CPC+ have come to rely on care managers supported by CPC+; PCF will allow the system to continue supporting care managers.

//////
"[I]t really is difficult to financially fund a practice such as ours in a fee-for-service model and still provide the level of care that we feel like these patients deserve and require. So, when there was an opportunity to join a program where there's more money to fund what we do, it seems like a no-brainer, a program that pays based on the severity of illness, not based on how many times the doc can actually see the patient."

Medical lead

D. Anticipated changes for 2022

Although this annual report focuses on findings related to the practices participating in PCF in 2021, the number of the practices participating in the model changed in 2022 because of attrition from the model and additional practices joining the model in 2022.

1. Attrition

Approximately 14 percent of practices have withdrawn from the PCF model. In 2021, 120 Cohort 1 practices withdrew from the model prior to the start of the second performance year, resulting in 726 Cohort 1 practices that were participating as of January 1, 2022 (see Appendix B, Exhibit B.7 for characteristics of Cohort 1 practices that remained versus those that withdrew). Of those that withdrew voluntarily, most joined the ACO REACH Model (then known as Global and Professional Direct Contracting Model). In interviews with five practices that withdrew to join ACO REACH, most expressed positive attitudes toward PCF, seeing it as a way to prepare for more risk-sharing. ACO REACH was appealing because it has greater potential financial upside and because joining a Direct Contracting Entity (the entities that contract with the Innovation Center) often provided supports similar to those in the PCF model. Multiple practices that withdrew to join ACO REACH said they did not seek out the ACO REACH Model. Instead, they either joined another practice or group that was participating in ACO REACH or they were approached by a Direct Contracting Entity or a private equity firm that offered supports and services that convinced these practices to withdraw from PCF. These supports, which included help collecting and analyzing data and adding staff to address patients' mental and behavioral health needs, were incentives to join ACO REACH.

A few practices noted they had concerns about the timeliness and quality of beneficiary data provided through PCF, although they said these weren't primary reasons for withdrawing. They also were not prepared for some expenses, such as paying for the administration of the Patient Experience of Care Survey (PECS) and contracting with a registry to submit data for the Advance Care Plan measure, both of which were original model requirements.⁴

2. Changes in participation with Cohort 2

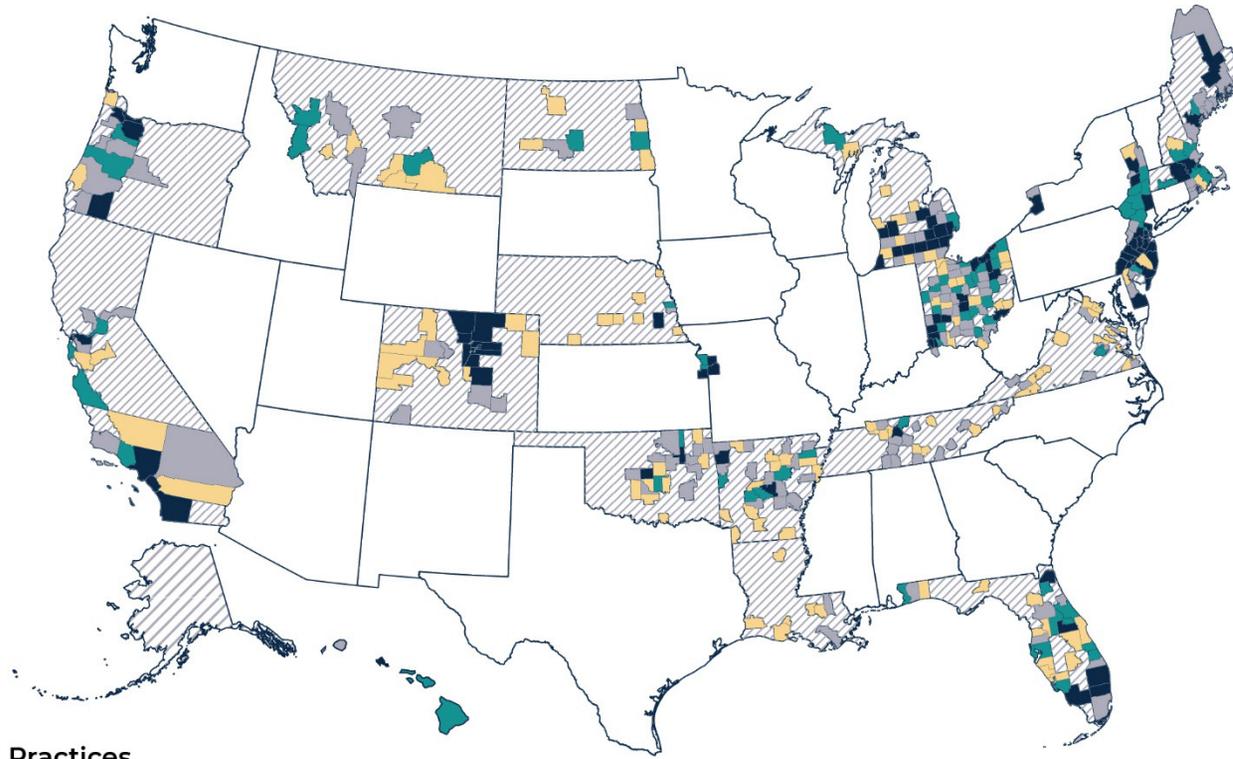
On January 1, 2022, an additional 2,228 practices joined the PCF model as part of PCF Cohort 2, representing a more than 200 percent increase in practice participation. Nearly 3,000 practices were participating in PCF in 2022 after accounting for practices that left the model in 2021. Although the number of practices that ever participated in either PCF or CPC+ is similar, PCF covers a greater number of geographic regions with 26 PCF-eligible geographic regions compared to 18 regions for CPC+ (Exhibit 2.6). Practices in Cohort 2 share many characteristics with practices in Cohort 1:

- Most Cohort 2 practices are single-specialty primary care practices (71%).
- Most are owned and operated by a larger health care organization such as a health system or group (82%).
- Most are in risk group 1 (90%).

Unlike Cohort 1, however, practices that had participated in CPC+ were eligible to participate in PCF in 2022, and 68% of PCF Cohort 2 practices previously were in CPC+. Characteristics of Cohort 2 practices are shown in Appendix B, Exhibit B.8.

⁴ Contracting with a registry to submit data for the advance care planning measure is no longer a requirement of PCF model participation.

Exhibit 2.6. Number of practices in PCF Cohorts 1 and 2 in 2022, by county



Practices

□ PCF not offered ▨ 0 ■ 1 ■ 2-5 ■ 6-10 ■ 11 or more

	AK	AR	CA	CO	DC ^a	DE	FL	Greater Buffalo (NY)	Greater Kansas City	Greater Philadelphia	HI	LA	MA	ME	MI	MT	ND	NE	NH	NJ	North Hudson-Capital (NY)	OH and Northern KY	OK	OR	RI	TN	VA	TOTAL
Cohort 1	0	15	85	10	1	12	94	6	8	40	2	3	58	44	36	0	0	12	5	63	16	100	26	15	0	33	42	726
Cohort 2	0	103	99	156	0	4	79	21	96	158	46	11	43	19	285	33	20	20	8	254	81	436	94	92	34	24	12	2,228
Total	0	118	184	166	1	16	173	27	104	198	48	14	101	63	321	33	20	32	13	317	97	536	120	107	34	57	54	2,954

Source: Mathematica’s analysis of PCF practice roster data reflecting participants as of January 2022 and limited to those that had received any PCF payment.

^a Similar to Comprehensive Primary Care Plus, PCF includes some regions that are metropolitan areas and do not encompass the entire state. IAH practices could join PCF regardless of region; DC is listed to include these IAH practices.

IAH = Independence at Home; PCF = Primary Care First.

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3. Model incentives and supports



Key takeaways

- **In 2021 CMS paid nearly \$200 million for PBPs across all risk groups, most of which (83 percent) went to practices in risk group 1 that make up the largest proportion of PCF Cohort 1 practices.** Median annual PBPs ranged from less than \$144,000 for practices in risk group 1 (median of 431 beneficiaries) to nearly \$767,000 for practices in risk group 4 (median of 338 beneficiaries). Annual flat visit fee payments ranged from about \$600 to more than \$700,000, with median payments of about \$41,000 to \$115,000 across risk groups.
- **In 2022, CMS applied adjustments to Cohort 1 payments to reflect the PBA and the leakage adjustment.** In April 2022, the first quarter the PBA was applied, more than one-third of PCF Cohort 1 practices earned a positive PBA, about one-fifth received a negative PBA, and the remaining practices (44 percent) did not receive any upside or downside PBA. The median leakage rate was 31 percent in 2021, which was applied to PBPs starting in July 2022 for PCF Cohort 1 practices.
- **Based on simulations using 2019 data, we estimate that for practices in all risk groups, practices' total PCF payments were higher than if they had not joined model.** Consistent with these simulations, in interviews, practice respondents had a general sense that current total payments were comparable with or slightly better than if they had not participated in PCF. CMS had anticipated that practices' PCF compensation would be equivalent to what they would have received under the Medicare fee schedule.
- **In interviews, practices reported that they appreciated the consistency of the quarterly PBPs and the flexibility in care delivery.** Although practice respondents were generally positive about payments received in 2021, many were also concerned about how the leakage rate adjustment will influence future payments. Practices reported being focused on improving accuracy of attribution (for example, through Annual Wellness Visits) and risk group assignments (through coding of patient complexity).
- **Most practices met the Quality Gateway measure performance benchmarks for diabetes control, high blood pressure control, and colorectal cancer screening,** based on a preliminary review of initial Quality Gateway measure performance results. In interviews, practices felt confident in their ability to perform well on these measures but had concerns about the unexpected cost to the practice required to contract with a registry to report the Advance Care Plan measure in 2021.
- **More than half of practices use the PCF-provided data tools to track PCF-attributed beneficiaries.** Additionally, practices reported that they continued to rely on existing data sources, such as electronic health records, rather than CMS-provided data to monitor utilization and expenditures.

A. Focus of this chapter

This chapter describes PCF model incentives and supports, including payments to PCF Cohort 1 practices in 2021 and estimation of how PCF model payments compared with payments that practices might have received if they did not participate in the PCF model. The chapter also reports on PCF Cohort 1 practices' perceptions of the payment structure and required reporting of Quality Gateway measures and how practices used learning system and data supports in 2021.

Brief summary of data sources and data collection

Payments to practices

- Data from CMS on PCF payments to practices for the PBPs in 2021 and the PBAs applied in April 2022.
- Claims data to estimate flat visit fee payments and assess PCF payments compared with FFS payments
- Practice interviews (virtual site visits with Cohort 1 practices from October 2021 to February 2022) on perspectives of PCF payments

Quality Gateway performance

- Performance data on Quality Gateway measures
- Practice interviews on perceptions of Quality Gateway measures used to evaluate performance in PCF and practices' ability to achieve the Quality Gateway benchmarks

Learning system and data supports

- Data on PCF practices' use of claim and claim line feed (CCLF) files and data feedback tools
 - PCF Connect social networking content
 - Practice interviews (virtual site visits with Cohort 1 practices from October 2021 to February 2022) on use of learning system and data supports
-

B. PCF payments to practices

The PCF model payment structure aims to support advanced primary care practices that are ready to accept financial risk in exchange for greater flexibility, increased transparency, and performance-based payments that reward participants for outcomes. The main components of the payment model include a PBP, a flat visit fee for certain primary care services, and a PBA (Exhibit 3.1). The PBP is a prospective monthly payment that practices receive quarterly for each beneficiary attributed to the practice. Risk group assignment is determined by a practice's average HCC risk score across all attributed beneficiaries. Practices in higher risk groups receive higher PBP amounts. Practices receive a flat visit fee for face-to-face primary care visits with attributed beneficiaries for evaluation and management services and various services related to care planning and management (Appendix C.1, Exhibit C.1.1). The PBA is an adjustment to the PBPs and flat visit fees based on performance on acute hospital utilization (for practices in risk groups 1 and 2) or total per capita cost (for practices in risk groups 3 and 4) and Quality Gateway measures. Beginning in July 2022, the PBP is also adjusted by the practice's quarterly leakage rate. Additional details on the payment model are available in Chapter 1.

Exhibit 3.1. PCF payment structure

Payments to PCF practices	
Population-based payment	<ul style="list-style-type: none"> • A prospective monthly payment (paid quarterly) for each beneficiary attributed to the practice • Amount varies by risk group • Adjusted by geography, retrospective debits for beneficiaries who become ineligible during the quarter, the performance-based adjustment starting in April 2022, and the quarterly leakage rate starting July 2022
Flat visit fee	<ul style="list-style-type: none"> • A flat payment for certain face-to-face primary care visits with attributed beneficiaries • Adjusted by the national base rate, geography, the Merit-based Incentive Payment System, Medicare sequestration, beneficiary cost-sharing (based on the original fee-for-service allowed amount), and the performance-based adjustment starting in April 2022
Performance-based adjustment	<ul style="list-style-type: none"> • Based on performance on acute hospital utilization (practices in risk groups 1 and 2) or total per capita cost (practices in risk groups 3 and 4) and Quality Gateway measures starting in April 2022

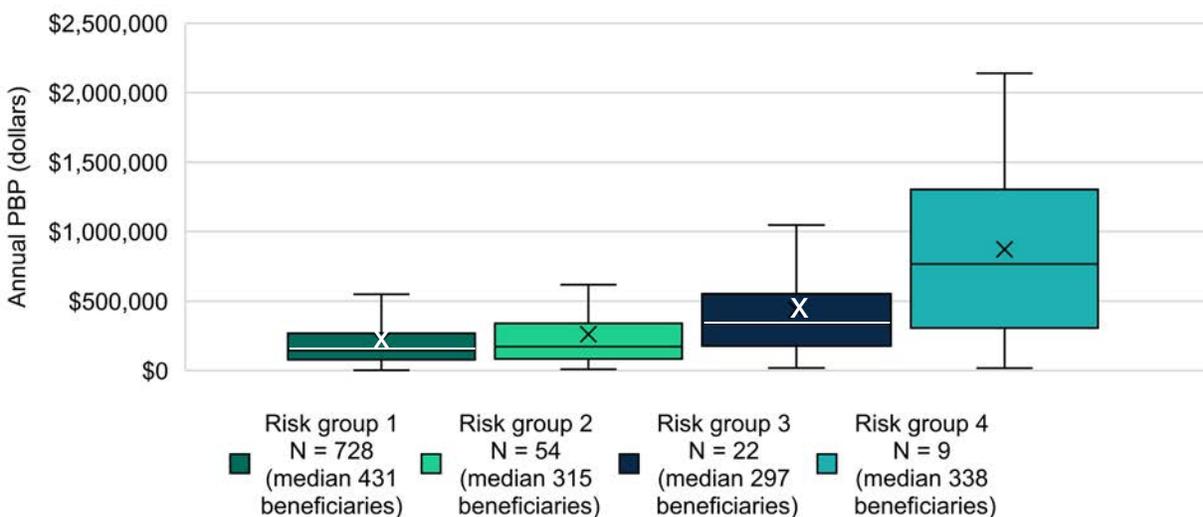
Source: Mathematica’s summary of PCF’s payment structure.

PCF = Primary Care First.

1. Professional PBPs

CMS paid a total \$190,139,090 in 2021 to PCF Cohort 1 practices for PBPs across all risk groups, 83 percent of which went to practices in risk group 1. Median annual payments for PCF Cohort 1 practices ranged from \$143,412 for practices in risk group 1 to \$766,781 for practices in risk group 4 (Exhibit 3.2). More than half of risk group 1 practices, which make up most PCF Cohort 1 practices, received less than \$150,000 in PBPs (Appendix C.1, Exhibit C.1.2), likely reflecting a relatively modest proportion of total practice revenue (Basu et al. 2020). Per practitioner, more than half of risk group 1 practices received less than \$30,000 annual PBP for each PCF practitioner (Appendix C.1, Exhibit C.1.3), similarly reflecting a relatively small portion of the cost of a full-time practitioner (Whaley et al. 2021).

Exhibit 3.2. Annual PBP in 2021 varied by risk group



Source: Mathematica’s analysis of Primary Care First’s payment data.

Exhibit 3.2 (continued)

Notes: The horizontal line represents the median annual PBP at the practice level; the “X” represents the mean annual PBP; the upper and lower ends of the box are the 25th and 75th percentile annual PBP for Cohort 1 practices that received payments for all of 2021.

PBP = population-based payment.

2. Flat visit fees

In 2021, median annual flat visit fee payments for face-to-face encounters with attributed beneficiaries were \$60,173 per practice among practices in all risk groups and ranged from \$617 to \$752,483 (Exhibit 3.3). The flat visit fee includes two adjustments: (1) the national base rate adjustment, which resets the Medicare fee schedule payment amount for flat visit fee–eligible services provided by the practice to their attributed beneficiaries to \$40.82, and (2) the geographic adjustment to account for regional cost differences. Average flat visit fee payments were lowest for practices in risk group 1 and increased with each increase in risk group (Exhibit 3.3).

Exhibit 3.3. Flat visit fee payments for Cohort 1 PCF practices in 2021

	PCF risk group			
	1	2	3	4
Number of practices	759	56	22	8
Average number of attributed beneficiaries per practice	530	425	354	409
Median number of attributed beneficiaries per practice	364	259	290	389
Median number of FVF billed codes per practice	986	824	1,668	2,400
Average total FVF payment per practice	\$ 58,441	\$ 66,872	\$ 84,051	\$ 111,894
Median total practice FVF payment	\$ 40,820	\$ 36,308	\$ 72,271	\$ 114,994
Smallest total practice FVF payment	\$ 617	\$ 607	\$ 930	\$ 13,024
Largest total practice FVF payment	\$ 752,483	\$ 538,565	\$ 268,286	\$ 210,184

Source: Mathematica’s analysis of claims

Note: N= 845 practices that received any FVF payment in 2021.

FVF = flat visit fee; PCF = Primary Care First.

3. Practices’ perspectives on payments in 2021

Respondents from practices expressed favorable perceptions of the PCF payment model when asked in interviews. Respondents from several practices discussed their appreciation for the consistency of the quarterly PBPs, saying that the recurring and predictable payments help the practice budget for care delivery activities. Many practice respondents also reported that they believed the total primary care payments were equal to, or slightly greater than, the payments the practices would have received if they were not participating in the model. Further, respondents from several practices reported that the PCF payments gave them the flexibility to provide the type of care patients need and allow providers to spend more time with each patient.

Respondents from many practices reported focusing on activities to improve the accuracy of their practice’s attribution and risk group assignments, which are key factors that determine a practice’s PBP and flat visit fee revenue. Several reported focusing on increasing Annual



“I think we’re definitely getting on the right track when it comes to really allowing us to focus more on the patient. It’s better than it was under the fee-for-service model.”

Program manager

Wellness Visits for their Medicare patient population in an effort to increase the accuracy of attribution of patients to their practice. Practices also reported focusing on improving the accuracy of their HCC coding to improve their risk score. For example, one practice described a system-wide initiative to improve clinical documentation that identifies areas for improvement within a practice’s coding patterns and educates providers on how to more accurately code so it reflects the complexity of their patients. Another practice hired an HCC educator who works with providers having difficulty with their coding. A few practices reported focusing on both Annual Wellness Visits to improve attribution and coding to move to a higher risk group.

Most practices reported investing PCF model payments in improving or implementing care management activities, such as hiring new care coordinators or other staff to support the practice’s care management activities. A few other practices reported using PCF model payments to help pay for normal practice expenses and to “cover the bottom line” or to pay for model-related expenses such as the vendors conducting their patient experience survey.

4. PBAs

The PBA, which began in April 2022 for PCF Cohort 1 practices, incentivizes practices to improve the quality of their care and work to reduce acute hospital utilization (AHU) or reduce total per capita cost. The PBA can increase payment by up to 50 percent or decrease it by as much as 10 percent, based on practices’ performance on either acute hospitalizations (risk groups 1 and 2) or total cost of care (risk groups 3 and 4) and performance on the Quality Gateway measures that include patients’ experience of care and documentation of an advance care plan. CMS applies the PBA to both the PBP and the flat visit fee payments as a quarterly lump-sum payment or debit outside of the Medicare FFS system.

In April 2022, when PBAs were first applied, one-fifth of practices received a negative performance-based adjustment (averaging \$6,813 per practice) and more than one-third of practices received a positive adjustment (averaging \$14,266 per practice). Using practices in risk group 1 as an example, about one-third of practices (34 percent) earned a positive PBA (median positive PBA \$7,450), 21 percent had a negative PBA (median negative PBA -\$4,219), and 45 percent received no PBA (Exhibit 3.4).

Exhibit 3.4. PBAs to Cohort 1 PCF practices in April 2022

	PCF risk group				Total
	1	2	3	4	
Practices with negative PBAs					
Number of practices (percentage of risk group)	129 (21%)	18 (22%)	4 (19%)	3 (33%)	154 (21%)
Average number of attributed beneficiaries	545	475	157	626	528
Average negative PBA (\$)	-5,890	-8,674	-4,876	-37,888	-4,440
Median negative PBA (\$)	-4,219	-8,660	-4,786	-45,101	-6,813
Smallest negative PBA (\$)	-880	-1,758	-3,971	-22,240	-880
Largest negative PBA (\$)	-79,529	-19,081	-5,962	-46,323	-79,529
Practices with positive PBA					
Number of practices (percentage of risk group)	210 (34%)	31 (38%)	9 (43%)	2 (22%)	252 (35%)
Average number of attributed beneficiaries	755	403	455	299	698

Exhibit 3.4 (continued)

	PCF risk group				Total
	1	2	3	4	
Average positive PBA (\$)	13,489	11,422	28,174	77,333	14,266
Median positive PBA (\$)	7,450	8,779	24,404	77,333	7,966
Smallest positive PBA (\$)	432	772	3,267	74,509	432
Largest positive PBA (\$)	163,282	43,975	53,292	80,157	163,282
Practices with no PBA					
Number of practices (percentage of risk group)	280 (45%)	32 (40%)	8 (38%)	4 (44%)	324 (44%)
Average number of attributed beneficiaries	673	544	455	525	653

Source: Mathematica’s analysis of PCF’s payment data (post Quality Gateway and audit).

PBA = performance-based adjustment; PCF = Primary Care First.

Notes: A total of 730 practices are included in this table, including four practices that started in Cohort 1 but subsequently split from active Cohort 1 practices in 2021. Three out of four of these practices received positive PBAs in April 2022.

5. Quality Gateway measures

To be eligible for a positive PBA, PCF practices must meet or exceed minimum thresholds for Quality Gateway measures. Quality Gateway measures for Cohort 1 practices in risk groups 1 and 2 include the following:

- Diabetes: Hemoglobin A1c (HBA1c) Poor Control (electronic clinical quality measures [eCQM])
- Controlling High Blood Pressure (eCQM)
- Colorectal Cancer Screening (eCQM)
- Advanced Care Plan (Merit-based Incentive Payment System clinical quality measure [MIPS CQM]), which was a pay-for-reporting measure in 2021
- Patient Experience of Care Survey (PECS)⁵

Beginning in April 2022, Cohort 1 practices must have met the minimum performance threshold during the preceding one-year performance measurement period (see Appendix C.2, Exhibit C.2.1). For all measures except the Advance Care Plan measure, the benchmark was the 30th percentile compared to a benchmark population.⁶ For the Advance Care Plan measure, practices were only assessed on their ability to report the measure using a qualified registry in 2021. For practices in risk groups 3 and 4, there are two Quality Gateway measures for performance year 2021: the Advance Care Plan (MIPS CQM) and the PCF PECS. Practices that fail to report the quality measures are not eligible for a positive PBA.

Most practices met benchmarks for the eCQM Quality Gateway measures based on a preliminary review of initial Quality Gateway measure data. Nearly all PCF Cohort 1 practices that reported data on diabetes A1c poor control, high blood pressure control, and colorectal cancer screening achieved the

⁵ The PECS is based on a combination of questions from the Clinician and Group Consumer Assessment of Healthcare Providers and Systems® (CG-CAHPS®) V3.0 and CAHPS Patient-Centered Medical Home Item Set V3.0, modified for PCF.

⁶ For performance year 2021, the benchmark population for the Diabetes Hemoglobin A1c Poor Control, Controlling High Blood Pressure, Colorectal Cancer Screening, and Advance Care Plan Quality Gateway measures was the Merit-based Incentive Payment System (MIPS) benchmark population. The performance year benchmark population for the PECS Quality Gateway measure in performance year 2021 was the PCF population.

30th percentile benchmark in 2021 (Appendix C.1, Exhibit C.1.6). The benchmark for the PECS measure was the 30th percentile of the PCF population and 69 percent of practices met this benchmark. About 1 percent of practices did not report the measure, resulting in fewer than 70 percent of practices meeting the benchmark in 2021.

For practices in risk groups 1 and 2 that meet the Quality Gateway benchmark, CMS uses AHU performance to determine a practice's PBA. For practices in risk groups 3 and 4 that meet the Quality Gateway benchmark, CMS uses total per capita cost performance to determine a practice's PBA amounts. The PBA amount is based on how a practice's AHU or total per capita cost performance compares against a national benchmark, peer region group performance, and its own historical performance. CMS calculates the AHU or total per capita cost measure each quarter, using a rolling 1-year performance period that ends 3 months prior to the PBA quarter; CMS describes this methodology in depth in its payment and attribution report (Center for Medicare & Medicaid Innovation 2022). In April 2022, 44 percent of practices in risk group 1 and 2 met the 50th percentile national benchmark for AHU (reflecting performance during the 1-year period from January 2021 to December 2021, and 60 percent of practices in risk group 3 and 4 met the 50th percentile benchmark for total per capita cost during the same time period.

In interviews, almost all practices reported confidence in their ability to perform well on most Quality Gateway measures.

Many practices discussed how the measures are integrated into their electronic health record. A few practices reported concern with Quality Gateway measure performance because of the complexity of the attributed population. Some practices in risk groups 3 and 4 that provided home-based care or care to beneficiaries in assisted living facilities had concerns about the applicability of PECS to their patient population. Interview respondents from these practices noted that if the survey was sent to a caregiver or staff at the assisted living facility, the questions were not always relevant.



A lot of the [alternative payment model] contracts do not look at advance care planning or value that. We've been trying to create momentum for a long time in this space and [PCF] added some teeth, some financial incentive, and also allowed some investment and some of the resources, the workflow, the personnel needed to move forward."

Medical lead

Practices see value in the Advance Care Plan measure, but many found the original reporting process burdensome. In interviews and on PCF Connect, practices said that securing a registry vendor was costly and challenging. Many discussed needing to develop new workflows. In response to these concerns, CMS changed the reporting of the Advance Care Plan measure for PCF from a registry-based reporting approach to a claims-based approach for 2022. Practices appreciated the change to a claims-based version of the Advance Care Plan measure.

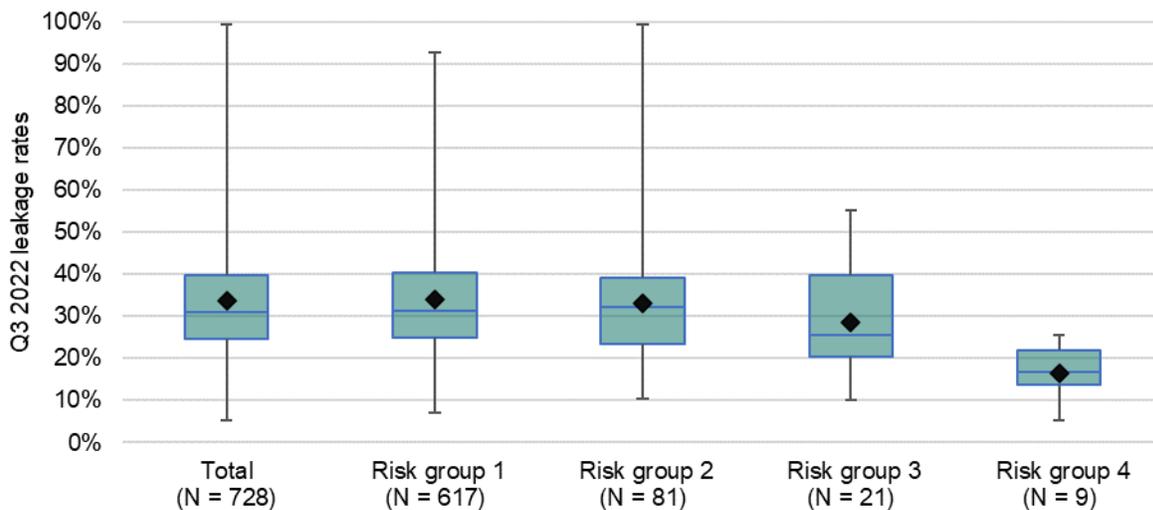
6. Leakage

Starting in July 2022, CMS will apply a quarterly leakage rate adjustment to the professional PBP based on the percentage of primary care visits and services for evaluation and management, the care management a PCF practice's attributed Medicare beneficiaries received outside the given practice relative to all their qualifying visits and services (Appendix C, Exhibit C.1.1). The leakage rate adjustment is designed to improve the accuracy of the PBP and incentivize continuity in patient care. CMS calculates the quarterly leakage rate adjustment for each practice by dividing the number of qualifying visits and services that attributed beneficiaries received outside the PCF practice by the total

number of qualifying visits and services received at any practice over a rolling one-year period of service dates.

For 2021, all practices had some degree of leakage; the median leakage rate was 31 percent for all practices, with most practices' leakage rate between 21 and 47 percent. Practices in risk group 4 had the lowest leakage rate, with a median 17 percent leakage rate (Exhibit 3.5). Lower leakage rates among practice in risk group 4 are consistent with interview findings with respondents from practices in risk group 3 and 4, many of whom were not concerned about leakage. A couple respondents from practices in risk groups 3 and 4 said that because their care model was designed for patients with complex needs, patients were less likely to seek care from multiple different primary care practitioners; another noted that the practice provided care for many beneficiaries who were home-bound and might not see different primary care practitioners.

Exhibit 3.5. Preliminary PCF leakage rates for calendar year 2021, applied to PBP in July 2022, by risk group



Source: RTI International's analysis of leakage to be applied in July 2022 (as reported to CMS in May 2022).

Note: The lower limit of the green boxes represents a 25th percentile leakage rate; the upper limit of the green boxes represents the 75th percentile leakage rate. The solid line reflects the median, and the diamond is the mean leakage rate. Minimum and maximum leakage rates across all practices and within a risk group are shown in the vertical line.

CMS = Centers for Medicare & Medicaid Services; PCF= Primary Care First; Q = quarter.

Although the leakage adjustment had not yet been implemented at the time of interviews, many practices reported concerns about the potential future impact of the leakage rate adjustment on their payments. Several system-affiliated practices were concerned that system-wide strategies to increase access and avoid ED utilization, such as using system-affiliated urgent care clinics or offering same-day appointments with any available provider within the system, will result in an increased leakage rate adjustment for practices. Conversely, many others reported that they were aware of the leakage rate adjustment but were not concerned about a potential negative leakage rate adjustment. Some interview respondents, especially in risk groups 3 and 4, said that leakage was not a concern because their patient

population is unlikely to see other providers given the patient’s homebound status or because their practitioners have well-established relationships with their attributed beneficiaries.

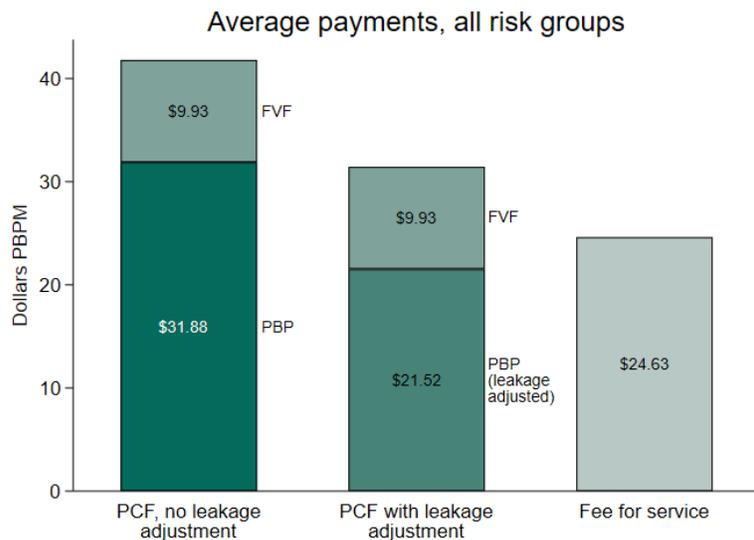
7. Comparing PCF payments with payments under FFS

CMS anticipated that practices’ revenue from PCF would approximate the overall reimbursement that they would have received under Medicare FFS for practices in risk group 1 whose beneficiary panel have an average risk based on the HCC scores, and potentially higher for practices in risk groups 2 through 4 with a higher-risk beneficiary panel (Centers for Medicare & Medicaid Services 2019). To better understand how model payments differ from the Medicare payments that participating practices would have received under Medicare FFS, we conducted a payment comparison analysis using claims data from the baseline period. Specifically, we priced the use of primary care services in 2019 using model payments that applied to PCF Cohort 1 practices in 2021 and the 2021 Physician Fee Schedule. (See Appendix A, Exhibit A.4 for a detailed description of the payment comparison methods.) Using pre-implementation data allowed us to compare payments without any influence of PCF practices changing their care delivery. Therefore, actual model payments might differ from what is shown in this analysis if practices change the frequency and intensity of services delivered to attributed beneficiaries.

Payment comparison findings show PCF payments are higher, on average, than payments would have been under FFS.

Without leakage adjustment, total payments under the model are 56 percent higher, on average, than under FFS (Exhibit 3.6). Practices would have received a PBP of \$31.88 per beneficiary per month without leakage adjustment and a flat visit fee payment of \$9.93 per beneficiary per month. We estimated the leakage adjustment based on actual primary care visits to non-PCF practice providers in 2019 (see Appendix A, Exhibit A.4 for details). With this leakage adjustment, PCF practice revenues remain 22 percent higher than FFS revenues on average. In this case, the PBP is reduced to \$21.52 per beneficiary per month. Under PCF, the largest payment component is the PBP, which accounts for 69 percent of leakage-adjusted Medicare payments. Taken together, the PBP and flat visit fee are \$6.82 higher per beneficiary per month than what practices would have received under FFS. This finding implies that the model needs to generate reductions in overall expenditures of about \$7 per

Exhibit 3.6. PCF payments were higher than payments would have been under FFS



Source: Mathematica’s analysis using 2019 Medicare carrier claims data.

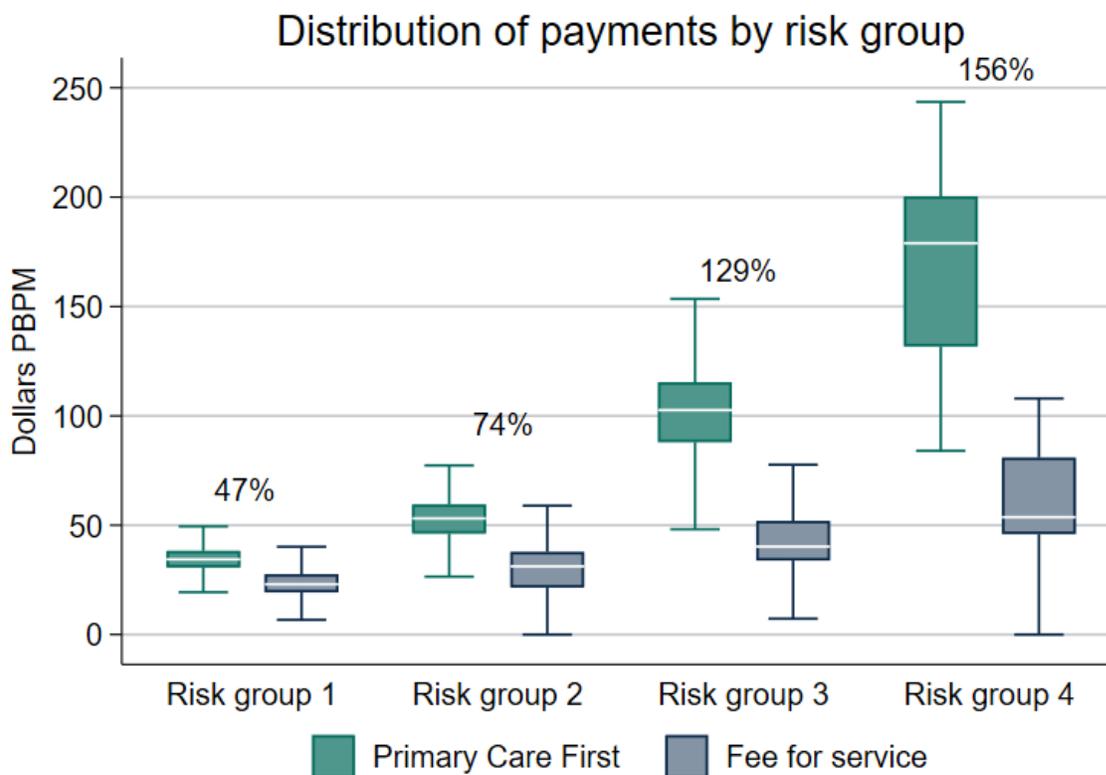
Notes: We calculated means across all risk groups and weighted them by the number of attributed beneficiaries. Payments are geographically and MIPS adjusted.

FVF = flat visit fee; MIPS = Merit-based Incentive Payment System; PBP = population-based payment; PBPM = per beneficiary per month; PCF = Primary Care First.

beneficiary per month to be cost neutral. These payment comparison findings do not account for PBAs, which could increase or decrease PCF payments relative to payments under FFS. As more than one-third of practices received a positive PBA in April 2022 when the PBA was first applied (Exhibit 3.4), this suggests that PCF payments might be even higher in comparison to FFS.

The difference between model payments and what practices would have received under FFS varies by practice risk group. Payments under PCF are 17 percent higher, on average, than FFS payments for practices in risk group 1, 39 percent higher in risk group 2, 83 higher in risk group 3, and 105 percent (that is, more than twice as high) in risk group 4 (Exhibit 3.7). For all risk groups except risk group 1, the distributions of PCF and FFS payments diverge, with the 25th percentile of PCF model payments (lower limit of the green boxes in Exhibit 3.7) exceeding the 75th percentile of payments under FFS (upper limit of the blue boxes in Exhibit 3.7). These differences are driven by larger PBPs for the higher risk groups. (See detailed results by risk group in Appendix C, Exhibit C.1.4.)

Exhibit 3.7. The difference between PCF payments and fee-for-service payments is larger in higher risk groups



Source: Mathematica’s analysis using 2019 Medicare carrier claims data.

Notes: The boxes show the 25th percentile, median, and 75th percentile. They are weighted by number of attributed beneficiaries. Percentages indicate the percentage difference in mean payments between PCF and fee for service.

PBPM = per beneficiary per month; PCF = Primary Care First.

C. Learning system supports

PCF practices have a range of learning supports available to them to support model implementation (Exhibit 3.8).

Exhibit 3.8. CMS offers a range of learning supports to PCF practices

PCF learning supports	
Webinars	CMS shares details about a specific portion of the model, such as the payment model.
Office hours	Practices can attend with specific questions or reach a help desk via email or telephone for any other questions.
Huddles	These virtual events focus on a particular topic (for example, independent practices had a huddle to discuss the specific issues they encounter).
Newsletter	CMS sends out email newsletters to announce new guidance documents, upcoming deadlines, upcoming webinars, and any new model rules.
Podcast	Each episode of the Primary Care First Experience podcast features PCF practices discussing their experiences and sharing innovative ideas about care delivery transformation and practice operations.
PCF Connect	This is a social networking site in which the CMS learning supports team and PCF practice respondents can create profiles, submit posts and comments, and “like” content

Source: Mathematica’s summary of PCF learning supports.

CMS = Centers for Medicare & Medicaid Services; CPC+ = Comprehensive Primary Care First.

By providing multiple learning support services, CMS helped to meet the varied needs of practices.

In interviews and in PCF Connect comments, practices described how learning supports help fill a need for general model information and for practice-specific information. For example, a few practices noted in interviews that they liked the webinars for general information that could be accessed at any time through the recording, while other practices described how the PCF office hours and help desk were useful to get quick information specific to their practice. The learning supports particularly helped practices who did not have experience with CPC+. Learning supports that CMS provides to PCF practices are similar to those provided in CPC+, however, unlike CPC+, PCF practices do not receive tailored one-on-one coaching, which was a tailored support that CMS provided for CPC+. When asked about what additional learning supports might be useful, a few practices noted that one-on-one coaching would help in implementing the model.

A total of 151 PCF Connect site users from Cohort 1 practices shared content on the Connect site, creating 1,030 posts or comments from November 17, 2020, (the date of the first post) to December 31, 2021.⁷ While the number of PCF Connect site users was small compared to the overall number of practices participating in the model, it is possible that some PCF Connect users may be affiliated with systems and interacting on PCF Connect on behalf of several practices. We reviewed and analyzed the content of all the PCF Connect posts by Cohort 1 practice users and found that practices use PCF Connect to collaborate and learn from other practices in the model, network with other practices, gather information, and share feedback about the model with CMS. Most often, practices used PCF Connect to ask for clarifications or share perceptions on model requirements, such as PCF portals, rosters, and forms.

⁷ There were 151 PCF Connect site users in 2021; some PCF Connect site users were from the same practices. Information on practice affiliation of PCF Connect site users was not available to us, so we are unable to report the proportion of PCF Cohort 1 practices that used PCF Connect site in 2021.

Practices also shared concerns, questions, and strategies to adapt to the various components of PCF’s payment model, shared difficulties they experienced when contacting vendors and meeting reporting requirements for the Advance Care Plan and Patient Experience of Care measures, and discussed concerns related to using PCF’s data feedback tool and other health IT tools.

D. Data tools

CMS provides data tools to PCF practices that participate in PCF, including the following:

- Data feedback tool: a summary of region-level, practice-level, and beneficiary-level performance, including utilization, expenditure, and quality outcome data for attributed beneficiaries
- CCLF data: Part A, B, and D claims for Medicare FFS attributed beneficiaries, available for monthly download through the 4Innovation Data Hub

Data tools are provided for each PCF practice participating in the model. System participants must download data for each participating PCF practice individually. More than half (56 percent) of PCF practices accessed CCLF data at any point in 2021, although the percentage that accessed the files each month decreased from 51 percent in January 2021 to 29 percent in December 2021. Among system-affiliated practices, 58 percent downloaded CCLF data compared with 44 percent of practices that are not affiliated with a system. Downloading, manipulating, and analyzing these claims requires analytic expertise that might not be available at all practices. In interviews, a few practices discussed that one-on-one coaching to help with using data provided by CMS to PCF practices would be useful.

//////
“The use of those reports is limited because it’s retrospective...it’s based on claims. It’s good to look at, but it isn’t necessarily as actionable in terms of making changes to current practice because the report is based on a past time frame. We use it more for directional purposes...But then we pull reports from our internal system that are more updated.”

Director of quality improvement

More than half of practices used the PCF data tools to track and follow up with PCF-attributed beneficiaries. Practices that used CMS data reported using it to track and follow-up with high-risk patients, validate data that they are tracking using other sources, or discuss data in staff meetings to determine areas for improvement. Practices reported barriers related to data timeliness and technical challenges. Several reported that PCF data are less timely than other data sources they already use, such as data available through their electronic health record or health information exchange. A few practices noted that they started using their health information exchange more, or in different ways, than they had prior to PCF. For example, practices described using the health information exchange to get daily reports on hospital admissions, discharges, and transfers, and to obtain clinical information on diagnoses, test results, or advance care plans.

A few practices shared technical challenges accessing the data CMS provided or were unfamiliar with data tools. For example, one practice did not download data provided by CMS because it did not have tools to be able to analyze data. At a couple practices, interview respondents noted that only one staff member at a given practice can access to the data portal, which meant that accessing the data was harder for other staff and practitioners. CMS has since updated its processes to make it clear to participants how multiple users from a practice can gain access to the portal.

4. Payer partners



Key takeaways

- **Thirteen commercial and Medicaid payer partners signed memoranda of understanding (MOU) with CMS to partner in PCF beginning in 2021.** However, many payers reported to us in 2021 that they were still in the planning phase of implementing their PCF commitments and had limited implementation experience to share.
- **In 2021, 5 of the 13 payers offered aligned financial incentives that included an alternative to FFS and a performance-based payment.** The proportion of payer partners providing an alternative to FFS payment and performance-based payment falls short of CMS' goal that all payer partners do so for PCF practices. The five payers that offered an alternative to FFS payment paid practices, on average, 50 to 90 percent of total practice payments via a capitated arrangement, and four of these payers departed from CMS' PCF model by offering care management fees. Each payer with an alternative to FFS built off its experiences with value-based programs, including its partnership in CPC+. Four of the remaining eight payer partners reported plans to implement aligned financial incentives in future years.
- **Payers offered performance-based payments that generally aligned in magnitude with the performance-based adjustments CMS offers in PCF.** Aligning most closely with CMS' PCF approach, three payers offered a performance-based payment with a potential upside ranging from 25 to 50 percent of total practice payments and four payers included downside potential ranging from 10 to 25 percent of practice payments. All five payers tied performance-based payments to outcome measures, not process measures, using cost and utilization metrics.
- **Payer participation in PCF was modest compared to CPC Classic and CPC+.** Comparing payer participation at the region level across the CPC Classic, CPC+, and PCF models, CPC Classic had 38 payers in its seven regions, CPC+ had 80 payers in 18 regions, and PCF has 41 payers in 26 regions. However, one payer, Humana, represented 24 of these PCF payers. Notably, eight regions with multipayer participation in CPC+ had no payers or only one payer partner in PCF in 2021.
- **Low practice participation posed a challenge to some participating payers.** Excluding the two regions with no payer partners in Cohort 1, the average number of participating practices per region is 40, with Florida and the Ohio and Northern Kentucky having the highest number of practices at 106 and 103, respectively. Some payers questioned the value of offering a new payment approach in a region in which few practices are participating. Notably, some payers are offering a PCF-like payment approach to practices that are not participating in CMS' payment model.
- **Payers are optimistic about the potential impact of the PCF payment approach but emphasized the need for more robust payer and practice participation for the model to succeed.** As one payer stated, "To the extent that PCF can increase its provider participation, it can be a lever to help transition us toward a more sustainable non-FFS-based payment ecosystem. Right now, it doesn't feel like it's driving us because of the limited participation in our area." In 2022, 10 new payers signed MOUs to partner in PCF, 8 of which also partnered in CPC+.

A. Focus of this chapter

Multipayer collaboration is a central tenet of the PCF model and builds on CPC Classic and CPC+ (see Exhibit 4.1). By engaging multiple payers, CMS hypothesized that aggregate payments to practices would be sufficiently large to fund necessary practice transformation activities. This chapter focuses on payer partnerships in PCF in 2021. We describe the characteristics of the payer partners, including their motivations for partnering and how their payment approaches aligned with CMS' payment approach for PCF. We conclude the chapter with a look at how payer partnerships are changing in 2022. This chapter draws primarily on a worksheet and interviews with partnering payers. It also includes data collected from a survey of CPC + payers as well as interviews with a sample of non-partnering payers that submitted a statement of interest or application to PCF but did not partner in PCF in 2021 (for more information on data sources, see the box titled "Key data sources used in this chapter").

Exhibit 4.1. Evolution of multipayer collaboration across the CPC Classic, CPC+, and PCF models

Model attributes	CPC Classic	CPC+	PCF
	2012–2016	2017–2021	2021–present
Region selection	<ul style="list-style-type: none"> CMS selected geographic regions by first accepting applications from payers nationwide and then, after selecting regions with the highest collective market share, inviting practices to apply 	<ul style="list-style-type: none"> CMS selected new geographic regions by first accepting applications from payers nationwide and then, after selecting regions with the highest collective market share, inviting practices to apply 	<ul style="list-style-type: none"> CMS selected new geographic regions without first soliciting payer applications
Payer selection	<ul style="list-style-type: none"> Lower payer partner alignment in order to include more payer partners 	<ul style="list-style-type: none"> Lower payer partner alignment in order to include more payer partners and expand model footprint 	<ul style="list-style-type: none"> Higher payer partner alignment in order to offer more practices a complementary payment approach
Support for multipayer collaboration	<ul style="list-style-type: none"> Funding for some neutral, third-party regional convening 	<ul style="list-style-type: none"> In 2019, established national learning payer community and funding for some neutral, third-party regional convening 	<ul style="list-style-type: none"> Continued national learning payer community and funding for some neutral, third-party regional convening
Payer participation	<ul style="list-style-type: none"> Higher payer participation 	<ul style="list-style-type: none"> Higher payer participation 	<ul style="list-style-type: none"> Lower payer participation

Source: Mathematica’s interpretation of CMS’ goals of payer partnerships in CMS Innovation Center models.

CMS = Centers for Medicare & Medicaid Services; CPC = Comprehensive Primary Care; CPC+ = Comprehensive Primary Care Plus; PCF = Primary Care First.

Brief summary of data sources and data collection

Payer partners

- A worksheet completed by 10 of 13 payer partners between August and December 2021. The worksheet details their payment models in 2021.
- Telephone interviews with 7 of 13 payer partners detailing their motivations for participation, implementation experience, and barriers and facilitators in 2021. These interviews occurred between September and November 2021.
- Telephone interviews with 6 regional conveners (that is, organizations or people who bring together payers in a region to collaborate on multipayer activities such as measure alignment). These interviews took place between September and November 2021 and covered region-specific insights on PCF model participation and implementation.

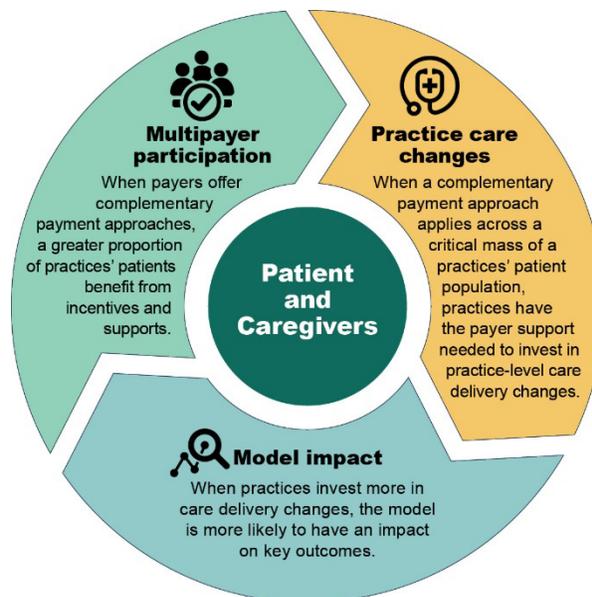
Non-partnering payers

- Telephone interviews in October and November 2021 with 12 non-partnering payers that submitted a statement of interest or application but did not partner in PCF in 2021. These interviews included details on reasons these payers did not participate in the first year.
- A survey of CPC+ payers, fielded from August to December 2020, to understand their reasons for choosing whether to partner in PCF.

1. Payer partner theory of action

The PCF model continues CMS’ long-valued multipayer collaboration in payment reform efforts. The concept of multipayer participation extends from prior CMS primary care transformation models, including its predecessors, the CPC Classic and CPC+ models. Multipayer participation provides the opportunity to amplify the impact of the PCF model to improve quality, improve patients’ experience of care, and reduce expenditures (Exhibit 4.2). First, multipayer participation offers participating practices the opportunity to cover more patients under a complementary payment approach. When a complementary payment approach covers most of a participating practice’s patient population, CMS hypothesizes that practices should experience fewer administrative burdens related to billing and reporting requirements as well as a stronger incentive to invest in care delivery changes likely needed to be successful under the payment model. When practices invest more in care delivery changes, the model is more likely to have an effect on key outcomes. Finally, we envision this theory of action as a reinforcing loop. Specifically, if the PCF model delivers on key outcomes, it can promote and sustain change in the future through increased payer partnerships.

Exhibit 4.2. Multipayer engagement may expand the impact of the PCF model



Source: Mathematica's interpretation of CMS' anticipated goals of payer partnerships in the PCF model.

CMS = Centers for Medicare & Medicaid Services; PCF = Primary Care First.

B. Multipayer alignment principles

Thirteen payer partners signed MOUs with CMS committing to (1) financial incentives, including an alternative to FFS payment and performance-based payment; (2) data sharing; (3) aligning quality measures; and (4) aligning approach to care delivery capabilities. (For more information, see the box titled “Payer partners signed MOUs that described their commitments to four principles”).

In the MOU, CMS referenced a rubric that translates these commitments into principles of multipayer alignment and outlines various acceptable degrees of alignment between what CMS offers and what a payer might offer as part of its participation in PCF. CMS scored payer partners using this rubric and selected payer partners that proposed a payment model that met alignment standards in most of these categories or agreed to work toward meeting the alignment standards over the course of their participation in the model (Centers for Medicare & Medicaid Services n.d.)

Payer partners signed MOUs that described their commitments to four principles

- 1) **Financial incentives** that include an alternative to FFS payment methodology and performance-based payments based on measures of cost of care, utilization, or quality, including the possibility of lower-than-historical revenue for practices with poor performance.
 - 2) **Data sharing** that includes person-level attribution, service utilization, expenditure data, or some combination of these over a frequency similar to the PCF model that also looks for opportunities to coordinate data sharing across CMS and payer partners to the extent possible.
 - 3) **Aligning quality measures** that practices report to quality measures that are the same or similar to quality measures CMS requires participating practice to report in the PCF participation agreement.
 - 4) **Aligning approach to care delivery capabilities** with the comprehensive primary care functions set forth in the request for applications.
-

When we collected data, many payers reported that they were still in the planning phase of implementing their PCF commitments and had limited implementation experience to share. In part for this reason, this chapter focuses on payers' alignment within the first principle: financial incentives including offering an alternative to FFS payment with a performance-based payment. We also focus on these aspects of multipayer alignment in part because they represent important ways the PCF model departs from past primary care transformation models whose payments to practices have not as meaningfully departed from FFS or resulted in the possibility that participating practices could receive lower-than-historical primary care revenue if the practice performs poorly. We expect to report more information on payer activities across all four commitments in future reports.

1. Alternative to FFS

As we describe in Chapter 3, CMS' PCF payment approach centers on offering practices an alternative to FFS payment that aims to increase their flexibility to deliver services or types of visits that might benefit patients. In PCF, CMS is moving away from FFS through the PBP component of the total primary care payment. The PBP is a prospective monthly payment (paid to practices quarterly) for each beneficiary attributed to the practice. A practice's average HCC risk score across all attributed beneficiaries determines its risk group assignment. Under PCF, CMS calibrated that the PBP would represent about 60 percent of the total primary care payment (Center for Medicare & Medicaid Innovation 2019a).

In its payer rubric, CMS requested that payer partners shift away from traditional FFS for primary care services with 50 percent or more of practice revenue paid through capitation or another non-visit-based payment (Centers for Medicare & Medicaid Services, n.d.). CMS further specified that payments should be risk adjusted to account for factors including patient health status and demographics (Exhibit 4.3).

Exhibit 4.3. Comparison of CMS’ PCF payment approach for moving away from FFS and expectations for payer partners

	CMS’ PCF approach	Expectations for payer partners
Moving away from FFS	<p>Provide practices with a PBP:</p> <ul style="list-style-type: none"> • The PBP adjusts based on the practice’s average risk score and is paid prospectively per member per month. • The PBP represents about 60 percent of the total primary care payment. 	<p>Provide practices with an alternative to FFS:</p> <ul style="list-style-type: none"> • Payments should be risk adjusted to account for factors including patient health status and demographics. • Payments should represent 50 percent or more of practice revenue.

CMS = Centers for Medicare & Medicaid Services; FFS = fee for service; PBP = population-based payment; PCF = Primary Care First.

2. Performance-based payments

Performance-based payments aim to incentivize and reward high quality care. As we describe in Chapter 3, CMS rewards practices who meet quality measure benchmarks based on performance on acute hospital utilization for practices in risk groups 1 and 2 and total per-capita costs for practices in risk groups 3 and 4. The PBA, which began in the second quarter of 2022 for PCF Cohort 1 practices, can be positive (providing an upside of up to 50 percent of practices’ total primary care payments) or negative (providing a downside of up to 10 percent of practices’ total primary care payments) (Exhibit 4.4).

CMS preferred payers reward outcomes over process to align with CMS’ PCF approach by including performance-based payments based in part on utilization, total cost of care, patients’ experience, and clinical quality measures. Payers agreed to offer a performance-based payment that could result in contracting practices receiving lower-than-historical primary care revenue if the practice performs poorly on outcomes or quality measures in a given performance year. Per the payer rubric, payments should have a substantial impact on revenue with more than 15 percent potential upside of practices’ primary care revenue and include financial loss for underperformance. The potential upside should be larger than potential downside.

Exhibit 4.4. Comparison of CMS’ PCF payment approach for payments for performance and expectations for payer partners

	CMS’ PCF approach	Expectations for payer partners
Rewarding outcomes	<p>Adjust the total primary care payment based on annual quality benchmarks and performance on acute hospital utilization or total per capita costs, depending on the practice risk group:</p> <ul style="list-style-type: none"> • The upside potential is 50 percent of practices’ total primary care payments. • The downside potential is 10 percent of practices’ total primary care payments. 	<p>Include performance-based payments based in part on utilization, total cost of care, patients’ experience, and clinical quality measures:</p> <ul style="list-style-type: none"> • The potential upside is 15 percent or more. • It includes a financial loss for underperformance. • The upside should be larger than the downside.

CMS = Centers for Medicare & Medicaid Services; PCF = Primary Care First.

C. Payer participation

1. Characteristics of payer partners

In all, 13 public and private payers signed MOUs to partner in PCF beginning in 2021. These 13 payers include 11 commercial payers and 2 state Medicaid programs (Exhibit 4.5). In this section, we describe the characteristics of payer partners that signed an MOU to participate in PCF in 2021. In later sections, we describe the degree to which payer partners implemented aligned financial incentives, including offering an alternative to FFS payment with performance-based payment. Although 13 payers partnered in 2021, only 5 implemented an aligned payment approach.

Exhibit 4.5. PCF payer partners in Cohort 1 (2021)

Payer type	Lines of business	Payers
Commercial	Multiple lines of business, including fully insured, self-insured, health insurance marketplace, and Medicare Advantage (8)	Aetna, Arkansas Blue Cross Blue Shield, Blue Cross Blue Shield of Kansas City, CareFirst, CommunityCare, HealthNow, Humana, Independent Health Association
	Medicare Advantage and Medicaid managed care (3)	AIDS Healthcare Foundation, AllCare, AmeriHealth
State Medicaid programs	Medicaid (2)	Louisiana and Maine

PCF = Primary Care First.

Payer partners vary in their size and experience with primary care transformation. The commercial payers tend to be larger in terms of the number of covered lives and sometimes in the number of regions in which they operate. Still, only one payer had dominant market share in its PCF region. The other payers had one-third or less of the market share in the large group, small group, and individual markets in the PCF regions in which they participate, resulting in many regions having low overall total payer partner regional market share. Two of the commercial payers have large national footprints, and the others operate regionally.

Most payers (10 out of 13) had experience partnering with CMS on primary care transformation work through CPC+, CPC Classic, or the Maryland Primary Care Program (the Maryland version of CPC+, which runs from 2019 to 2026). The three payers without experience in CMS primary care transformation models included both state Medicaid programs and a payer/provider participant in PCF.

2. Regional payer participation in PCF

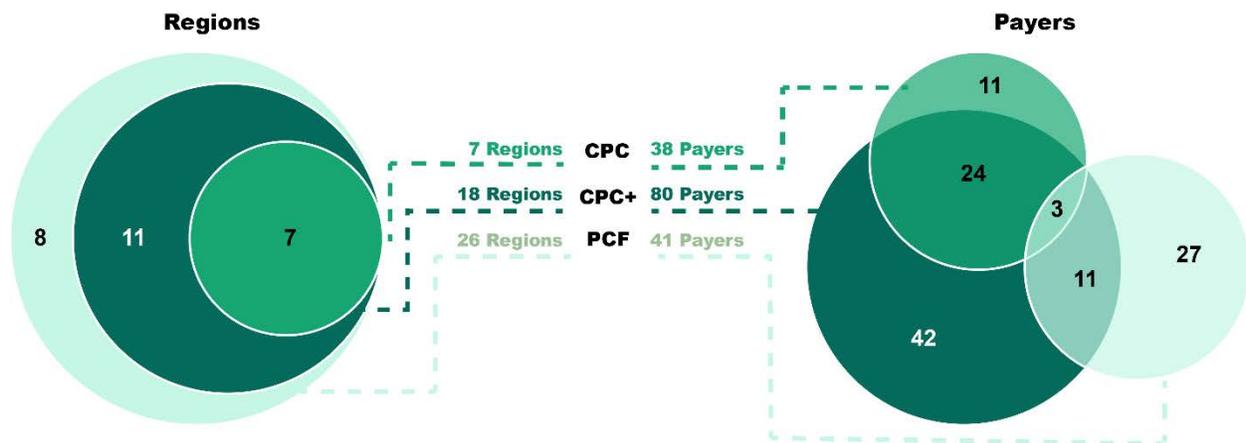
Payers' implementation approaches and implementation experiences will likely vary by region.

Although most payers (9 of 13) partnered in a single region, 4 payers partnered in multiple regions, including Aetna in 4 regions and Humana in 24 regions. Payer partners operating in multiple regions must account for variations in regional factors, such as the number of practices participating in PCF, and other contextual features, such as market share and variations in state insurance regulations; this may lead these payers to vary their payment approach across regions.

Payer participation in PCF was modest compared with CPC Classic and CPC+. To allow us to compare payer partnerships with past primary care transformation models, we count payer partners separately for each region in which they partner so that these 13 payers represent 41 payers counted at the

region level. Comparing payer participation at the region level across the CPC Classic, CPC+, and PCF models, payer participation in PCF’s first year was limited despite the expanded number of eligible regions (Exhibit 4.6). Specifically, although CPC Classic had 38 payers in its 7 regions and CPC+ had 80 payers in 18 regions, PCF’s 26 regions had just 41 payers counted at the region level. Notably, Humana represented 24 of these 41 payer partners through its interactions with PCF practices and other payer partners appeared to have been relatively modest at the time of our interviews. In addition, eight regions with multipayer participation in CPC+ had no payers or only one payer partner in PCF in 2021.

Exhibit 4.6. Despite a larger number of regions, PCF payer participation was limited compared with that of CPC Classic and CPC+



Source: Mathematica’s analysis of 2021 PCF payer partner participation data provided by CMS and payer participation information on CPC Classic and CPC+ via publicly available CMS webpage.

CMS = Centers for Medicare & Medicaid Services; CPC Classic = Comprehensive Primary Care, CPC+ = Comprehensive Primary Care Plus; PCF = Primary Care First.

Lower payer participation in the first PCF model year is partially because of the overlap with the CPC+ final model year, which ran concurrent with the first year of PCF. The fact that the final year of CPC+ ran concurrent with PCF posed two challenges for payers. First, several payer partners thought it was challenging to offer two primary care transformation payment approaches simultaneously and preferred to focus on CPC+ in 2021. Second, because practices were not allowed to participate in both PCF and CPC+, there was low practice participation in 2021, which limited opportunities to establish contracts for PCF-aligned payment models.

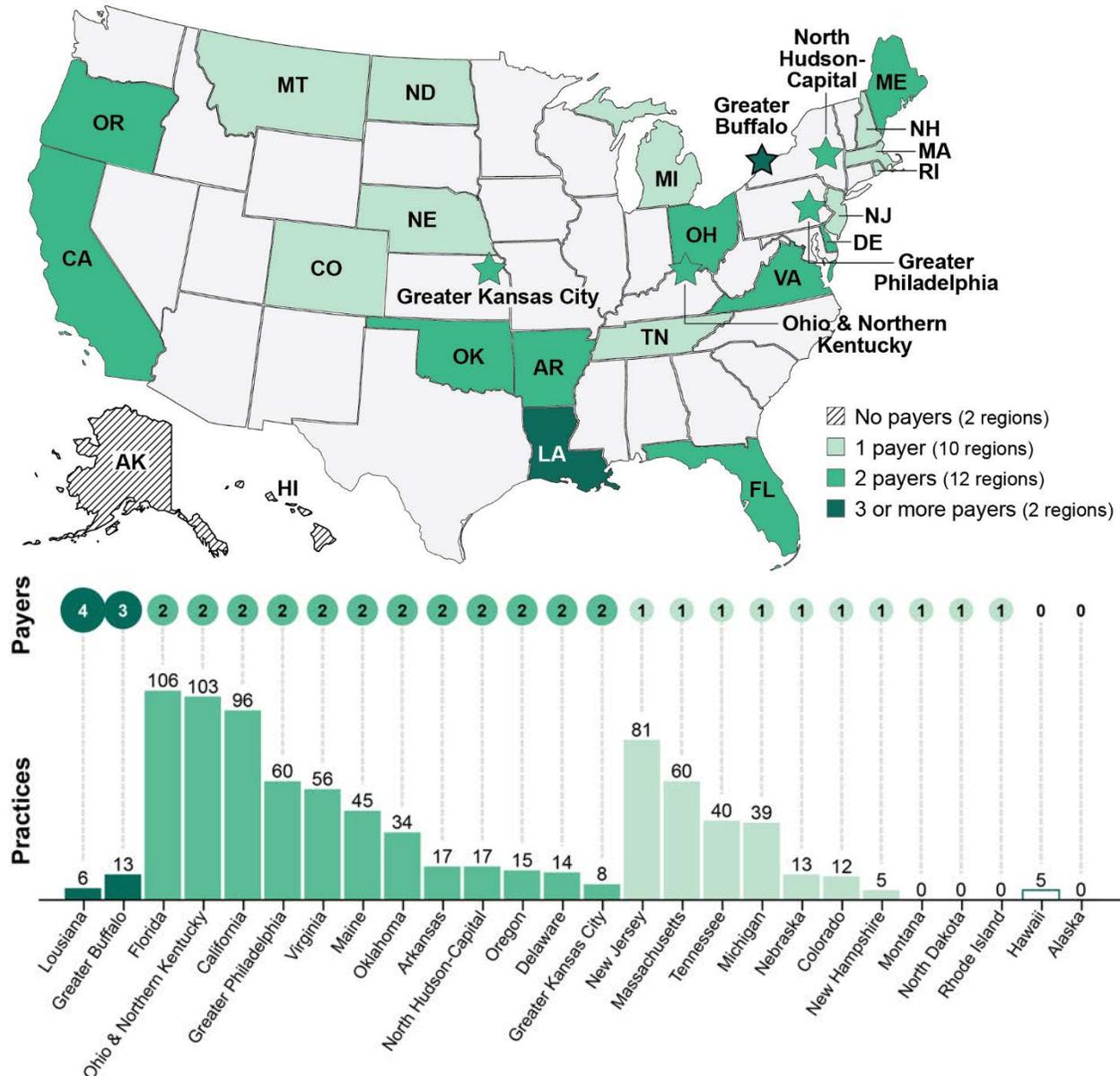
Another factor that may have influenced participation was CMS’ approach to selecting regions. For PCF, CMS opened new regions to practices without first securing payer partnerships. This differed from the two-step solicitation process CMS used for CPC+, in which CMS first solicited CPC+ applications from payers nationwide and then, after selecting regions and payer partners, invited practices that provide primary care within the selected regions to apply to participate (Anglin et al. 2020).

A challenge facing payer partners is the uneven participation of practices across the 26 regions. Excluding the 2 regions with no payer partners in Cohort 1, the average number of participating practices per region in 2021 is 40, with Florida and the Ohio and Northern Kentucky region having the highest number of practices at 106 and 103, respectively. Some payer partners questioned the value of offering a new payment approach in a region with few participating practices. Notably, some payer partners are offering a PCF-like payment approach to practices not participating in CMS’ payment model.

There were relatively few opportunities for multipayer collaboration in PCF in 2021 (Exhibit 4.7). Only two regions had three or more payer partners (Louisiana and Greater Buffalo New York). All other regions with one or two payers include Humana. Humana's partnership in 24 regions in 2021 resulted in an outsized impact on participation statistics when described at the payer-region level (they represent 24 of 41 payers at the region level), and it is one reason we describe payer partner alignment with PCF at the organization level in Chapter 4, Section C.

The number of payers in a region was not linked to practice participation. Several regions had few participating practices. For example, Louisiana had 4 payer partners and 6 practices participating in 2021. In contrast, Florida had 2 payer partners and 106 practices participating in 2021 (Exhibit 4.7). Low practice participation was sometimes amplified by regional factors. For example, in some regions, payer partners reported that some practices that would have been good candidates for a PCF-aligned payment model joined the ACO REACH Model (formerly the GPDC Model) instead of PCF, further decreasing the pool of practices to contract with.

Exhibit 4.7. In 2021, many regions lacked multipayer participation, and payer partnership was not linked with practice participation at the region level



Source: Mathematica’s analysis of January 2021 PCF payer partner and practice participation data provided by CMS. Practices were participating as of January 2021 and are limited to those that had received any PCF payment.

CMS = Centers for Medicare & Medicaid Services; PCF = Primary Care First.

Payers with an existing alternative to FFS payment approach reported in interviews a low opportunity cost to participating in PCF because there were few, if any, required changes to their payment approach. These four payers reported they could enjoy the benefits of participation, such as partnership with CMS and other payer partners, without incurring additional administrative costs associated with launching a new payment model or significantly changing their payment approaches. Payer partners that did not have existing aligned models generally already had plans to move toward

payment methodologies similar to PCF and supported the strategic goals of primary care transformation and moving away from FFS.

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“Our work [on primary care transformation] with CMS has been very critical to us...We remain committed to really align as much as possible with CMS because we believe that collaboration is what brings success.”

Payer partner

Partnering payers also raised concerns. Apart from the concerns about limited practice participation, several payers noted operational challenges stemming from their participation in multiple concurrent advanced payment models such as state-wide PCMH models or the final program year of CPC+. For example, payers reported difficulty balancing the goals for aligning measures with a need for different measure sets given variations in patient populations included in the models. In addition, some payers perceived diminished support for payer partners and more limited communication from CMS in PCF compared with their

experience in CPC+. Payers expressed concern about lack of regional multipayer engagement, especially compared with their experience partnering in CPC+.

Payers that submitted a statement of interest or application but chose not to partner in PCF in 2021 ultimately perceived more downsides to partnering than benefits. The most common concerns non-partnering payers reported in interviews included the following:

- Concerns about practice readiness or willingness to accept downside financial risk
- Concerns about their own internal capabilities, such as their data systems’ ability to process and calculate capitated payments
- Perceived low return on investment because they already established internal initiatives that are further along in primary care payment transformation to warrant expending resources to partner
- Decreased opportunity for multipayer collaboration because of low payer participation
- Concerns about aligning with the PCF measure set, especially for payers that provided coverage for populations with different characteristics such as Medicaid and pediatric populations

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“Unfortunately, the one thing that was holding us back was our systems...Our system could not support a capitation model, nor could it support a primary care episode payment model either. So, we were kind of stuck in not being able to do that with our partners.”

Non-partnering payer

D. Payer partner alignment with PCF model

In 2021, 5 of the 13 payers offered aligned financial incentives that included an alternative to FFS payment and a performance-based payment. These 5 payers are partnering in six regions, with 1 payer operating in two regions in the same state. These 5 payer partners add more than 300,000 additional lives to a PCF-like payment model (Exhibit 4.8).

Four of the remaining eight payer partners reported plans to implement aligned financial incentives in future years, with varying levels of engagement in PCF in 2021. These payers cited delays to implementing an aligned model, including using 2021 as a development or planning year and experiencing regulatory delays to implementing alternatives to FFS (for example, with Medicaid state plan amendment requirements). Because these payer partners lack experience offering an alternative to FFS payment, they reported they needed more time to prepare to do so in future model years. In addition,

some of these payers felt that it made more sense to roll out a novel payment approach for PCF practices in 2022 when they expected more practices to join from CPC+. The remaining four payers did not agree to be interviewed and did not appear to be actively partnering in 2021.

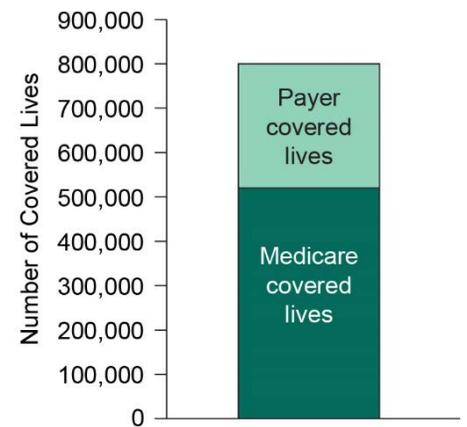
The proportion of payer partners providing an alternative to FFS payment and performance-based payment falls short of CMS’ goal that all payer partners do so for PCF practices. Although the five payers with aligned financial incentives represent less than half of PCF payer partners in 2021, they offer an important opportunity to expand model impact. If the remaining eight payers offer aligned payments in future model years, they could add several million additional covered lives in PCF-like payment arrangements. Covering more lives under complementary payment approaches supports one of CMS’ goals for multipayer models to reduce practice administrative burden and to provide a stronger incentive to invest in the care delivery changes likely needed to be successful under the PCF model.

Next, we will focus on the degree of alignment between CMS’ PCF payment model and the five payer partners that offered an alternative to FFS payment and performance-based payment. We do not describe the payment approaches of the other eight payer partners because many of them did not agree to be interviewed or reported that they did not change their payment approach in 2021 as part of their partnership in PCF.

1. Moving away from FFS

In 2021, the five payer partners that offered an alternative to FFS payment paid practices, on average, 50 to 90 percent of total practice payments via a capitated arrangement (Exhibit 4.9). All five payers met or exceeded the preferred share of total practice payments made via capitation to PCF practices (50 percent paid via capitation per the payer rubric), and three of the five met or exceeded CMS’ PCF approach of approximately 60 percent of practice payments made via the total primary care payment. Although the movement away from FFS aligns with CMS’ PCF approach, payer partners vary from CMS in the specific designs of their payment approaches. For example, all five payer partners risk adjusted their capitated payment model, but no payers apply the leakage adjustment to payments if PCF-attributed patients seek primary care outside of a practice.

Exhibit 4.8. Aligned payer partners add an additional ~300,000 covered lives in a PCF-like arrangement in 2021



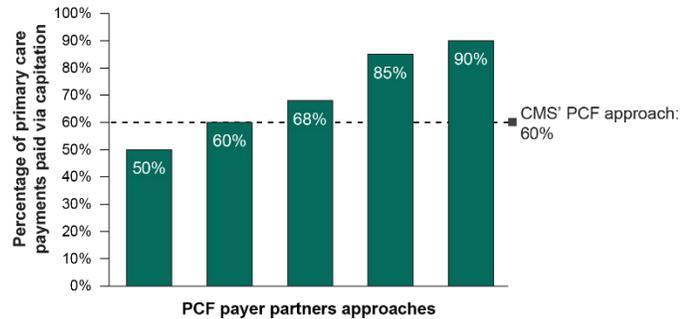
Source: Mathematica’s analysis of the 2021 PCF payer worksheet.
Mathematica’s analysis of Q1 2021 CMS attribution data.

CMS = Centers for Medicare & Medicaid Services; PCF = Primary Care First; Q = quarter.

Every payer partner with an alternative to FFS in 2021 built off its experiences with value-based programs, including its partnership in CPC+. All but one payer had existing capitated payment arrangements that long predated PCF; this experience supported their offering similar payments in PCF. Of these payers, three implemented capitation payments before partnering in CPC+ in 2017, and one began offering capitation during CPC+. Only one of the five payer partners introduced a new alternative to FFS payments in 2021 (for more information, see the box titled “One payer’s road to capitation”).

All five payers offered their PCF-aligned models to practices not participating in PCF, which offers an opportunity to expand the PCF model impact and minimizes the threat of low practice participation in PCF to payers. Several of these payer partners provided their payment approach to most of the practices they contract with.

Exhibit 4.9. Five payer partners offered an alternative to FFS and paid, on average, 50 to 90 percent via a capitated arrangement



Source: Mathematica’s analysis of the 2021 PCF payer worksheet and CMS calibrated that the population-based payment would represent about 60 percent of the total primary care payment.

CMS = Centers for Medicare & Medicaid Services; FFS = fee for service; PCF = Primary Care First.

One payer's road to capitation

One partner implemented a capitated payment model for the first time 2021 when it joined PCF.

The payer partner wanted to offer a payment approach that moves away from FFS to provide practices a steady and flexible revenue stream. This payer had faced challenges moving to capitation because FFS payment remains a deeply embedded norm among the practices with which it contracted. The COVID-19 pandemic highlighted the limitations of FFS: as practices' ability to see patients face to face declined, so did their revenues. Building on its collaboration with regional ACOs and the partnership it formed with CMS through prior transformation models, including CPC Classic and CPC+, the payer had the confidence to offer capitation for the first time under PCF.

Although the payer partner aligned with many aspects of the PCF payment approach, by implementing substantial capitated payment and performance-based payments, it continued to offer care management fees as part of its PCF-aligned payment model. The payer partner also provided timely and actionable data and other support to help practices continually improve their performance. The payer included additional quality measures beyond CMS' PCF measure set, including a behavioral health measure, to align with the particular populations it serves. The payer partner opted to continue care management fees to help PCF practices maintain their care managers after CPC+ ended because it viewed care managers as key to helping control costs and improve quality of care.

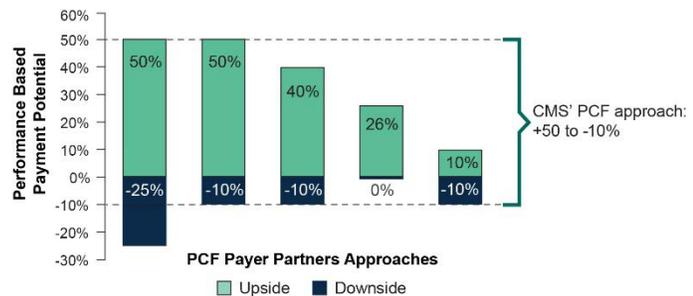
The relationships the payer partner formed with local practices through prior CMS payment models and a new payment calculator resource helped the payer understand and respond to practices' hesitations about taking on financial risk. Practice coaches paid for by the payer partner helped practices make changes and kept the payer aware of the challenges practices faced. Practices expressed concerns about lower revenues under capitation that might necessitate cuts or reductions in valuable services they had added under CPC+ (such as integrated behavioral health). To ease practice hesitation, the payer partner created a calculator for practices to estimate the net impacts of the reduced FFS revenue coupled with the potential gains or losses from a capitated structure, with the hopes that practices would see how strong performance on measures could lead to higher payments than they received under previous arrangements.

Lack of alignment across payers and initiatives operating in the region could be hindering uptake in this payer's new arrangement. PCF and other federal primary care transformation initiatives have different incentives from the state PCMH models in which practices can also participate. The payer partner observed that it is challenging for practices to "manage all the different targets and pathways and directions." In addition, payer participation in PCF in 2021 is lower than it was in CPC+. A practice's ability to make the necessary administrative and clinical changes to perform well under a new payment arrangement is especially challenging if the approach only applies to a subset of a practice's patients. The payer partner said that if payers were all in it together and aligned their payment approaches, practices could "maximize their efforts and focus on the things that matter the most." Practice participation in the capitated arrangement remained low in 2021, largely because many practices in the region were still participating in CPC+. In 2022, the payer partner reports that participation increased in their PCF aligned payment model due to CPC+ practices transitioning into PCF and focused recruitment efforts with practices in the state who are not participating in PCF.

2. Performance-based payments

Payer partners offered performance-based payments that generally aligned in magnitude with the performance-based adjustments CMS offers in PCF (Exhibit 4.10). Aligning most closely with CMS' PCF approach, three payer partners offered a performance-based payment with a potential upside greater than the potential downside (ranging from 25 to 50 percent of total practice payments) and four payer partners included downside potential (ranging from 10 to 25 percent of practice payments). Two payer partners changed their performance-based payment approach to align with the PCF model: one implemented downside risk for the first time, and another reduced its downside risk potential to match CMS' PCF approach. In addition to generally aligning in magnitude with the performance adjustment offered by CMS, all five payer partners tied performance-based payments at least in part to outcome measures, not process measures, using claims-based cost and utilization metrics.

Exhibit 4.10. Payer partners with an alternative to FFS offered performance-based adjustments ranging from -25 to +50 percent



Source: Mathematica's analysis of the 2021 PCF payer worksheet.

CMS = Centers for Medicare & Medicaid Services; FFS = fee for service; PCF = Primary Care First.

3. Care management fees

Four of the five payer partners that offer an alternative to FFS payment with performance-based payment departed from CMS' PCF model by offering care management fees. The fifth payer partner increased its capitation payment amount to account for traditionally non-reimbursable services such as care management. These payers also participated in CPC+, in which payments for participation were an expectation of participation. These payers are likely not alone in continuing their care management fees after CPC+. In fact, the vast majority of CPC+ payer partners reported in a survey they would definitely use care management fees, were very likely to use them, or would probably use them after CPC+ ended. Payer partners cited a desire to support practice transitions from CPC+ and maintain infrastructure such as care managers who were viewed as key to practice progress in reducing total cost of care and improving quality. Several PCF payer partners that did not offer an alternative to FFS with performance-based payments in 2021 reported they plan to offer care management fees in PCF in future years. In addition to these reasons, these payers perceived that care management fees would help practices build the infrastructure needed to succeed under a model that offers an alternative to FFS payment with a performance-based-payment including downside risk.

E. Looking forward



“To the extent that PCF can increase its provider participation, it can be a lever to help transition us toward a more sustainable non-FFS-based payment ecosystem. Right now, it doesn't feel like it's driving us because of the limited participation in our area.”

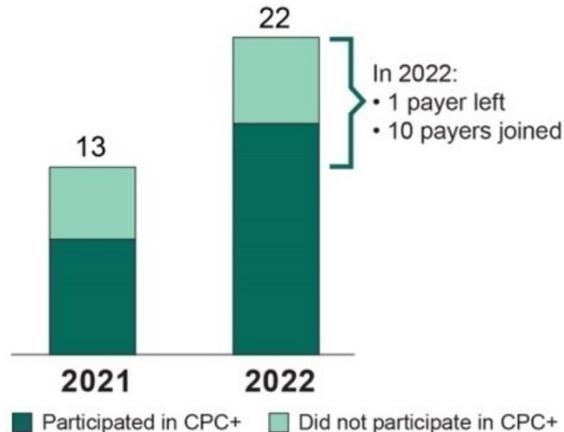
Payer partner

might not be “financially worth it” in future years if more practices do not join the model. For payer partners with higher costs to partner in PCF, such as those implementing an alternative to FFS payment for the first time or obtaining regulatory approval, this represents an even greater threat to the model. For payer partners with only a few practices in a region, the perceived return on investment might be too low and the relative costs too high. Without payer and practice buy-in, this model has less opportunity to demonstrate value to the payer community.

Another 10 payers signed MOUs to partner in PCF in 2022, 8 of which also partnered in CPC+ (Exhibit 4.11). With payer and practice participation growing in 2022, there is an opportunity to increase multipayer engagement and practice contracting. With the addition of these payer partners, in 2022, there are now seven regions, up from two, that have three or more payer partners in PCF. This represents an increased opportunity for multipayer collaboration. In addition, Cohort 1 payer participation remained stable, with only one small payer leaving the model. This payer partner was a payer/provider participant and experienced challenges with practice eligibility because of the Medicare FFS beneficiary attribution threshold. Although payer (and practice) participation grew as defined by a signed MOU in 2022, we have yet to see whether the number of payer partners that offer aligned financial incentives will also grow. This will be a key mechanism by which payer partnerships can fulfill CMS’ vision of multipayer alignment in support of practice transformation.

Payer partners are optimistic about the potential impact of the PCF payment approach but emphasized the need for more robust payer and practice participation for the model to succeed. Even payer partners with a payment model already aligned with PCF that generally saw few costs of participating might see limited value in participating in future years if more payers and practices do not join the model in 2022. For example, one payer with an existing payment approach that includes an alternative to FFS and performance-based payments, a payer that described PCF as “not being a big financial lift for us at all,” noted that the administrative burden of being a payer partner

Exhibit 4.11. Payer partnership grew in 2022, with most payer partners in both years participating in CPC+



Source: Mathematica’s analysis of PCF payer partner participation data provided by CMS.

CMS = Centers for Medicare & Medicaid Services; CPC+ = Comprehensive Primary Care Plus; PCF = Primary Care First

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5. Practices' initial care delivery capabilities and plans to implement PCF



Key takeaways

- **Practices entered the PCF model with advanced capabilities in primary care functions.** Cohort 1 practices reported starting the 2021 performance year with capabilities in the majority of primary care functions defined in the PCF driver diagram, especially in the primary care functions of access and continuity, patient and caregiver engagement, and care management.
- **Most meaningful differences in initial care delivery capabilities were between practices in different risk groups and between system-affiliated and non-system-affiliated practices.** There were a few variations in care delivery capabilities based on practice size and no differences based on Medicare Shared Savings Program participation.
- **Eighty-five percent of Cohort 1 practices reported plans to make changes in five or more of eight domains of care delivery.** In addition, more than one-third of practices reported they planned to make changes in all eight domains.
- **Longitudinal and episodic care management emerged as the key strategies practices planned to rely on for reducing hospitalizations and lowering total costs of care.** Most practices reported having these capabilities when the model launched and seemed poised to continue to build on or enhance their capabilities in these areas.

A. Focus of this chapter

This chapter describes the primary care capabilities Cohort 1 practices reported at the beginning of 2021 and how they planned to develop and extend their capabilities in the first year of PCF. We then discuss the main strategies the practices planned to use to achieve the key goal of PCF: reducing unnecessary acute hospital utilization (AHU) or total cost of care. This chapter draws on data from the PCF Practice Portal, which asks questions on care delivery and the general model and that we describe in Appendix A.2, and the box titled “Key data sources used in this chapter.” The information in this chapter about practices' care delivery capabilities and plans for care delivery changes for PCF lays the groundwork for the detailed descriptions we provide in the next chapter of what strategies practices actually used to reduce hospitalizations or lower costs in the first year of PCF.

Brief summary of data sources and data collection

PCF Practice Portal (March/April 2021): All 827 participating Cohort 1 practices as of April 2021 filled out the required self-reported data. The portal included the following:

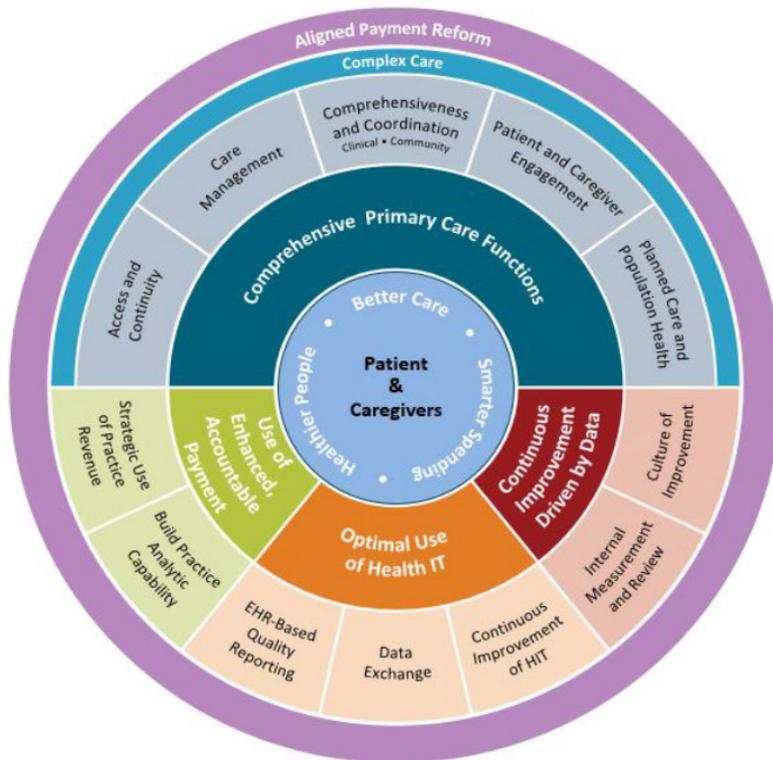
- Questions that provide an annual self-assessment of practices' current levels of care delivery capabilities as referenced in the PCF driver diagram
- Questions that address (1) planned care delivery changes in the first year of PCF (as reported in a series of close-ended questions) and (2) planned strategies to reduce AHU or total cost of care during the first year of PCF (as reported in an open-ended question and subsequently coded)

The full set of questions is available in Appendix D.1.

B. Care delivery in PCF

Comprehensive primary care is a central tenet of the PCF model as it was in the CPC Classic and CPC+ models. CMS developed a driver diagram that identified five comprehensive primary care functions that CMS hypothesized will lead to desired outcomes. While these identified functions have not changed much across the three models, CMS envisioned that the care delivery change strategies would vary across the models (see Exhibit 5.1). Thus, CMS anticipates that participating PCF practices will use strategies related to these five functions, alongside PCF payments and the use of health IT and data for continuous improvement, to achieve fewer hospitalizations and lower total cost of care.

Exhibit 5.1. Primary Care First driver diagram



Source: [Primary Care First Request for Applications \(cms.gov\)](#) (page 14)

EHR = electronic health record; IT = information technology; HIT = health information technology.

To achieve its goal of selecting practices with advanced care delivery capabilities to participate in PCF, CMS considered whether practices met certain care delivery thresholds related to patient empanelment, follow-up with patients after an ED visit, 24/7 after-hour access, and advance care planning. These eligibility requirements are described in the Appendix B, Exhibit B.1.

In addition, practices must meet the care delivery requirements that are laid out in the participation agreement, such as that practices provide 24/7 access to a care team practitioner with real-time access to an electronic health record. These requirements vary by risk group (see Exhibit 5.2) and are less extensive than those required under the CPC+ model (Center for Medicare & Medicaid Innovation 2019b). For risk groups 3 and 4 that serve a more medically complex population and receive a much higher per-beneficiary-per-month payment, there are additional requirements, including timely callbacks;

personalized care plans; coordinated referral management; and, more generally, an inventory of community services and supports to address health-related social needs.

Exhibit 5.2. Care delivery requirements for PCF

PCF care delivery requirement	In participation agreement for risk groups 1 and 2	In participation agreement for risk groups 3 and 4
Access and Continuity		
Provide 24/7 access to a care team practitioner with real-time access to EHR	◆	◆
Ensure timely callbacks for high-risk PCF beneficiaries with complex care needs		◆
Care Management		
Provide risk-stratified care management for all empaneled patients	◆	◆
Ensure all PCF beneficiaries receive timely follow-up contact from the PCF practice after ED visits and hospitalizations	◆	◆
Collaborate with all high-risk PCF beneficiaries to develop and maintain documented personalized care plans addressing their goals, preferences, and values		◆
Comprehensiveness and Coordination		
Integrate behavioral health into primary care services	◆	◆
Assess and support patients' psychosocial need	◆	◆
Ensure coordinated referral management for your high-risk PCF beneficiary population through formal relationships or agreements with specialty groups and other care organizations		◆
Create and maintain an inventory of services and supports in the community to meet PCF beneficiaries' health-related social needs		◆
Patient and Caregiver Engagement		
Implement a regular process for PCF beneficiaries and caregivers to advise PCF practice improvement.	◆	◆
Planned Care and Population Health		
Set goals and continuously improve upon key outcome measures	◆	◆

Source: PCF Model, PCF Component, Amended and Restated PCF Practice Participation Agreement, First Amended and Restated Participation Agreement for Cohort 1, August 31, 2021.

ED = emergency department; EHR = electronic health record; PCF = Primary Care First.

C. Initial care delivery capabilities

Cohort 1 practices began Year 1 of PCF by reporting capabilities in many of the core functions CMS identified as driving outcomes under the PCF model (Exhibit 5.3). More than 90 percent of practices reported advanced care delivery in the areas of access and continuity, care management, and patient and caregiver engagement. About one-third of practices reported advanced capabilities related to planned care and population health; the first round of portal reporting did not include questions on comprehensiveness and coordination. One caution when interpreting the data presented below is that the close-ended question format means that practices' answers to these questions are largely binary. Thus, these data do not allow for nuanced answers or provide much information on the intensity or breadth of a given care delivery activity.

Exhibit 5.3. Cohort 1 practices reported being advanced in their initial level of care delivery

Percentage of practices reporting each advanced care delivery activity at model start (n = 827)		
Access and Continuity	Provide 24/7 access to care informed by real-time access to EHR	98%
	Empanelment (most or all of patients)	94%
Care Management	Episodic care management	97%
	Risk stratification	92%
	Hospital follow-up within 72 hours	90%
	Longitudinal care management	88%
	ED follow-up within 72 hours	48%
	Personalized care planning for all high-risk patients	27%
Patient and Caregiver Engagement	Engage patients in improvement efforts	94%
	Systematic approach to identify patients for advance care planning	92%
Planned Care and Population Health	Care team meetings at least weekly	33%

Source: Mathematica's analysis of care delivery items from the 2021 PCF Practice Portal.

Note: Individual activities are grouped within primary care functions as categorized by CMS (PCF Care Delivery Reporting Guide, Volume 1, Version 3.0, December 1, 2021). CMS did not include questions on comprehensiveness and coordination in its first round of portal reporting but plans to do so in subsequent rounds.

CMS = Centers for Medicare & Medicaid Services; ED = emergency department; EHR = electronic health record; PCF = Primary Care First.

Differences in approaches to care management were evident between practices in risk groups 1 and 2 versus risk groups 3 and 4 and between system-affiliated and non-system-affiliated practices (Exhibit 5.4 highlights meaningful differences of at least 10 percentage points higher than the other group). Risk groups 1 and 2 reported higher levels of risk stratification, episodic care management, and hospital follow-up within 72 hours, indicating a greater focus at baseline on identifying patients at risk of clinical deterioration and providing episodic care management including follow-up after hospitalizations. In contrast, a higher percentage of risk groups 3 and 4 practices reported care planning for all high-risk patients and holding care team meetings at least weekly (planned care and population health), which is consistent with how these practices appear to operate, as will be discussed further in Chapter 6.

These data should be interpreted somewhat cautiously because, as described in Chapter 6, practices in risk groups 3 and 4 (a total of 31 practices in Cohort 1) often have a care delivery model that differs from traditional primary care – for example, patients in risk group 3 and 4 practices have likely already been identified as high risk. Thus, the differences we see between risk groups might result from their patient populations being different; alternatively, the differences in the reported data could result from how respondents from those risk groups interpreted and answered the questions.

System affiliation may also influence the care management strategies being used. More system-affiliated practices than non-affiliated practices reported conducting risk stratification, longitudinal care management, hospital follow-up within 72 hours, but less ED follow-up within 72 hours and personalized

care planning for all high-risk patients. Similarly, more system-affiliated practices reported engaging patients in improvement efforts.

Exhibit 5.4. Most meaningful differences in initial care delivery capabilities were between practices in different risk groups and between system-affiliated and non-system-affiliated practices

Percentage of practices in each group reporting the care delivery activity at model start (n = 827)				
Question	Risk group		System affiliation	
	1 and 2 (N = 796)	3 and 4 (N = 31)	No (N = 126)	Yes (N = 701)
Access and continuity				
Provide 24/7 access to care informed by real-time access to electronic health record	99%	97%	97%	99%
Empanelment (most or all of patients)	94%	97%	89%	95%
Care management				
Risk stratification	92% ^a	81%	80%	94% ^a
Longitudinal care management	88%	94%	78%	90% ^a
Episodic care management	98% ^a	87%	94%	98%
Hospital follow-up within 72 hours	91% ^a	65%	71%	93% ^a
Emergency department follow-up within 72 hours	48%	45%	64% ^a	45%
Personalized care planning for all high-risk patients (regardless of care management)	26%	39% ^a	37% ^a	25%
Patient and caregiver engagement				
Engage patients in improvement efforts	94%	90%	74%	97% ^a
Systematic approach to identify patients for advance care planning	92%	94%	94%	91% ^a
Planned care and population health				
Care team meetings at least weekly	32%	61% ^a	27%	34%

Source: Mathematica's analysis of care delivery items from the 2021 PCF Practice Portal among practices that were participating as of April 2021.

^a Shaded cells indicate meaningful differences of at least 10 percentage points higher than the other group.

PCF = Primary Care First.

We also examined the intersection of risk group and system affiliation (for example, how do risk group 1 and 2 system-affiliated practices compare with risk group 1 and 2 non-system-affiliated practices?). The results of the four-way comparison, presented in Appendix D.2, largely tell the same story, though there are scattered differences in which one group stands out as meaningfully higher or lower than the other three groups but with no clear pattern to the results.

There were a few variations in care delivery capabilities based on practice size and no differences based on Medicare Shared Savings Program participation (data not shown). Taken together, these findings point to risk group and system affiliation as potential key factors in influencing practices' reported level of care delivery advancement at the beginning of PCF.

D. Planned changes and strategies for care delivery in Year 1 of the PCF model

After completing questions about the current state of their care delivery capabilities (described in the previous section), portal respondents answered questions on changes that practices planned to make in their first year of PCF. This is an important series of questions because practices must change care delivery in some way if we expect changes in outcomes; we cannot assume that the high baseline functioning (as reported in the previous section) will lead to improved outcomes. As Exhibit 5.5 shows, the areas covered by the care delivery questions and the planned changes questions overlap but are not identical. In addition to the primary care functions, the questions on planned changes asked about care for seriously ill and other complex patients, health IT and data feedback, and staffing. We refer to all of these as domains. The remainder of this chapter focuses on reported planned changes in eight domains, and it is important to note that reported planned changes are not necessarily planned because of PCF and could be part of planned changes unrelated to the model.

Exhibit 5.5. Comparison of topics covered in the care delivery section and the planned changes section of the portal

Practices' current capabilities in four of the five care delivery functions in CMS' PCF driver diagram	Planned changes in the first year of PCF
Access and Continuity	Access and Continuity
Care Management	Care Management
Patient and Caregiver Engagement	Patient and Caregiver Engagement
Planned Care and Population Health	Planned Care and Population Health
--	Comprehensiveness and Coordination
--	Care for Seriously Ill and Other Complex Patients
--	Health IT and Data Feedback
--	Staffing

Source: PCF Care Delivery Reporting Guide, Volume 1, Version 3.0, December 1, 2021.

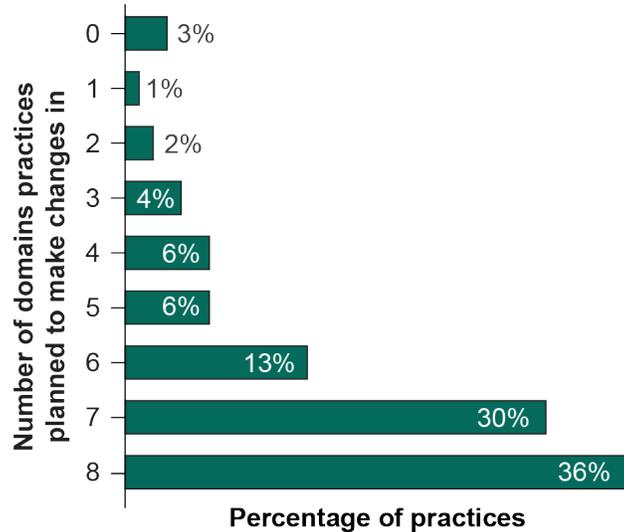
CMS = Centers for Medicare & Medicaid Services; IT = information technology; PCF = Primary Care First.

1. Care delivery changes Cohort 1 practices planned to make in their first year of PCF

Eighty-five percent of Cohort 1 practices reported plans to make changes in five or more of the eight domains of care delivery. Additionally, more than a third of practices reported they planned to make changes in all eight domains asked about (Exhibit 5.6).

Eighty percent of practices reported that they planned to make changes in their first year of PCF within the domains of care management, patient and caregiver engagement, comprehensiveness and coordination, planned care and population health (one item), care for seriously ill patients, and health IT and data feedback (one item) (Exhibit 5.7). This broad scope of planned changes in the first year does not necessarily contradict the previously reported finding that a high percentage of practices had advanced primary care capabilities. Instead, this suggests that practices are enhancing or building new capabilities on top of their existing infrastructure, because a planned change might indicate something significant or only a tweak or slight improvement on something they already do. The open-ended responses described in the next section, though, compared with the close-ended binary questions reported here, are likely a good indicator of top-of-mind planning (that is, what they thought of without prompting) and likely represent something quite salient. The domains with the lowest reports of expected changes in the first year were access and continuity and staffing. Still, even in those domains, there were individual activities for which more than half of the practices reported plans to make changes in the first year. Overall, two-thirds to three-fourths of Cohort 1 practices plan to make at least some change in those domains.

Exhibit 5.6. Most practices planned to make changes in five or more domains of advanced primary care (n = 827)



Source: Mathematica's analysis of planned care delivery changes from the 2021 Primary Care First Practice Portal.

Exhibit 5.7. Practices reported plans to make changes in the first year in many activities across care delivery domains

Percentage of practices that said “yes, change likely in the first year of PCF” (n = 827)			Any change in domain
Access and Continuity	Increase access to practitioners via non-billable care	55%	65%
	Increase access to practitioners via billable care	35%	
	Schedule longer appointment times for complex patients	34%	
Care Management	Expand care management processes to help patients manage conditions between visits	75%	82%
	Improve ability to follow up with patients after hospital discharge or ED visit	70%	
	Improve ability to be notified when patients have a hospital discharge or ED visit	59%	
Patient and Caregiver Engagement	Improve advance care planning	79%	91%
	Increase patient and caregiver awareness of appropriate ED use and alternatives	72%	
Comprehensiveness and Coordination	Increase screening for patient’s social needs	70%	87%
	Increase coordination with community resources to meet patient’s social needs	69%	
	Increase coordination with specialists	62%	
	Increase coordination with other providers	57%	
	Reduce use of lower-value tests	23%	
	Improve handoffs to a new PCP when patient leaves the practice	22%	
	Expand types of medical services provided at practice site to reduce referrals to specialty care	13%	
Planned Care and Population Health	Increase use of available data to improve care delivery	82%	82%
Care for Seriously Ill and Other Complex Patients	Improve contact with patients potentially at risk for hospitalizations or ED visits	69%	83%
	Develop and update care plans for seriously ill and other complex patients	63%	
	Increase access to palliative care	45%	
Health IT and Data Feedback	Enhance health information technology capabilities	80%	80%
Staffing	Add more medical assistants, nurses, or care managers	59%	72%
	Add behavioral health staff (or increase behavioral health integration some other way)	51%	
	Add more practitioners	25%	

Source: Mathematica’s analysis of planned care delivery changes from the 2021 PCF Practice Portal.
 ED = emergency department; IT = information technology; PCF = Primary Care First; PCP = primary care provider.

Again, risk group and system affiliation appear to influence what changes Cohort 1 practices reported planning to make in the first year of PCF. When looking at the domain level and grouping items to indicate whether the practice reported plans to make changes to any of the activities within the domain (shown in Exhibit 5.8), differences between practices in and not in hospital-based systems stand out. The higher reporting of planned changes by system-affiliated practices holds across six of the eight

areas in which we hypothesized changes could be made: patient and caregiver engagement, comprehensiveness and coordination, planned care and population health, care for seriously ill, health IT and data feedback, and staffing (though not for access and continuity or care management). When we examined the intersection of risk group and system affiliation, the results were similar: a greater proportion of system-affiliated risk group 1 and 2 practices reported planning to make changes in six areas, and a greater proportion of system-affiliated practices in risk groups 3 and 4 reported planning to make changes in six areas (Appendix D.3). Small practices (1 or 2 practitioners) reported fewer planned staffing changes than medium practices (3 to 10 practitioners), while large practices (more than 10 practitioners) and large practices planned to enhance health IT capabilities more than small or medium practices (data not shown). There were no meaningful differences in planned changes by Medicare Shared Savings Program status at the domain level.

Exhibit 5.8. Differences in reported planned changes at the domain level across subgroups

Percentage of practices in each group that said “yes, change likely in the first year of PCF” for any subitem in that domain (n = 827)				
Question	Risk group		System	
	1 and 2 (N = 796)	3 and 4 (N = 31)	No (N = 126)	Yes (N = 701)
Access and Continuity	64%	81% ^a	70%	64%
Care Management	82%	84%	83%	82%
Patient and Caregiver Engagement	91%	94%	78%	93% ^a
Comprehensiveness and Coordination	86%	94%	65%	91% ^a
Planned Care and Population Health	82%	84%	62%	86% ^a
Care for Seriously Ill and Other Complex Patients	82%	94% ^a	73%	85% ^a
Health IT and Data Feedback	80%	77%	60%	83% ^a
Staffing	72% ^a	61%	53%	75% ^a

Source: Mathematica’s analysis of planned care delivery changes from the 2021 PCF Practice Portal.

^a Shaded cells indicate meaningful differences of at least 10 percentage points higher than the other group.

IT = information technology; PCF = Primary Care First.

Individual activity differences by risk group indicate that practices in risk groups 1 and 2 versus 3 and 4 are focusing on different activities within the same function, including care management and comprehensiveness and coordination (Appendix D.4). Further, risk group 1 and 2 practices that are not system affiliated reported fewer planned changes than the other three risk group and system combinations (Appendix D.4).

2. Primary strategies practices planned to use to reduce hospitalizations or costs

After answering questions about changes they planned to make in their first year of PCF, practices were asked to describe what strategies they planned to use to reduce hospitalizations and/or costs. As a reminder, we view these open-ended responses as being a good indicator of top-of-mind planning (that is, what they thought of without prompting) and thus likely represent something quite salient, as compared to the closed-ended binary questions reported in the previous section.

Care management again emerged as practices' key strategy for reducing hospitalizations or costs, with nearly 90 percent of all participating practices reporting some aspect of care management as a key strategy based on responses to that open-ended question.

More than half of practices reported that they planned to use longitudinal care management, and nearly half planned to use episodic care management as their main strategy to reduce hospitalizations or costs (see Exhibit 5.9). About one-third of practices reported plans to make changes in planned care and population health, mainly by focusing on the strategies that advance their data capabilities to identify patients at risk of hospitalizations. About one-quarter of practices indicated they planned to focus on improving access. Others reported plans to educate patients on where and when to seek appropriate care and to improve efforts related to advance care planning and social determinants of health. Note, these strategies are not exclusive, and many practices reported multiple main strategies.

Overall, there were no notable patterns of differences in planned strategies in the open-end portal reporting by risk group, system, practice size, or Medicare Shared Savings Program participation (data not shown).

Preliminary findings: Interviews conducted shortly after the model launched mostly corroborate portal data on planned strategies to reduce hospitalizations.

Interviews conducted with a convenience sample of 26 practices in early 2021 found that practices were planning to utilize strategies related to care management, access to care, advance care planning, and data-driven strategies to reduce hospitalizations.

About one-third of respondents, however, said they did not plan to make major changes in their practice yet. Some said they planned to focus on using existing strategies to meet PCF patient needs; some said they planned to wait and see how they performed before they made any significant investments in practice changes.

Source: Mathematica's analysis of 2021 early interview data, as described in Appendix A.2.

Exhibit 5.9. Around half of practices report longitudinal care management or episodic care management will be their main strategy to reduce AHU or total cost of care

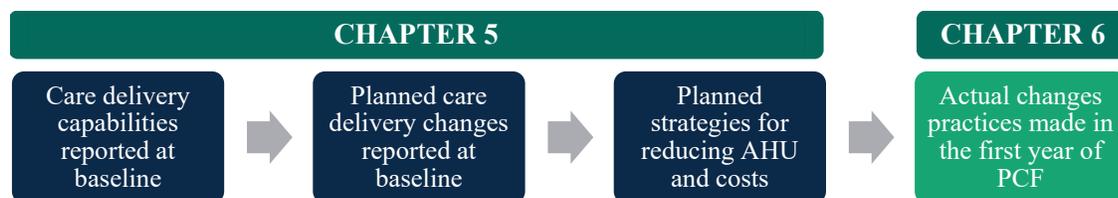
Percentage of practices that reported each strategy (n = 827)		
Domain	Main strategies to reduce AHU or total cost of care	Percentage
Access	Any mention (telehealth, same day visits, after hours care, etc.)	26%
	Telehealth	15%
Care Management	Any mention of care management	87%
	Episodic	45%
	Longitudinal	53%
	Risk stratification	18%
Comprehensiveness and Coordination	Any mention of comprehensiveness and coordination (specialty care coordination, behavioral health integration, medication management, etc.)	23%
	Social determinants of health	9%
	Behavioral health integration	7%
Planned Care and Population Health	Any mention (quality measures, use of care teams, using data to guide change)	35%
Patient and Caregiver Engagement	Any mention of patient and caregiver engagement (disease specific education, self-management tools, etc.)	33%
	How and where to seek care	15%
	Advance care planning	10%
Staffing Changes	Any mention	3%
Preventive Care	Any mention, including wellness visits	7%

Source: Mathematica's analysis of coded responses to open-ended question about planned strategies, from the 2021 PCF Practice Portal.

AHU = acute hospital utilization; PCF = Primary Care First.

3. Looking beyond planned changes to actual changes

The findings in this chapter establish that the Cohort 1 practices began 2021 with self-reported capabilities in the primary care functions that PCF identified as important. Furthermore, practices appeared to be planning to build upon their existing infrastructure to enhance or develop new capabilities to advance their primary care functions and other care delivery activities, and to reduce hospitalizations and/or costs. With this foundation, the evaluation now pivots to focus on findings from interviews with a sample of practices. These findings, which we report in Chapter 6, move from the plans and expectations in Chapter 5 to how practices implement advanced primary care functions in the first year of the PCF model.



AHU = acute hospital utilization.

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6. Implementation experience



Key takeaways

- **Most practices in risk groups 1 and 2 adopted a multipronged approach built on existing care management strategies to reduce hospitalizations.** Practices reported intensifying how and to whom their episodic care management services were provided by reorganizing or hiring new staff with PCF funds. Most practices also reported strengthening their longitudinal care management efforts by providing patients more support with their prescription medications and implementing patient-centered care plans.
- **While many of the risk group 1 and 2 practices had already increased access to primary care services before joining PCF, most often through telehealth, same-day appointments, and extended or weekend hours, several others reported implementing changes or adding new access strategies after joining the model.** While some efforts, such as telehealth, were due to the COVID-19 pandemic, others, such as educating or counseling patients to use the primary care practice as the first place to seek medical care, were specific to the PCF model. Additionally, informants from several health systems (either medical groups or hospital-owned practices) said they expanded hours or provided access to urgent care services at one of their member sites and instructed patients across all locations in the system to visit that site.
- **Although many of the risk group 1 and 2 practices had already integrated behavioral health into primary care services before joining the PCF model, several said they also added new behavioral health strategies during the first year of the model.** Overall, practices' existing and new behavioral health strategies addressed barriers related to accessing behavioral health care, including hiring behavioral health practitioners and referring patients to services in the community.
- **Risk group 3 and 4 practices said they were already providing high-touch, individualized, and comprehensive primary care services to their patients before joining PCF.** Nevertheless, these practices reported strengthening longitudinal care management in three ways: hiring additional staff to expand their capacity to provide longitudinal care management services to all their patients, increasing access to social services related to care management, and establishing relationships with external partners to strengthen their ability to meet their patients' need for long-term care services, such as durable medical equipment or palliative and hospice care.
- **Despite being designed by CMS as a practice-level model, PCF-funded interventions among the practices that were affiliated with a larger health care system or medical group practice were often planned and implemented by corporate staff.** Practices belonging to these types of organizations rarely decided on their own to participate in PCF; instead, corporate leaders decided on their behalf. We did not observe differences in responses between hospital-owned practices and medical group-owned practices. Most of these respondents said they implemented their PCF strategies similarly across all affiliated practices in PCF and, in some cases, to their nonparticipating affiliated practices. As a result, staff engagement and awareness of the model at times varied across practices that were within the same health system or medical group.

A. Overview of chapter

Unlike CPC Classic and CPC+, the PCF model has fewer care delivery requirements within the five comprehensive primary care functions, such as access and continuity and care management, and more flexibility in determining how the requirements are met. Therefore, the implementation evaluation for this year broadly focused on practices' choice of strategies within the five comprehensive primary care functions rather than the implementation of the limited set of care delivery requirements. For example, practices may have chosen to focus on a single strategy, such as episodic care management, or initiate or enhance multiple strategies spanning all of the primary care functions.

In the previous chapter, we used data from the PCF Practice Portal to describe the results of practices' *self-reported* capabilities in delivering advanced primary care at baseline, their planned advanced care delivery changes for the first year of PCF, and their planned strategies to reduce hospitalizations or total

cost of care. In this chapter, we summarize findings from an analysis of qualitative data collected through virtual site visits that took place from October 2021 to February 2022 with a sample of 28 practices (see Appendix A, Exhibit A.2 for details). We describe the changes practices made in 2021 and highlight the factors (positive and negative) associated with the successful implementation of their care delivery plans. Because of the differences in target population, approach to care, quality measures, and intended outcomes between the two groups, we present the practice-level findings separately for the 19 practices in the risk group 1 and 2 sample and the 9 practices in the risk group 3 and 4 sample. We also look at the perceived effect of PCF-related changes on practitioner engagement and burden. We conclude by presenting findings from a separate analysis of the 12 systems that had affiliated practices in the risk group 1 and 2 sample to broaden CMS' understanding of implementation experience when systems are driving transformational changes at the practice level.⁸

1. Data sources and methods

We limited this first round of data collection to practices that joined the model in 2021 (Cohort 1). We identified the sample of practices, which we refer to as *primary practices*, included in the virtual site visits through a purposive stratified sampling approach. (See Appendix A, Exhibit A.2 for greater detail on our sampling methodology.) This approach ensured we obtained a sample of primary practices from different geographic regions, of varying practice sizes, and with and without experience with advanced payment programs and models (such as Medicare Shared Savings Program and Independence at Home). The sample also included a mix of system- and non-system-affiliated primary practices. At each practice, we spoke with people who had administrative responsibility for implementing the PCF model, such as leaders within a practice or a health system and physician champions. We also spoke with people who implemented the strategies the practice had chosen; these people included care managers and frontline practitioners, such as physicians and nurse practitioners. Among the system-affiliated practices in risk groups 1 and 2, we also spoke with respondents from other practices that were affiliated with the system (referred to as *affiliated practices*) to assess variations in how systems implemented strategies across organizations. Most of the findings in this chapter reflect responses from the primary practices and the systems to which they belonged. We created transcripts from these interviews, which we then coded and analyzed using inductive and deductive methods.

Brief summary of data sources and methods used in this chapter

- We conducted virtual site visits with a stratified purposive sample of 28 diverse primary practices based on risk group, geographic location, number of attributed beneficiaries, and ownership.
- Of the 28 primary practices we interviewed, 19 were in risk groups 1 and 2 (of which 12 belonged to a health system) and 9 were in risk groups 3 and 4 (of which 7 belonged to a health system).
- To gain a comprehensive understanding of implementation strategies across systems with multiple participating practices, we also interviewed representatives from the parent organization of the 19 systems in our practice sample, as well as 9 of their other affiliated practices.
- We conducted a total of 133 telephone interviews with administrative and clinical staff (87 with primary practices, 15 with other affiliated practices, and 31 with systems) toward the end of the first model year, starting in October 2021 and ending in February 2022.

⁸ We are using the terms system and system-affiliated broadly to refer to practices that are affiliated with a hospital or belong to a medical group with multiple practices.

- We analyzed differences in implementation experience between practices that were affiliated with health systems and those that were not, but, in both cases, the practice remained the main unit of analysis. We conducted a separate analysis at the system level to understand strategies when designed centrally and implemented across multiple practices.

2. Care delivery functions and causal pathways

In November 2020, CMS released an intervention guide describing five comprehensive primary care functions to help practices identify, develop, and implement interventions to improve quality and reduce costs and to prioritize those that matter most because of their unique practice infrastructure and patient population. To guide the evaluation, Mathematica subsequently developed causal pathways for three of the five functions (care management, access and continuity, and comprehensiveness and coordination) that are central to achieving the model outcomes (see Chapter 1, Exhibit 1.3). The other two functions, patient and caregiver engagement and planned care and population health, as well as the use of health IT, span and contribute to achieving the outcomes of these pathways. For example, practices' efforts to engage patients in self-care is a critical component of effective longitudinal care management.

Based on our interview findings, we divided these five functions into three primary functions (care management, access and continuity, and comprehensiveness and coordination) and two secondary functions (patient and caregiver engagement and planned care and population health), particularly for our analysis of practices in risk groups 1 and 2. Respondents most often mentioned one or more of the three primary functions when describing the strategies they undertook to reduce acute hospitalizations. They cited strategies associated with the secondary functions less frequently and, when they did, they generally said they served as facilitators or barriers to the primary functions. We use this organizational framework when analyzing the interview responses in this chapter, particularly for practices in risk groups 1 and 2.

3. Differences between practices in risk groups 1 and 2 versus those in risk groups 3 and 4

The practices in risk groups 1 and 2 and those in risk groups 3 and 4 differ in ways that are likely to influence how they implement care delivery strategies under the PCF model (Exhibit 6.1). Practices in risk groups 1 and 2 treat a population that has fewer severely ill patients compared with those in risk groups 3 and 4 and, as a result, receive lower per beneficiary per month payments from CMS. They also tend to treat patients in single- and multi-specialty primary care settings and pursue individual strategies to prevent illness and acute exacerbations of chronic conditions. Given these differences, under the PCF model design, risk group 1 and 2 practices focus on reducing acute care utilization while risk group 3 and 4 practices focus on lowering per capita health care costs; some of the metrics CMS uses to measure performance under PCF also differ between risk groups 1 and 2 versus risk groups 3 and 4. Because of these differences, we analyzed the coded data for each of these groups separately and report them separately in this chapter.

Exhibit 6.1. Differences in model components between practices in risk groups 1 and 2 versus those in risk groups 3 and 4

Characteristics	Risk groups 1 and 2	Risk groups 3 and 4
Target population	General patient population; the median HCC score is 0.8 and 1.1, respectively (see Exhibit 2.2)	Typically homebound and frail patients with complex needs; the median HCC score is 1.5 and 2.0, respectively (see Exhibit 2.2)
Approach to care	Individual strategies to prevent illness and acute exacerbations of chronic conditions	Team-based, high-touch, comprehensive care for homebound patients
PCF outcome	Reduced acute hospital utilization	Lower total per capita cost
PCF PBPM	\$28 and \$45, respectively	\$100 and \$175, respectively
PCF quality measures	<ul style="list-style-type: none"> • HbA1c poor control • High blood pressure control • Colorectal cancer screening • Advance care planning • Patient Experience of Care Survey 	<ul style="list-style-type: none"> • Advance care planning • Patient Experience of Care Survey • Planned days at home

HCC = Hierarchical Condition Category; PBPM = per beneficiary per month; PCF = Primary Care First.

4. Practice- versus system-level analysis

As we described in Chapter 2, about 85 percent of PCF practices reported in their application being part of a larger health system or group practice, and about two-thirds of all practices reported being part of an integrated delivery system or a hospital system. Although CMS designed PCF as a practice-level intervention, our interviews with model participants revealed that when practices are affiliated with a larger health system or group practice, decisions about which strategies to pursue under PCF (and how to implement them) are often made at the corporate level and implemented across all member organizations participating in PCF. In fact, it appears that administrators at the corporate level often selected the individual practices to participate in PCF and serve as the contact person on the administrative list of participants CMS provided.

Despite the role of the larger health care system in designing and implementing PCF-funded care delivery strategies for its member organizations, this chapter focuses mainly on the individual practice. We selected the interview sample at the practice level and considered practice-level staff as the primary respondents. When practice-level staff were unable to answer questions about their strategies, however, we treated corporate administrators as proxies for their member practice. For example, if a corporate administrator told us they were pursuing episodic care management at all their participating practices (maybe by contracting with a third-party vendor), we assigned this strategy to the sampled practice. We analyzed differences in implementation experience between practices that were affiliated

CMS designed PCF as a practice-level model, by:

1. Defining practices as the “bricks and mortar” physical location where patients receive care
2. Attributing Medicare beneficiaries to each participating practice location
3. Calculating professional PBP based on the average HCC risk score of the practice’s beneficiaries
4. Calculating PBA adjustments based on the practice’s AHU and TPCC performance
5. Providing Medicare FFS expenditure and utilization and AHU and TPCC performance data to practices

with larger health systems and those that were not, but, in both cases, the practice remained the main unit of analysis.

Although we did not design the sample selection strategy with a system-level analysis in mind, we nonetheless present several early implementation findings from the system perspective for the subset of corporate entities tied to a sampled practice. The system-level analysis highlights the role of systems in primary care practice transformation, describes how systems implement the PCF model across multiple participating practices, and identifies the unique opportunities and challenges facing corporate organizations, including the extent to which they engage local practices in transformation strategies and share with them or shield them from the financial risk under the model. Although we will continue to conduct practice-site level interviews in future rounds of data collection, we also plan to focus directly on the role of health systems in practice transformation in our second round of primary data collection.

5. Limitations of the qualitative data

Four limitations of the qualitative data warrant mentioning before presenting the findings. First, our goal in data collection was theme saturation, which means that no new data (or new and important respondent perceptions) emerge as we asked about strategies to reduce hospitalizations for risks groups 1 and 2 and lower costs for risk groups 3 and 4. Although our stratified purposive sample allowed us to capture perspectives from practices with different characteristics likely to affect implementation experience (for example, system affiliation and practice size) and reach theme saturation, the small number of sample members limited our ability to drill down and report on specific characteristics such as by geographic region.

Second, our virtual site visits began during the Delta variant of the COVID-19 pandemic and ended as the Omicron surge began. This meant our staff were unable to interview people in person for the safety of the respondents and ourselves. It also meant practices were struggling to care for their patients while facing staff shortages. In total, 15 practices declined to participate in the study. Although we sought replacements from practices in the same sample strata, in some cases, especially among the small number of practices in risk groups 3 and 4, no replacements were available. Among the nonrespondents were health care systems that agreed to our request for interviews with their administrative leads but restricted access to practice-level staff, citing a desire to minimize burden on practitioners and staff related to the pandemic, which limited collection of perspectives directly from practices. We used the system interviewee as a proxy for the primary practice when the intervention was designed and implemented at the system level. If we were unable to speak with any informants at the practice level (because the system denied us access), we considered the sample member nonresponsive and replaced them.

Third, the findings are based on the perceptions of the informants we interviewed and the way in which we asked the questions. Because we asked informants to describe the changes they made under the first year of PCF funding, they likely emphasized the changes they believed to be the most important to advancing care delivery rather than providing a comprehensive list of all their strategies. As a result, the findings presented in this chapter likely underreport the strategies that model administrators viewed as playing a more supportive role in changing care delivery. The exception to this is strategies to address patients' health-related social needs because we asked all practices to describe their activities in this area.

Finally, it was not always possible to distinguish between strategies that practices newly implemented as a result of PCF funding and modifications to existing strategies, despite our best efforts to probe during interviews. To ensure we captured all potential opportunities to improve outcomes, we classified any

noteworthy changes to existing strategies as a new activity. These could include hiring additional staff to expand the scope or intensity of an activity, extending an activity to new regions or populations, adding a new electronic health record tool or tapping into a new data source to support an existing strategy, and refining existing work-flow processes.

6. Organization of the chapter

In the remainder of the chapter, we present the findings from the practice-level analysis of practices in risk groups 1 and 2 (organized by the three primary care delivery functions) and then the findings from the analysis of practices in risk groups 3 and 4. Next, we highlight the implications of the model on practitioners, focusing on the extent to which PCF-funded activities affected administrative burden and time spent in direct patient care. We then present the findings from the system-level analysis based on interviews with the system administrators associated with the 21 system-affiliated practices in our sample. Finally, we highlight primary data collection and analysis activities planned for the second model year.

B. Findings from practice-level analysis of risk groups 1 and 2

In this section of the report, we describe the changes that practices made in 2021 based on interviews with practices in risk groups 1 and 2 and highlight the factors (positive and negative) associated with implementing their care delivery plans. Because respondents from risk groups 1 and 2 tended to describe their PCF-funded strategies as *independent* strategies from each other, we organized the findings based on the three most frequently reported care delivery functions. The practices in risk groups 1 and 2 we interviewed most frequently cited implementing strategies related to care management (both longitudinal and episodic) and access to care (Exhibit 6.2). They also frequently mentioned improved use of data and health IT systems, but when they did so it was usually in support of their other strategies. Access to care and care coordination activities (specifically, those related to integrating behavioral health into primary care) were more likely than care management activities to involve a new strategy or a modification of an existing one.

Exhibit 6.2. Number of practices in risk groups 1 and 2 that reported implementing each strategy

PCF care delivery functions	Strategy	Number of practices that reported implementing strategy (N = 19)
Care management	Longitudinal care management	18
	Episodic care management	18
	Rx management	10
	Data use	18
Access and continuity	Access	19
	Continuity	5
Comprehensiveness and coordination	Behavioral health	8
	Specialty care	2
	Health-related social needs ^a	18

Notes: Seven practices reported implementing advance care planning strategies to reduce acute hospitalizations. These strategies were mostly modifications to existing activities and spanned and supported the other three core care delivery functions. We asked practices to describe the changes they believed to be the most important to advancing care delivery rather than provide a comprehensive list of all their strategies. As a result, the counts in this table likely underreport the full range and number of strategies that model administrators saw as playing a supportive role in changing care delivery.

^a This count should be interpreted with care. Unlike the other strategies, respondents were specifically asked about strategies they implemented to address health-related social needs.

PCF = Primary Care First.

1. Care management

Care management is a primary care function in which care teams provide between-office visit support to help patients improve or maintain their health status. The support provided in care management is patient centered and includes timely and coordinated connections to medical and psychosocial supports and services as well as support to monitor and self-manage their conditions. Although any member of the primary care team can provide care management services, care managers with a clinical background in nursing, social work, health coaching, or pharmacy most commonly do so.

CMS distinguishes between two types of care management: episodic and longitudinal. These two types of care management differ in target population and duration of services. Episodic care management focuses on patients with short-term conditions whose health status is at high risk of worsening—such as after a new injury or diagnosis; acute exacerbation of an existing condition; or, most commonly, a care transition from an inpatient setting. Care managers for episodic care management regularly check in with patients for a few weeks to a few months. In contrast, longitudinal care management is a relationship-based activity between the care team and the patient and focuses on patients with long-term health issues or complex needs. Under longitudinal care management,

Hypothesized care management pathways

- 1. Provide episodic care management.**
Practices follow up after ED and hospital visits, improving care transitions and adherence to post-discharge care plans resulting in fewer readmissions, ED visits, or both.
- 2. Provide longitudinal care management.**
Practices provide longitudinal care management for beneficiaries at high risk for admission, readmission, or ED visits. These additional points of contact with patients are intended to help beneficiaries manage their conditions effectively and help reduce acute exacerbations and lower acute care utilization.

patients and their care teams sometimes co-create personalized care plans that guide care delivery based on the patient's goals of care. To be eligible for PCF, CMS required practices to attest that a care team member systematically provided care management services to high-risk patients.

a. Episodic care management

Although episodic care management was already a common strategy employed by practices before joining PCF, participation in the model led many practices to intensify how and to whom these services were provided. Practices frequently provided episodic care management services following a care transition such as after an ED visit or hospital discharge. Practices, especially those that are part of a system, reported developing their episodic care management processes under an alternative payment model, such as the Medicare Shared Savings Program or CPC+, or as a patient-centered medical home. A few of the practices we interviewed said they implemented episodic care management for the first time in 2021. Three of these practices said their affiliation with a system and an external implementation consultant who had experience with episodic care management in CPC+ enabled them to use existing episodic care management approaches, including workflows and data sources, and to hire staff with experience in episodic care management from other practices.

Most practices reported modifying or intensifying their episodic care management efforts after joining PCF to support reductions in hospital readmissions. Many of these practices reported increasing the intensity of their episodic care management services by following up with patients in a timelier manner or by including more patients in episodic care management services after a triggering event. After joining PCF, practices pursued a wide range of supportive activities to bolster their episodic care management capabilities. Several practices reported acquiring new data sources, such as access to a health information exchange, to improve how they identify patients for episodic care management, many reported reorganizing staffing or hiring new staff, and several reported developing partnerships or relationships with hospitals to begin outreach with patients before discharge and improve discharge planning.

Practices most commonly reported using admission, discharge, and transfer (ADT) notifications to identify patients who are in need of episodic care management services. Practices receive these alerts when a patient is admitted to or discharged from a hospital or transferred to another facility. Although not new, in 2021, hospitals were required to comply with this interoperability requirement to continue receiving Medicare or Medicaid reimbursement. Practices most commonly reported receiving ADT notifications through their electronic health record, through a shared electronic health record portal if a hospital uses a different electronic health record platform, or through health information exchanges. In some instances, practices also described identifying patients through discharge teams within ACOs that would review ADT notifications and create rosters of patients with recent hospitalizations or ED visits. Practices are not solely reliant on interoperability: respondents from several practices also described warm handoffs that occurred when they received an alert about recent ED visits; hospitalizations, discharges, or transfers directly from hospital discharge teams or staff at EDs; skilled nursing facilities; or rehabilitation centers. Because patients can only receive episodic care management if their primary care practice knows they had a qualifying event, a few practices described seeking additional data sources in 2021 to cast a wider net on who the ADT feeds capture, such as establishing relationships with hospitals or joining health information exchanges, to capture patients at a greater number of hospitals or in other geographic regions. A few other practices noted that there can be significant overlap in patients included in ADT feeds, with local hospitalizations reported in state health information exchange and ACO rosters.

Although this enables the practice to identify more patients, it is often redundant and cumbersome to review multiple sources.

Many practices reported trying to offer episodic care management to any patient with a recent ED visit or hospitalization, but they said staffing constraints often limited their ability to do so. Several practices also provided episodic care management services to patients who were being discharged from a skilled nursing facility or rehabilitation center in addition to those following an acute hospitalization. A few practices said they wanted to include these additional patients in their episodic care management services, but they said they had difficulty accessing timely information about these transitions of care. As a result, they were unable to provide episodic care management services to patients who were discharged from a skilled nursing facility or rehabilitation center. Many practices stated they provide episodic care management support to any patient, regardless of the patient's insurance.

To expand the volume or intensity of episodic care management services, many practices reported reorganizing staff or hiring new staff after joining PCF; at least a few of these practices said that PCF funding allowed them to increase staffing. Several practices discussed a desire to hire more episodic care management staff to expand service provision in the future. A few of these practices described barriers to hiring new staff, such as workforce shortages. Three system-affiliated practices reported using hospital inpatient discharge teams to support the bulk of episodic care management initiation, including an initial outreach call and scheduling follow-up visits. This decreased the burden on practice-level staff who were responsible for providing episodic care management with patients outside the system hospital. To maximize staff time and resources, several practices prioritized hospital discharges over other transitions of care to follow up with patients who have used more services in the past and those that they deemed at high risk of being readmitted.

Practices noted a greater focus on improving the timeliness of initial episodic care management outreach calls and follow-up appointments with patients, as well as the comprehensiveness of these appointments. Many practices described specific requirements after a qualifying event, such as conducting outreach calls within 48 hours and follow-up visits within 7 to 14 days. Several practices described emphasizing these requirements as part of a strategy to increase staff focus on episodic care management as a PCF strategy. A few described using tools such as electronic health record transitions-of-care note templates, clinician checklists for episodic care management tasks, and electronic health record flags for specific action items to facilitate episodic care management.

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"We're constantly going to [the state health information exchange] or we're looking for a fax or we're trying to communicate something, and we're being asked to track more patients who are going to more health systems, that gets more onerous over time."

Medical lead

Practices said they relied on existing sources, such as hospital discharge summaries and inpatient charts, to facilitate follow-up appointments for episodic care management. Practices described easier access to both patient records and hospital discharge summaries when they are in a shared electronic health record system with system-affiliated hospitals or via data use agreements established with local hospitals.



"I think being able to utilize our social worker has been tremendous. There's quite a bit of admissions and readmissions that have been because patients either don't have the care they need at home, or sometimes they're resistant to get a higher level of care for multiple reasons."

Registered nurse case manager

Although practices might receive ADT notifications from a broad group of facilities, they generally had difficulty accessing information for patients seen at organizations with which they do not typically share data. Many practices outlined the complexity and burden to acquire patient records and discharge summaries from other hospitals or facilities, which often posed a significant burden on care management staff and resulted in less comprehensive episodic care management support or delays in scheduling follow-up visits. Although health information exchanges were intended to remove barriers related to interoperability,

several practices nevertheless limited their episodic care management services to patients seen in their own system hospitals or those with which they had established data use agreements because of challenges accessing information.

During patients' follow-up visits, care coordinators focused on supporting patient care transitions and adherence to post-discharge care plans. In an effort to prevent readmissions, many practices also routinely offered medication reconciliation (because patients are often prescribed new medications at the time of discharge that might interfere with their existing medications), helped patients understand prescription changes, and ensured patients fill their prescriptions. Several practices said they supported coordination with specialty care visits and other supports such as durable medical equipment, physical therapy, or home health services. A few practices described linking patients to an embedded social worker or behavioral health practitioner. Finally, a few practices said they transitioned episodic care management patients to longitudinal care management if they needed longer-term support.

Practices described a range of strategies to increase access to episodic care management services.

Several practices said they blocked time on practitioner schedules for episodic care management follow-up appointments to improve the timeliness of these appointments. A few practices asked nurse practitioners and advanced practice nurses to maintain availability for episodic care management appointments; a couple of practices mentioned training additional staff to make episodic care management outreach calls as a back-up to episodic care management staff. Many practices said they educate patients with a recent ED visit about seeking care at the primary care practice and the availability of services such as same-day appointments, extended and weekend hours, and phone lines for non-emergencies in lieu of going to the ED. A few practices incorporated telehealth visits as part of their episodic care management services and said this increased access and adherence to episodic care management follow-up visits. One practice said it was more successful at completing episodic care management follow-up visits and related medication reconciliation visits when it offered telehealth (which it began offering during the COVID-19 pandemic) compared with offering in-office visits only. In addition, many practices described offering higher—and lower—touch versions of their episodic care management services that enabled them to provide more comprehensive episodic care management support as needed. For example, one practice offered a remote home monitoring program for high-risk episodic care management patients, such as those with coronary heart disease or COVID-19. One system gives patients tools such as blood pressure and pulse oximeter monitors that enable them to monitor their

own conditions, as well as 24/7 phone access to registered nurse case managers and geriatric faculty members. A couple of practices also established new partnerships with other organizations to provide urgent care and home-based care to patients, including those at high risk for readmission.

Many practices reported they had noticed readmissions decreasing, were motivated by the theoretical evidence supporting episodic care management, or had noticed positive health effects for their patients. However, some practices said it was too early to tell whether their increased episodic care management efforts reduced readmissions.

b. Longitudinal care management

Most interviewed practices also reported strengthening their longitudinal care management efforts to help reduce hospitalizations after they joined PCF, however many of these practices reported providing some level of longitudinal care management before joining PCF. The focus on strengthening of existing efforts is expected because CMS intended to accept only practices into PCF that provided care management services for high-risk patients, which could include longitudinal care management. Most practices reported that after joining PCF, they began or planned to begin expanding the patient population receiving longitudinal care management.

When considering how to expand longitudinal care management to more patients, practices looked for patients whose outcomes could be improved with extra support from the primary care team, especially to prevent avoidable hospitalizations, onset of new illnesses or injuries, or worsening of existing conditions. Below, we describe four examples of how practices referred patients for longitudinal care management.

- Several practices reported referring to longitudinal care management *patients with specific conditions*, such as those with poorly controlled diabetes or blood pressure, pre-diabetes, multiple chronic illnesses, chronic obstructive pulmonary disease, congestive heart failure, advanced chronic kidney disease, or some combination of these.
- Several practices reported generating algorithm-based risk scores for each patient and focusing longitudinal care management services on *patients with high or rising risk scores*. For example, one care manager noted risk scores are more systematic than the practitioner or transitional care management referrals they had relied on previously.
- A few practices said they also identified patients for longitudinal care management via *referrals from episodic care management*. Clinicians would refer an episodic care management patient for longitudinal care management if they thought the patient could benefit from longer-term follow-up.
- A few practices described analyzing *prior hospitalization and diagnosis data* to eventually identify which patient groups should receive longitudinal care management. These practices planned to identify the most frequent diagnoses for hospitalized patients and focus longitudinal care management on patients with those diagnoses.

Practices had to expand their longitudinal care management staffing capacity to serve the newly eligible patient populations. Many practices said they hired or planned to hire new staff to support longitudinal care management after joining PCF, and a few of these practices said that PCF funding allowed them to do so. Most practices hired nurse care managers; a few hired part-time pharmacists who worked in the practice one or two days a week to help manage medications. To meet the increased demand for longitudinal care management more efficiently, one practice hired health coaches and community health

workers because they cost less than nurses and can effectively coordinate care for patients with less complex conditions.

Although regular check-ins with patients between office visits are a cornerstone of longitudinal care management that existed before practices joined PCF, a few practices reported checking in on patients more frequently since PCF began, such as monthly or every few months, depending on the patient's needs. During these check-ins, care managers monitored patients' health status and adherence to the treatment plan, and helped patients better self-manage their conditions by providing education and connecting them to resources that help meet their social needs.

After joining PCF, many practices also reported offering some new services under longitudinal care management. Most commonly, this included providing patients more support with their prescription medications—such as ensuring prescriptions were filled, counseling patients on medications, and conducting comprehensive medication management. In addition, a few practices reported increasing coordination with specialists, while a few others reported implementing patient-centered care plans in which care managers document patient goals to guide care delivery.



“We have avoided the traditional, old-school care management—or managed care mentality—of reducing utilization through denying services. We want to reduce utilization by keeping our patients healthy at home. They should come to the ER or be admitted if they truly need it.”

System Administrator

Many practices said they expected these expanded and new longitudinal care management efforts to reduce acute hospitalizations, although it was too soon to see any effects. A few practices mentioned that their efforts had helped patients manage new or existing health conditions. One care manager noted that she identified early signs of exacerbation in several heart failure patients and helped connect them with a cardiologist and adjust their medication regimens to avoid hospitalization. A care manager at another practice noted that patients appreciated the increased contact and strengthened relationships with the care team.

Hypothesized access and continuity pathways

1. **Ensure enhanced and timely access to care.** Practices hire, redeploy, and train staff to increase access in terms of affordability, availability, and accessibility. With increased access to care for patients, practitioners can address patients' health needs and provide earlier interventions, which is expected to result in fewer exacerbations of chronic conditions and less severe presentations of new conditions. This aims to reduce Medicare expenditures by preventing acute care such as ED visits and urgent care centers.
2. **Provide continuity of care.** Practices improve informational and interpersonal continuity to build trust and support practitioners in understanding of beneficiaries' health status and goals. Improved continuity of care increases practitioners' knowledge about beneficiaries and builds trust that supports shared decision making, resulting in fewer exacerbations of chronic conditions and less-severe presentations of new conditions. This reduces Medicare expenditures through less reliance on acute care.

2. Access and continuity

The domain of access and continuity builds on the patient–practitioner relationship to ensure patients receive the right care, at the right time, from the right care team members. Access-related strategies

address patients' barriers to care and ensure they see a primary care practitioner before their symptoms deteriorate or require intervention in an acute care setting. Strategies that promote continuity of care reduce gaps in practitioners' understanding of their patients' needs and build strong patient–practitioner relationships to improve quality of care and reduce unnecessary use of acute services. All practices in risk groups 1 and 2 reported enhancing existing strategies to increase timely access to care, whereas very few discussed continuity of care as a focus of their care delivery transformation plan. Similar to CPC+, however, continuity is built into the design of the PCF model by requiring empanelment of patients and through strategies such as care management that are inherently based on continuity.

a. Access to care

While many of the risk group 1 and 2 practices had already increased access to primary care services before joining PCF, most often through telehealth, same-day appointments, and extended or weekend hours, several others reported implementing changes or adding new access strategies after joining the model. Before joining PCF, many practices already had reserved same-day appointment slots for various types of visits, including follow-up visits after discharge and visits to provide care for patients with acute care issues. Some organizations discussed back-up plans to ensure patients could be seen in a timely manner. For example, one organization regularly reserved open appointment slots for same-day appointments, but if those slots filled up, they asked physicians to stay late or work through lunch or relied on on-call or back-up physicians to make sure patients were seen.

Many practices also continued to provide extended workday and weekend hours. One practice noted that it extended hours during the work week and on weekends to accommodate people who work and cannot take time off; in fact, the practice said it served more patients per hour on Saturdays than at any other time during the week. A couple of practices had after-hours on-call physicians, and one practice performed blood draws on weekends.

Several practices said connecting patients through a 24/7 phone line to nurses, doctors, or care managers with access to the patients' electronic health records was particularly helpful. These practitioners would discuss patients' concerns with medications or laboratory results, pass questions to physicians, arrange other telehealth calls or follow-up appointments, and triage acute issues, all of which helped divert patients from seeking care in an ED setting.

Many practices tried to educate or counsel patients to use the primary care practice as the first place to seek medical care. These practices said that, after joining PCF, they spent more time with patients to educate them about their health conditions, when to use the ED, and how to get in touch with the practice when they had medical concerns. Practices reported that this education helped patients better understand their medical recommendations and where to go when they needed care. Although educating patients was not new to any of these practices, a few practices said they were more intentional about reaching out to and educating patients. For example, one practice established a patient advisory group to reach out to patients experiencing challenges accessing services. A couple of practices displayed posters or distributed brochures with information about when to reach out to the primary care practice instead of going to the hospital or ED. A few practices noted that encouraging patients to reach out to the primary care practice for simple questions contributes to reduced hospitalizations. A couple of practices also used a web-based patient portal to answer questions from patients and families about their care.

Informants from several health systems said they expanded hours or provided access to urgent care services at one of their member sites and instructed patients across all locations in the system to

visit that site. For example, one system expanded weekend hours at the practice we interviewed to serve patients from multiple practices within the system. Other organizations directed patients at PCF practices to visit urgent care clinics, on-demand centers, walk-in clinics, and acute medicine clinics at non-PCF sites within the system to ensure access to primary care services in a timely manner and avoid using acute care services unnecessarily.

Many practices also said they began providing, or increased access to, telehealth appointments, often in response to the COVID-19 public health emergency, and others expressed a need for telehealth beyond the pandemic. A couple of practices noted that they used telehealth to address transportation barriers for patients who live in rural areas or for home-bound patients. Practices also said they used telehealth to address scheduling barriers by expanding access to same-day appointments, extending hours during the work week and on weekends, and connecting patients with a care manager. As an indication of telehealth’s growing importance in primary care, a couple of practices asked CMS to continue PCF coverage for telehealth after the public health emergency–related coverage ends. Practices told us practitioners use telehealth to address patients’ transportation barriers and meet patients’ needs after discharge from an acute care hospital when they are less mobile. Two practices said that telehealth reduces acute care utilization because patients used telehealth to address health concerns before seeking care in an ED or inpatient setting. They also explained that telehealth expanded access to follow-up appointments for acute issues, which helped to decrease acute care utilization as well.



“A lot of times patients are afraid to go to the hospital or [ED] ... but if they can do a televisit, then we can offset the need. And televisits are a lot easier to squeeze in... So, I'd say televisits have been our best friend for decreasing hospitalization.”

Medical lead

In addition, a couple of practices said they established new partnerships with other organizations to provide urgent care and home-based care to patients who face transportation barriers and to provide care on weekends. Two practices partnered with a nationwide home-based urgent care clinic that conducts home visits and provides advanced care as an ED substitute. One practice created brochures informing patients that they can use these services, which include home visits, IV fluids, and on-site labs, after self-referring or receiving referrals from the ED or the practice itself. The other practice refers patients who need weekend care to this home-based urgent care clinic when the practice is closed. Other examples of new strategies include hiring staff, extending hours, and offering existing services to more patients. One practice hired a nurse practitioner to ensure access to same-day appointments, and two others extended hours in the workweek and on weekends to improve access to primary care visits. One practice said that PCF allowed it to offer extended hours and other access-enhancing strategies to the Medicare FFS population.

b. Continuity of care

Continuity of care did not emerge as a major theme in the virtual site visits. The few times practices mentioned continuity of care, it was as a supporting activity for other transformations, such as care management or access strategies, which they viewed as more central. For example, one health care system administrator told us they reserve same-day appointment slots in part to ensure practitioners can see patients in their panels and thereby maximize relational continuity. Although a few practices said that familiarity with patients’ conditions and social



“I know my patients better than I knew them last year... I have prevented admissions this year by just doing that.”

Medical lead

needs and strong patient–practitioner relationships helped reduce acute care utilization, they did not identify any strategies implemented specifically to ensure continuity of care for their patients.

3. Comprehensiveness and coordination

Comprehensiveness and coordination of care increase the scope of services delivered to patients within a primary care setting and facilitate medical and health-related social services for patients that occur outside the practice. Strategies to expand services and improve care coordination—such as behavioral health integration and addressing health-related social needs—are expected to increase medication and treatment plan adherence and improved management of mental and physical health conditions, which aims to lower Medicare expenditures and reduce acute care utilization. Practices in risk groups 1 and 2 reported enhancing their existing strategies to integrate behavioral health and address patients’ health-related social needs. Although coordination with specialists falls within this function, only a few practices mentioned this strategy specifically—usually in the context of using e-consults to facilitate consultations with specialists or improving information exchange with specialists to reduce service duplication—and not as a strategy to reduce hospitalizations.

a. Integration of behavioral health in primary care settings

Many of the risk group 1 and 2 practices had integrated behavioral health into primary care services before joining the PCF model, several of which also said they changed or added new behavioral health strategies during the first year of the model. Overall, practices’ existing and new behavioral health strategies addressed barriers related to accessing behavioral health care, including hiring behavioral health practitioners and referring patients to services in the community.

Before joining PCF, several practices had brought behavioral health practitioners (such as social workers or community health workers) in house, with various strategies for deployment. For example, one system screened patients and, if needed, connected them with staff such as clinical social workers or community health workers employed by the system to address behavioral health concerns. Another practice embedded social workers in care teams. One health system said it managed behavioral health practitioners centrally but distributed and embedded them across various practice sites. Patients at practices that did not have their own behavioral health practitioner could access one embedded in an affiliated practice via telephone. Another health system said it leveraged its behavioral health practitioners to deliver short-term care by (1) giving patients a one-time appointment, which it called a curbside consult, focused on medication adherence, medication starts, and

Hypothesized comprehensiveness and coordination pathways

1. **Integrate behavioral health.** Practices screen patients for behavioral health conditions and improve access to behavioral health care by implementing team-based care and coordinating with behavioral health specialists. This is intended to increase behavioral health medication adherence and better manage behavioral health conditions, lowering Medicare expenditures and acute care utilization for behavioral health–related and other chronic conditions.
 2. **Address health-related social needs.** Practices identify patients’ social needs, such as food security, housing, and transportation, and connect patients with services to address those social needs. Addressing social needs is expected to better manage health conditions and reduce reliance on acute care services and ED use, leading to lower Medicare expenditures.
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brief therapies and (2) connecting them with the system’s bridging clinic for short-term care before identifying a more permanent practitioner in the community.

A handful of practices that described making changes or adding behavioral health integration strategies after joining PCF often built on existing strategies. For example, practices that already had in-house behavioral health practitioners reported hiring additional staff, including behavioral health practitioners, to support care delivery. One of these practices hired care managers and outreach workers, freeing up time for existing social workers to focus on providing behavioral health care. Another practice established a collaborative agreement with another organization to bring a behavioral health practitioner or social worker into the practice once a week. A few practices shared that they planned to hire additional behavioral health practitioners, including social workers, to assist with medication adherence and compliance related to emotional and behavioral health. Two practices reported creating standardized referral systems by integrating behavioral health referrals into the care management process or joining an app-based referral platform.

b. Addressing health-related social needs

Most practices reported having strategies in place or implementing new strategies to address health-related social needs, and many described these strategies as being part of enhanced care management. These findings reflect responses to questions about changes practices made under PCF in caring for patients with health-related social needs. Although a few practices said their patient population was largely affluent and did not face many social barriers to care, most identified specific barriers that some of their patients faced, including access to transportation to office visits, financial barriers to purchasing medications, and food and housing insecurity.



“...and I think we underestimate how much behavioral health issues contribute to these ED visits and hospitalizations... [For example,] people...don’t take their heart failure medication...because of depression. And then they end up in heart failure and then they’re hospitalized. So, I think those kinds of patient support services are really, really important.”

Medical lead

Before joining PCF, many practices said they were already screening patients for health-related social needs. Screening efforts focused on specific patient populations, including new patients, patients enrolled in care management programs, and Medicare beneficiaries receiving annual wellness exams. Examples of screening processes included using standardized screening tools and identifying patients’ social needs through physician and staff conversations with patients.

In addition, before joining PCF, most practices reported using existing referral processes to connect patients who had health-related social needs with community-based support services. Practices shared information with patients about available local resources and made referrals to community-based services, such as transport vans to and from office visits, Meals on Wheels, medication coupons, and food and clothing pantries. To mitigate language barriers that some patients face, several practices arranged to have a translator available, and others said they employed staff who speak multiple languages.

Several practices also said they enhanced their screening and referral efforts, including expanding screening to all patients and tracking referrals to assess whether patients’ health-related social needs were being met. Several practices hired new staff, such as social workers, to increase their capacity to screen patients and make referrals, and several practices expanded screening efforts to their entire patient population. In addition, several practices adopted new health IT tools to make and track

referrals for social services to understand whether patients actually received needed supports. For example, one practice integrated a referral software platform into its electronic health record to screen and refer patients to services. Another practice implemented a referral management platform that supports communication between providers and community organizations and tracks patient referral interactions and outcomes. Notably, all but one of the practices in risk groups 1 and 2 that enhanced their strategies to address health-related social needs were affiliated with a hospital-based health care system

Several practices said that addressing patients' health-related social needs reduced acute hospital services use, particularly ED visits. For example, practices explained that helping patients access more affordable medications by offering free drug samples (or helping patients identify and use coupons, promotions, and lower-cost alternatives) improves medication adherence and reduces hospital visits for acute exacerbations of chronic conditions. Several practices also noted that transporting patients to office visits and connecting them with housing assistance help patients to focus on managing their health conditions more effectively, which avoids unnecessary ED utilization.



"[The social worker] has been wonderful to help with patients and families, just working through social situations and cost situations... you know, those things take quite a bit of time, too. Being able to offload those to her, where that's her expertise and she can help, opens me up more to make contact with patients who need more nursing education for their congestive heart failure and to help decrease their readmissions."

Practice nurse

4. Factors associated with successful implementation of advanced primary care

When discussing all care delivery strategies, practices identified four key factors associated with successful implementation of the model: staffing, availability of community-based practitioners, health IT tools and interoperability, and system affiliation. They described these factors as facilitators when they had access to them and barriers when they did not. Several practices also explained that patients' care preferences often mitigated the ability of transformational changes to improve care.

First, many practices described staffing as an important factor for implementation success. Practices increased access to primary care services, care coordination, and behavioral health services by hiring new staff. Specifically, a couple of practices said that PCF funding allowed them to hire new care managers and staff to address patients' behavioral health and social needs; other practices said that their affiliation with a larger health care system provided funding to hire additional staff. Conversely, practices called out limited staff time as a barrier to increased access to primary care services and struggled to hire new staff—including care managers, behavioral health specialists, and social workers—to support care delivery changes. Several noted that the COVID-19 pandemic exacerbated their challenges hiring qualified staff and reduced the capacity of other facilities, such as post-acute care facilities, to which practitioners would usually refer patients as part of the practice's episodic care management strategies. Some practices also reported a lack of sufficient funds to hire staff, despite PCF funding. One practice said that if the payments it receives from PCF are greater than what it would have received under traditional FFS, it plans to hire a social worker or another nurse to support its care delivery transformation plan.

Second, practices also said availability of community-based behavioral health providers and social services were important determinants of implementation success. Most practices focused on referring patients to community-based behavioral health organizations and social service agencies to address patients' related needs, with the focus being to reduce acute utilization. A few practices, however, said their communities lacked behavioral health clinicians and services for referral. Even when practitioners referred patients to community-based organizations, two practices noted patients can struggle to find openings at facilities. For example, two practices reported that established collaborations with nearby medical and nursing schools allowed them to offer additional follow-up and patient education on where to seek care and supporting access that helped reduce hospitalizations. Physicians from one practice trained medical students to do home visits and assess people with multiple hospitalizations and minimal caregiver support. A system-affiliated practice noted the health system had a health hub in a community in which residents have low economic resources, low health literacy, and high rates of readmissions. The practice referred patients to a community wellness program sponsored by a nursing school located at the health hub where patients can receive education for managing diabetes and hypertension and care coordination assistance

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"We do have a tool called Aunt Bertha, which is integrated into the medical record, that all of our practices use. It's a really rich collection of community resources that all of our practices can access... that's anything from food banks to diaper banks to transportation to housing to elder care service. There's just a whole lot of stuff in there that we use across all of our sites."

System lead

Third, practices also reported that health IT tools could facilitate care delivery or place undue burden on staff's time and resources. Practices described using electronic health record risk stratification tools, state health information exchanges, and special apps that provide discharge information or connect patients with behavioral health practitioners. Other practices said that the electronic health record systems they share with partner organizations have interoperability with their partners for home-based urgent care services; the interoperability allows them to identify patients who need episodic and longitudinal care management and connects patients with community-based services. In contrast, difficult-to-use health IT tools and those that lacked interoperability contributed to inefficient processes. For example, one practice used an electronic health record system that did not connect with its affiliated hospitals, requiring administrative staff to log in separately to each hospital's portal to access discharge reports. Some practitioners also doubted the ability of their electronic health record's risk stratification tools to accurately identify high-risk patients.

Fourth, some organizations said their affiliation with a larger health care system provided resources to expand their electronic health record capabilities and to access funding to hire additional staff in support of episodic care management. Although independent practices did not mention lack of resources as a barrier, system-affiliated practices appeared to recognize that they had access to resources that they would be unable to garner on their own. Some of the respondents, however, said that highly centralized decisions in the corporate office about how to staff and bring about interventions at the local level introduced implementation challenges. For example, a couple of practices mentioned that staff at the practice level had a better understanding of their practitioners' schedules as well as their patients' risk levels and social backgrounds compared with system-level staff, so the practice-level staff would be in a better position to manage scheduling for longitudinal care management visits or for episodic care management follow-ups.

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"...They're proud people. And they come to me for medical care. They want me to talk about their shortness of breath or cardiac health or memory loss. They don't want my attention to be diluted by anything else."

Medical lead

Finally, a few practices noted that variation in patients' preferences and adherence to staff recommendations for social and acute care services created additional challenges. Some practices noted that their patients appreciated being able to form relationships with care managers, whereas other practices noted that their patients were hesitant to discuss their care needs with a new team member and preferred to speak to their doctor. One practice noted that some patients were accustomed to visiting hospital-based clinics for behavioral health concerns instead of primary care practitioners, particularly for substance use disorder treatment. A couple of practices also pointed out that some patients prefer not to answer questions or discuss their social needs and might struggle to follow instructions related to medication management.

C. Findings from practice-level analysis specific to risk groups 3 and 4

The model's design requires that practices in risk groups 3 and 4 have an average HCC score among attributed beneficiaries at least 50 percent higher than the national FFS average, meaning that their predicted expenditures will be at least 50 percent higher than the average Medicare FFS beneficiary. The average risk score for risk group 3 and 4 practices was 1.7 and 2.1, respectively, compared with 1.0 and 1.3 for risk group 1 and 2 practices (see Appendix B). Also, as shown in Chapter 2, beneficiaries attributed to risk group 3 and 4 practices had more hospitalizations than beneficiaries attributed to risk group 1 and 2 practices in the year prior to the launch of the PCF model. As a result, beneficiaries cared for by practices in risk groups 3 and 4 have substantially different medical needs than most beneficiaries in practices in risk groups 1 and 2. Most practices in risk groups 3 and 4 exclusively serve patients who are frail and have complex health and health-related social service needs (see Exhibits 2.2 and 6.1); many of these patients are also homebound.

In this section, we present the findings from interviews with 9 practices assigned to risk groups 3 or 4, representing nearly one-third of the 31 practices in risk groups 3 and 4 that participated in PCF in 2021. Because of their history serving frail patients with complex medical and nonmedical needs, practices in risk groups 3 and 4 joined PCF with significant experience providing the advanced primary care required by CMS as part of the participation agreement (see summary in Exhibit 5.2). Nearly all the 9 practices in this sample operated home visit programs and were affiliated with large, well-resourced health systems, some of which also had practices in risk groups 1 and 2. In addition, nearly all these practices had experience with primary care transformation, such as patient-centered medical home, or in value-based payment models, such as Independence at Home.

1. Approach to caring for patients with complex conditions

The practices in risk groups 3 and 4 we interviewed said they were already providing high-touch, individualized, and comprehensive primary care services to their patients before joining PCF. To meet the medical and nonmedical needs of their more seriously ill patients, risk group 3 and 4 practices provide distinct primary care services that commonly involve in-person home visits, follow-up contact between visits, and interdisciplinary care delivery teams. In the context of practices in risk groups 3 and 4, these characteristics include:

- **High-touch care.** High-touch care refers to frequent and timely care delivery and communication between the care team and the patient based on the patient's needs. For example, multiple care team members (including practitioners, nurses, and social workers) might call or conduct home visits with patients monthly or more frequently, especially after an acute episode or a care transition. In addition,

a care team member is typically available 24 hours a day and 7 days a week to answer calls from patients.

- **Individualized care.** Individualized care refers to providing timely and tailored care that aligns with the individual patient’s goals of care. This requires conducting timely and frequent conversations with patients about their health and health-related social needs and their goals of care.
- **Comprehensive care.** Comprehensive care refers to a holistic and integrated approach to meeting patients’ needs and includes considering the patient’s need for social resources, behavioral health services, medication management, and palliative care programs. The interdisciplinary teams working in the practices in risk groups 3 and 4 commonly included geriatric practitioners, social workers, and nurse care managers.



“It is common practice for our providers to visit patients more frequently, as our patient population usually has quite a few comorbidities, and so our focus is on higher frequency, lower intensity care. This allows our providers the opportunity to stay ahead of potentially avoidable hospitalizations.”

Practice CEO

2. Key activities specific to risk groups 3 and 4

All of the practices in risk groups 3 and 4 we interviewed reported implementing 5 of the 10 strategies associated with advanced primary care during the first year of the model (Exhibit 6.3). Many of the services that practices in risk groups 3 and 4 reported providing were similar to those adopted by practices in risk groups 1 and 2 that we described earlier in this chapter. (Although most practices in risk groups 3 and 4 did not use the terms in Exhibit 6.3 when describing their work, we use these terms to link their efforts to the work of practices in risk groups 1 and 2 and to CMS’ driver diagram.) Yet unlike risk group 1 and 2 practices that delivered these strategies to a subset of their complex or high-risk patients, risk group 3 and 4 practices provided high-touch, individualized, and comprehensive primary care services to all their patients because they all have complex needs, are at high risk for hospitalization, or both. Most of the practices in risk groups 3 and 4 also said they provided routine care through home visits, which practices in risk groups 1 and 2 did not mention.

Exhibit 6.3. Alignment of the care approach of practices in risk groups 3 and 4 with PCF functions and strategies

PCF care delivery functions	Strategy	Number of practices whose care approach aligns with strategy (N = 9)
Care management	Longitudinal care management	9
	Episodic care management	9
	Advance care planning	9
	Data use	9
Access and continuity	Access	9
	Continuity	6
Comprehensiveness and coordination	Behavioral health	6
	Specialty care	1
	Health-related social needs	7

Notes: Two practices also reported implementing medication management strategies to help reduce acute hospital service use and total cost of care. Although most practices in risk groups 3 and 4 did not use these strategies to describe their work, we use these terms to link their care approach to the strategies implemented by practices in risk groups 1 and 2.

PCF = Primary Care First.

In this section, we focus on three strategies that practices in risk groups 3 and 4 said they tailored to meet the particular needs of their patient population: longitudinal care management, advance care planning, and data use. We do not describe the changes that practices in risk groups 3 and 4 made related to the other care delivery functions because those changes are similar to the changes made by practices in risk groups 1 and 2, which we discussed earlier in this chapter.

a. Longitudinal care management

During the first year of the PCF model, many practices reported strengthening longitudinal care management in three ways. First, several practices reporting hiring additional staff to expand their capacity to provide longitudinal care management services to all their patients. For example, several practices added a full-time nurse practitioner and one practice added a full-time nurse care manager to improve patients’ access to timely follow-up care. Second, several practices reported increasing access to social services related to care management (for example, by hiring a social worker to join their house-call program). Third, a few practices reported establishing relationships with external partners to strengthen their ability to meet their patients’ long-term needs for durable medical equipment, palliative and hospice care, occupational and physical therapy, and behavioral health. Examples of external supports for longitudinal care management include case managers for Medicaid long-term services and supports, Area Agencies on Aging, local community-based organizations, and foundations.

b. Advance care planning

Although all practices in risk groups 3 and 4 said they had been doing advance care planning with their patients before joining PCF, several detailed how they improved their advance care planning processes during the first year of PCF. Several practices reported reviewing advance care plans with their patients more frequently than before. A few practices also said they improved the documentation of advance care plans in their electronic health record systems. This increased the visibility and shareability

of advance care plans inside and outside their organizations and provided more efficient ways for practice staff to track whether advance care plans were complete and up to date. Another practice focused on training its care teams to effectively discuss with patients their advance care plans and standardizing its advance care planning process.

c. *Data use*

Because of the higher intensity needs of their patient panels, practices in risk groups 3 and 4 typically relied on data and data analysis, including predictive analytics, to inform the tailored and intensive care services they provide to their patients.

Practices reported using both electronic health record and health information exchange data, but not claims. For example, practices reported that electronic health record data enabled them to identify patients who might benefit from

additional conversations with the care team, such as those with the highest risk of using acute care services or who are nearing the end of life. A few practices said that, after joining PCF, they leveraged available health system resources such as dashboards and customized reports available through electronic health record functionalities. These dashboards and customized reports helped to facilitate a population-based health approach to care. Most in risk group 3 and 4 practices said that they sought to reduce total per capita costs by focusing on acute care utilization through potentially avoidable acute care hospitalization and ED visits.



“Being able to engage patients in advance care planning by the second visit is very important since the majority of our patient population are within the last two to four years of life.”

Medical lead

3. Factors associated with successful implementation among practices in risk groups 3 and 4

Risk group 3 and 4 practices highlighted three facilitators of implementation success. Practices in risk groups 3 and 4 said they benefitted from their health systems’ *previous experience* operating under value-based payment models (such as the Medicare Shared Savings Program or Independence at Home) and delivering care to complex and frail patients. Practices also benefitted from *access to resources* supplemental to the longitudinal care management they provided to all patients, such as social workers or data analytic capabilities that were available to them through their health systems. At the same time, the inability to secure enough of these extra resources to deliver comprehensive care to their population of complex patients was seen as a key barrier. Existing relationships with other programs and community resources—such as Medicaid long-term services and supports, case managers, Area Agencies on Aging, local community-based organizations, and foundations—also facilitated practices’ abilities to meet patients’ needs.

D. Effects of the PCF model on practitioners’ workloads and administrative burden

Half of the practices we interviewed reported that the PCF model had no effect on practitioners’ workloads or administrative burden; the other half had mixed views. CMS originally hypothesized that PCF’s flat visit fee payments and simplified billing requirements would reduce administrative burden and allow practitioners to spend more time with their patients (Center for Medicare & Medicaid Innovation 2019a). Our interviews offered mixed evidence for this effect at best. A few of the practices we interviewed said that increased care coordination and care management services under PCF helped to reduce practitioner workloads by facilitating information exchange between practices and hospitals, helping to order tests and medications, connecting patients with home health and specialty care services,

and improving the completeness and accuracy of information in patients' charts. They explained that these improvements enabled clinicians to spend more time with and provide better care to their patients.

In contrast, several other practices reported that participating in PCF increased practitioners' workloads because of the pressure to improve patient attribution by accurately capturing all diagnoses to include on claims and encouraging patients to receive Annual Wellness Visits. Several practitioners also said that an increase in the volume of emails and meetings associated with their PCF intervention led to higher administrative burden. A couple of practitioners said they were asked to participate in these extra PCF-related activities *and* see more patients during the day without additional resources.

However, half of the 28 practices we interviewed (across all risk groups) said PCF had no effect on practitioners' workloads and administrative burden, either favorably or unfavorably, during the first year of model implementation. Three factors might explain the limited effects of the model on practitioner burden. First, many of these practices were part of a larger health system, and respondents from several of these health systems told us they shielded their practitioners from the intervention to minimize the practitioner burden, while enabling them to focus on patient care. Second, consistent with findings presented earlier in this report, most practices said they were doing the same work they had been doing before joining PCF and were not asking their practitioners to do anything new. Third, it is also possible that practices (or systems) implemented changes to practice workflows late in the first year and the effects of these changes were not yet visible or had not yet affected practitioners by the time we interviewed them.



"People within the practices haven't had specific feedback because they don't necessarily know that the model has them doing anything differently...it's almost non-applicable [to them] because of how we've approached the model from a health system perspective."

System consultant

E. Health system involvement in PCF

CMS designed PCF as a practice-level intervention that incentivizes practices to implement strategies that reduce hospitalizations or total cost of care. The theory of action is that a practice-level intervention will lead to a redesign of practices' workflows and behavior changes by practitioners and their staff that, in turn, lead to improvements in care and health outcomes for all their patients. Similar to previous CMS primary care models, the PCF model defines a practice as a brick-and-mortar physical location; if a practice offers patient care services at more than one physical location, each location is considered a separate PCF practice.⁹ Similarly, practices that are members of the same health system, ACO, or other group are considered separate PCF practices if they are in different locations.

1. Rationale for system-level analysis

Early in this evaluation, evidence began to emerge that challenged the extent to which PCF-funded interventions are being designed and implemented at the practice level. First, as we described in Chapter 2, most Cohort 1 PCF practices (85 percent) are owned and operated by one of 106 unique health systems or larger organizations. Second, although CPC+ practices could not participate in PCF Cohort 1, early interviews with a sample of practices indicated that at least some practices in Cohort 1 were part of a larger health system that includes CPC+ practices and that those PCF practices were able to learn from

⁹ An exception to defining practices as separate brick-and-mortar locations is when all PCF practitioners in a practice are providing care at more than one location: those locations may be considered one PCF practice with satellite locations.

the health system's experience with practices in CPC+ strategies. Third, the open-ended portal questions contained duplicative responses (see Appendix A.2, Section B), suggesting that, in some instances, people in a health system reported data through the PCF Data Portal on behalf of multiple practices. For example, open-ended responses about strategies to reduce hospitalizations from seven practices with the same larger organization name were identical: *"Improve care management capabilities and offer remote patient monitoring."*

For these reasons, during our virtual site visits we explored how system-affiliated practices (that is, affiliated with a hospital or medical group) implemented the model and specifically whether implementation strategies occurred at the practice level, as CMS intended in the model design, or centrally at the system level. To assess how health systems implement interventions for PCF across different practices within the same health system, we also interviewed practice and system staff from 9 affiliated practices that were not part of our primary interview sample but were affiliated with the same health systems as 6 of the primary practices in our interview sample. These additional interviews augmented the primary practice interviews with the 12 sampled system-affiliated primary practices in risk groups 1 and 2 to yield a total of 15 affiliated practice interviews (across 6 affiliated practices) and 18 system interviews (across 12 systems). We focused our system-level assessment on practices in risk groups 1 and 2 because few systems had more than one PCF practice in risk groups 3 and 4.

2. Implications of system affiliation

Practices belonging to health systems rarely decided on their own to participate in PCF; instead, health system leaders made this decision of their behalf. Most of the system-affiliated practices in risk groups 1 and 2 said their system leaders wholly or partially determined the type of strategies used in PCF. For example, the systems often manage the administrative tasks associated with PCF, such as performing reporting requirements, coordinating billing and payment, and analyzing data with centralized staff (see Chapter 3). In some cases, system-level data analytics teams shared summary data or dashboards with practice-level staff, but, in other cases, the system administrators did not share PCF data with practice staff. Some systems provided centrally located staff, such as care managers, to work with system-affiliated practices to implement PCF strategies, and other systems provided support for staff that were embedded in the practice. Only a few said that the practice, not the system, led the approach to participating in PCF, all of which were in practices in risk groups 3 or 4. In one system-affiliated practice in which interview respondents reported that the practice was leading PCF implementation, the respondents also noted that the system had no other practices in PCF, so the practice was able to have a direct say in how care was provided under the model. For example, in this practice, practice staff used their knowledge of their patients to determine that focusing on skilled nursing facility discharges and performing Annual Wellness Visits to optimize patient attribution were important strategies for PCF.

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"There's a central leadership group for coordinating [PCF]. And then there are work streams within that, and there are regular updates within the clinical operations for each clinic. And then the primary care clinic manager meetings do give [a] Primary Care First update. So I think it's a centralized effort, and then the information gets pushed out to each clinic."

Physician Lead

Most system respondents said they implemented their PCF strategies similarly across all affiliated practices in PCF and, in some cases, to their nonparticipating affiliated practices as well. A few system administrators, however, said that the system used different approaches to care delivery across their system-affiliated participating PCF practices. A few systems noted a regional or sub-regional rollout

strategy, including systems that spanned multiple states or PCF regions. Similarly, a few systems described implementing strategies at pilot practices and then expanding care delivery strategies to other PCF practice sites. For example, one system implemented a care management strategy using care managers hired by the system at one PCF practice, with plans to expand the approach to other system-affiliated PCF practices. Some respondents described learning from system-affiliated practice sites that were not in PCF. In one example, a system respondent described piloting the use of an embedded social worker to address behavioral health needs. Although the pilot effort initially occurred in a non-PCF practice, the system plans to hire and embed additional social workers across its other practices, including PCF practices. In other examples, systems with practices in both CPC+ and PCF said that experience with CPC+ practices helped inform care delivery for PCF practices.

Staff at different system-affiliated practices had varying degrees of engagement and awareness of the model. Practice staff at some system-affiliated practices said they were familiar with the model and engaged in strategies to change care as part of their PCF participation, and practice staff at other system-affiliated PCF practices were not. As noted earlier, several health system respondents reported that they shielded their practitioners from financial risk to minimize the practitioner burden, potentially contributing to lack of familiarity or awareness of the model.

These findings suggest corporate health systems play a meaningful role in deciding whether and how practices affiliated with those systems participate in PCF. System involvement in practices' PCF participation might also have implications for understanding model impacts (for example, spillover effects among nonparticipating affiliated practices), an issue we will explore in future modeling work. Although the model is designed as a practice-level intervention, practices affiliated with the same system do not operate independently. The selection of our comparison group will account for system ownership, and our future modeling work will examine differences between system-owned and independent practices.



“We have basically just instituted the fact that any change made at the practice level is made across all practices, because we don't want to obviously be treating certain populations or certain practices differently. We want to make sure that you can consistently receive any care that we would provide, no matter what population you're a part of or what practice you might go to.”

PCF Program Manager

F. Looking forward

The evaluation team will monitor participation and implementation experience among PCF participating practices in 2022, the second year of participation for Cohort 1 practices and the first year for Cohort 2 practices. Specifically, we will closely watch how Cohort 1 practices respond as PBAs—especially any negative adjustments—and leakage adjustments begin to take effect. At the same time, the number of practices participating in PCF increased greatly in January 2022 with the addition of more than 2,200 Cohort 2 practices. Many of these practices participated in the CPC+ model and will now have the opportunity to test whether the strategies they developed and used under CPC+ will be effective in reducing hospitalizations and lowering costs within the PCF model. For some CPC+ practices that are familiar with requirements to complete financial statements and demonstrating completion of care plans, it may be an adjustment to adapt to the minimal requirements that are a hallmark of the PCF model. For practices that were not in CPC+ but joined Cohort 2, an important question will be whether these practices systematically differ from Cohort 1 practices. In addition, we will explore the role of health systems in designing and implementing PCF-funded interventions across member practices, including the extent to which they engage affiliated practitioners in transformational activities and risk. We will present our findings on these and other topics, as discussed in Chapter 7, in the second annual report in early 2024.

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7. Summary of year 1 and next steps for the evaluation



Key takeaways

- **As CMS intended, at baseline practices had advanced capabilities related to the comprehensive primary care functions.** The 846 practices that joined Cohort 1 represented more than 4,000 practitioners and 500,000 Medicare beneficiaries. These practices reported at baseline capabilities in most of the primary care functions, especially access and continuity, patient and caregiver engagement, and care management.
- **More than 80 percent of practices in Cohort 1 were affiliated with health systems or medical groups.** Although PCF was designed as a practice-level model, health care systems' influences on participating practices included encouraging their affiliated eligible practices to enroll, providing staffing and health IT support for care delivery changes, developing centralized strategies to improve outcomes, and shielding practices from downside risk.
- **Multipayer alignment got off to a slow start in Year 1.** Among the 13 payers that joined the model in Cohort 1, less than half offered an alternative to FFS with performance-based payments. In 2022, 10 new payers signed agreements to partner in PCF.
- **In 2022, 2,228 practices enrolled in Cohort 2, representing a more than 200-percent increase in practice participation.** This robust participation in the model has increased its reach as well as provided an opportunity for additional impacts on outcomes and expanded multipayer collaboration.
- Care delivery changes in Year 1 were largely enhancements of existing practice activities rather than implementation of new strategies. Practices must change care delivery if we expect to see changes in outcomes, and many practices took advantage of the flexibility the model offered to select strategies aimed to improve outcomes.
- **Cohort 1 practices were confident that they could improve outcomes PCF targeted.** Based on a preliminary review of initial Quality Gateway measure data, most practices met benchmarks for quality measures related to diabetes control, high blood pressure control, and colorectal cancer screening. Further, using care management strategies practices aimed to reduce readmissions through improved post-discharge follow-up and fewer preventable hospitalizations among patient subgroups with complex conditions.
- **Although CMS intended for PCF payments to be roughly cost neutral for risk group 1 and higher than the Physician Fee Schedule for risk groups 2 through 4, our analyses show that, before applying the PCF PBAs, leakage-adjusted primary care payments to PCF practices are, on average, higher than what the practices would have received under the Medicare physician fee schedule, ranging from 17 percent higher for risk group 1 to 105 percent higher for risk group 4.** Miscalibration of the PCF model payments relative to the physician fee schedule of the magnitude observed in our analysis suggests that for PCF to achieve budget neutrality, practices would have to achieve reductions in total Medicare expenditures greater than any prior CMS model test of primary care transformation.

A. Focus of this chapter

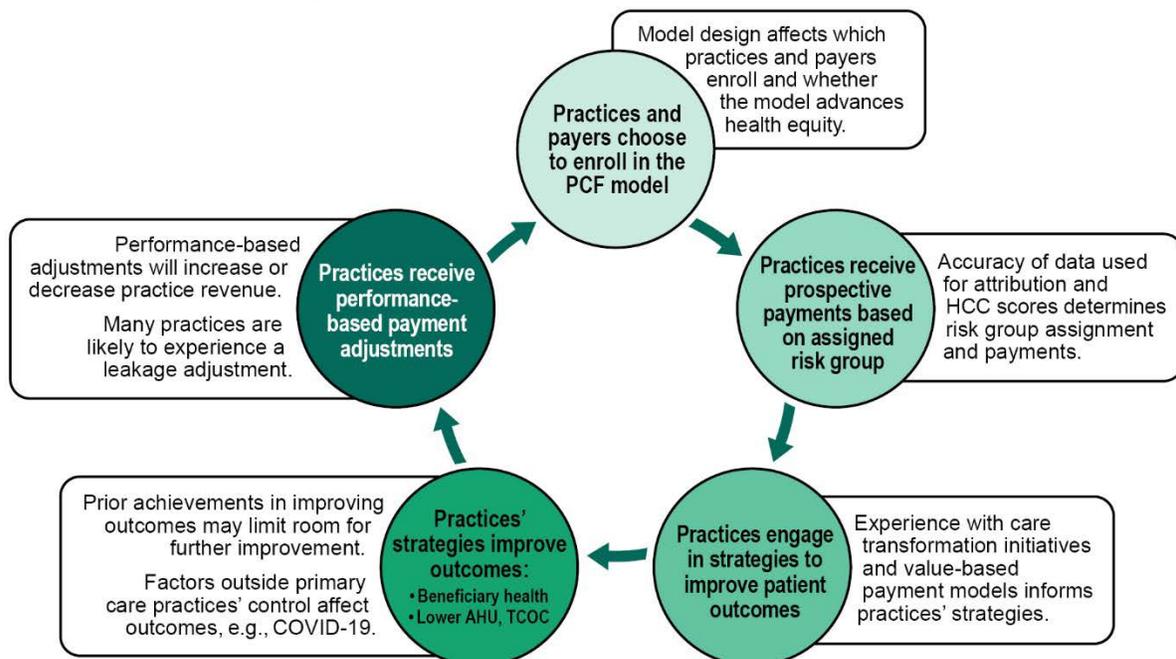
This chapter summarizes evaluation findings from the first year of PCF. We describe how features of the PCF model and factors outside the model influenced the types of practices and payers enrolled in the model and how they responded to PCF's incentives. We conclude the chapter with a look at the next steps for the evaluation.

B. Year 1 evaluation findings

CMS launched the PCF model as part of its efforts to accelerate innovation in primary care delivery and transition practices toward a value-based payment structure for Medicare beneficiaries. Building on the CPC+ model that included prospective payments to practices to transform primary care, PCF offers more flexibility and opportunity for greater rewards to advanced primary care practices prepared to assume more accountability for improving outcomes. PCF practices can use

prospective PBPs to pursue the strategies they choose. Practices also take on upside and downside financial risk (performance-based payment adjustments) based on meeting quality-of-care performance metrics and improving beneficiaries’ outcomes. Both the features of the PCF model design and factors outside the model influenced which practices joined the model and how they responded to PCF’s incentives in Year 1 (Exhibit 7.1). Examples of external factors include variation in practices’ resources, experience with alternative payment models, and previous care transformation activities. Practices also entered PCF in a health care environment still adapting to effects of the COVID-19 pandemic on staffing and patient preferences for care and outcomes. Exhibit 7.1 summarizes Year 1 evaluation findings related to key model design features and contextual factors affecting enrollment and participants’ experiences.

Exhibit 7.1. PCF model design and contextual factors that influenced participation and outcomes



AHU = acute hospital utilization; HCC = Hierarchical Condition Category; TCOC = total cost of care.

1. Practices and payers that choose to enroll in the PCF model

As CMS intended, practices at baseline had advanced capabilities related to the comprehensive primary care functions. The 846 practices that joined Cohort 1 represented more than 4,000 practitioners and 500,000 Medicare beneficiaries. At baseline, these practices reported capabilities in most of the primary care functions, especially access and continuity, patient and caregiver engagement, and care management.

Not all practices that were accepted into PCF ultimately enrolled in the model. Some practices declined to participate after learning their assigned risk group and the associated prospective payments. Most of Cohort 1 practices were assigned to risk group 1, which receives the lowest monthly PBP amounts. The desire to join the ACO REACH model was the main reason eligible practices decided not to enroll or withdrew from the model.

More than 80 percent of practices in Cohort 1 were affiliated with health systems or medical groups. Although PCF was designed as a practice-level model, health care systems' influences on participating practices included encouraging their affiliated eligible practices to enroll, providing staffing and health IT support for care delivery changes, developing centralized strategies to improve outcomes, and shielding practices from downside risk. In contrast, practices not affiliated with systems might lack centralized support and have direct exposure to financial risk. The evaluation will seek to gain a deeper understanding of practitioners' awareness of and involvement in PCF activities and the role that health care systems and practice leaders play in engaging practitioners in specific elements of the model.

Enhancing health equity was not an initial goal of the model, but the evaluation team is working with CMS to identify ways to assess PCF effects on health equity because health equity has emerged as a priority for CMS. Although participating practices serve diverse geographic locations, including rural and urban settings, the beneficiary population attributed to Cohort 1 practices is largely White and affluent. In addition, Federally Qualified Health Centers and Rural Health Clinics are excluded from participating in PCF. Low representation of beneficiaries from historically underserved racial and ethnic subgroups and under-resourced communities might limit our ability to detect disparities within these key subgroups.

Multipayer alignment got off to a slow start in Year 1. Among the 13 payers that joined the model in Cohort 1, less than half offered an alternative to FFS with performance-based payments. A challenge facing payers is the uneven participation of practices across the 26 regions. Payer partners are primarily commercial insurers, though a few state Medicaid agencies are partnering in PCF as well. Payers might partner in multiple regions, though their approach for implementing PCF could differ for reasons such as state regulations or market competition. In 2022, 10 new payers signed agreements to partner in PCF.

In 2022, 2,228 practices enrolled in Cohort 2, representing a more than 200-percent increase in practice participation. Participation in PCF increased after CPC+ ended and these practices became eligible to join PCF. At the start of 2022, a total of 2,952 practices were participating in the PCF model, which is similar to the number of participants in CPC+ at its height though fewer than CMS' expectations for number of participants in the model (Centers for Medicare & Medicaid Services 2019). This robust participation in the model has increased its reach as well as provided an opportunity for additional impacts on outcomes.

2. Practices receive prospective payments based on assigned risk group

PCF payments contributed to practices' revenue stream and helped practices develop operational models to maintain financial stability as they took on more risk. Many practices had a general sense that PCF payments were comparable or slightly better than the amount they would have received under the Medicare physician fee schedule, and many used PCF prospective payments to invest in new staff to enhance care delivery. Investments in types of staff varied by practice. Examples of new staff included care managers, behavioral health specialists, and social workers. Other practices used PCF payments to help pay normal operating expenses or model-related expenses, including paying a vendor to administer the Patient Experience of Care Survey. Some practices, particularly practices not affiliated with a health system, said they were delaying investments until they knew what their total PCF payments would be, after performance-based adjustments are applied, and then they would determine whether they had adequate financial support to sustain new staff. Delayed investment in advanced primary care activities could delay PCF impacts on outcomes because we expect it takes time for care transformation to translate to improved outcomes, and practices' continuation of established advanced care activities might not be sufficient to drive improvement in outcomes.

Practices engaged in efforts to increase total PCF PBP amounts. One effort was to increase the number of Medicare beneficiaries attributed to their practice, primarily by increasing the number of patients who have Annual Wellness Visits. Another effort was to improve the accuracy of ICD-10 coding on claims used to calculate HCC risk scores in hopes of qualifying for a higher risk group assignment and thus higher PBPs.

3. Practices engage in strategies to improve beneficiaries' outcomes

Care delivery changes in Year 1 were largely enhancements of existing practice activities rather than implementation of new strategies. Practices must change care delivery if we expect to see changes in outcomes, and many practices took advantage of the flexibility the model offered to select strategies aimed to improve outcomes. Top areas of focus included expanded care management services to meet the needs of beneficiaries identified as being at elevated risk for an acute hospitalization and enhanced access to care, such as through telehealth and expanded hours. Nearly all practices reported efforts to address beneficiaries' health-related social needs, but they did not identify this as a key strategy to reduce AHU or total cost of care. Some practices did not implement changes in care specifically for PCF; rather, they saw PCF as an opportunity to adopt a new payment structure to provide additional support for their existing model of care and care transformation goals. Among practices affiliated with a larger health system or group practice, decisions about strategies to improve outcomes were often made at the corporate level. In addition, PCF strategies were often implemented similarly across all affiliated practices in PCF, and in some cases, in non-participating affiliated practices as well.

4. Practices' strategies improve outcomes

Cohort 1 practices were confident that they could improve outcomes PCF targeted. Based on preliminary review of initial Quality Gateway measure data, most practices met benchmarks for quality measures related to diabetes control, high blood pressure control, and colorectal cancer screening. Based on the primary care transformation literature and our hypothesized causal pathways, Cohort 1 practices' areas of focus provide some early insight into where we might observe reductions in AHU. These include (1) reductions in readmissions resulting from improved post-discharge follow-up, (2) reductions in preventable hospitalizations among patient subgroups participating in care management programs, and (3) reductions in ED visits for ambulatory-care sensitive conditions resulting from enhanced access to care. Although practices acknowledged there is still room for improvement in outcomes, their previous achievements in reducing preventable hospital utilization could present challenges for achieving further reductions. In addition, some factors that influence outcomes are outside the control of primary care practitioners, such as the COVID-19 pandemic.

5. Practices receive performance-based payment adjustments

After the first year of PCF participation, the total primary care payment is subject to a PBA, which could increase payment by up to 50 percent or decrease it by as much as 10 percent based on performance for either acute hospitalizations (risk groups 1 and 2) or total cost of care (risk groups 3 and 4). Payment also depends on practices' performance on the Quality Gateway measures that include, for example, patients' experience of care and documentation of an advance care plan. Using Cohort 1 as an example, more than one-third of these practices earned a positive PBA in the first quarter it was applied (Q2 2022) and about one-fifth received a negative PBA. The second adjustment of concern to practices was leakage, which reduces payments to practices if their attributed beneficiaries seek primary care services outside the practice. In 2021, the median leakage rate was 31 percent. Leakage adjustments might prompt some

practices to examine more closely why some of their patients seek care from other primary care practices and to consider ways they can reduce this pattern. Other practices might choose to leave the model, particularly if leakage adjustments result in lower total Medicare payments under PCF than they anticipate receiving if they did not participate.

Although CMS intended for PCF payments to be roughly cost neutral for risk group 1 and higher than the physician fee schedule for risk groups 2 through 4, our analyses show that, before applying the PCF PBAs, leakage-adjusted primary care payments to PCF practices are, on average, higher than what the practices would have received under the Medicare physician fee schedule, ranging from 17 percent higher for risk group 1 to 105 percent higher for risk group 4. From CMS' perspective, the PCF model will be financially successful if practices reduce total Medicare expenditures relative to similar practices being reimbursed under the Medicare physician fee schedule after accounting for positive PBAs. Miscalibration of the PCF model payments relative to the physician fee schedule of the magnitude observed in our analysis suggests that, for PCF to achieve budget neutrality, practices would have to substantially reduce Medicare expenditures outside of primary care.¹⁰

C. Next steps

1. Implementation evaluation

Future data collection will help us to refine our causal pathways to reflect the specific activities that practices undertake and to describe how practices intend these activities to result in changes to short-term and long-term outcomes. For example, with flexibility in how they deliver care under PCF, many practices focused on care management in Year 1 as their major strategy for reducing acute hospitalizations. Care management is a broad term, and further data collection will enable us to more fully describe how care management is resulting in fewer hospitalizations and lower costs. Importantly, because practices are not solely focused on care management, our future work will have to consider how other strategies, such as telemedicine or behavioral health integration, independently and jointly, are likely to affect hospitalizations and costs of care. Understanding these causal pathways and the strategies practices have adopted in these pathways will have important implications as we select indicators to assess practices' progress in implementing their strategies and reducing hospitalizations or lowering costs.

We will also explore how the implementation of care delivery strategies varies by organizational type. PCF—similar to its predecessor, CPC+—is designed to be implemented at the practice site level. This brick-and-mortar definition of a participating practice means that, with few exceptions, different locations of the same health organization are each treated as a separate PCF practice. This model design is intended to spur innovation and implementation within an individual practice site, with individual practitioners feeling as though they are invested in the practice's outcomes and success. Initial data from the 2021 performance year suggests that more research is necessary to determine to what extent the strategies that practices implement for PCF take place at a centralized or system level, at a practice site level, or in some combination of the levels. Understanding how practices and practitioners are involved in

¹⁰ We project the PCF payments were \$6.82 PBPM more generous, on average, than regular FFS payments for Cohort 1 practices. For reference, CPC Classic reduced Medicare spending without model payments by \$9 PBPM across the four-year test but increased total Medicare spending with model payments by \$6 PBPM (Peikes et al. 2018). Spending in CPC+ over the first four model years increased by \$1.8 PBPM and \$0.6 PBPM without model payments in Tracks 1 and 2, respectively, and increased by \$14 PBPM and \$25 PBPM with model payments (Laird et al. 2022).

designing and implementing changes will provide further insight into how model payments might incentivize behavior change to improve outcomes.

As Cohort 2 practices join the PCF model, capturing the experiences of these practices will be important as, unlike Cohort 1 practices, many previously participated in CPC+. In particular, the experiences of the CPC+ practices will be of interest to CMS and policymakers as to whether they are able to apply the strategies and techniques they refined in CPC+ to the PCF model and achieve better outcomes. The greater number of practices in Cohort 2 also provides an opportunity to continue to explore the experiences of practices in risk groups 3 and 4 that have a higher proportion of more medically complex patients. In particular, we will compare their care delivery changes and strategies to improve total costs of care with the changes risk group 1 and 2 practices make and their strategies to reduce AHU.

Additional topics to be covered include the following:

- Practitioner awareness and involvement with PCF activities and the role that health care systems play in facilitating or limiting practitioner engagement with the model
- The effects of positive and negative PBAs on short-term and long-term care delivery activities and participation in the model
- Efforts to limit leakage

As payer partners that joined PCF in 2021 move past the planning phase, and the 10 new payers join PCF in 2022, we will continue to assess multipayer collaboration activities. In addition to financial incentives including alternatives to FFS and performance-based payments, we will describe payers' efforts to coordinate data sharing and align quality measures and care delivery requirements with CMS' PCF model. We will also seek to understand the implementation experiences of the participating state Medicaid organizations and the particular challenges they might face.

Finally, we plan to interview beneficiaries later in the evaluation. Through these interviews, we will be able to describe beneficiaries' experiences receiving care from practices participating in the PCF model.

2. Impact evaluation

Insight from practice interviews and the portal data on practice activities in Year 1 will further inform our evaluation of how practice care delivery activities might affect primary evaluation outcomes of acute hospitalizations and total Medicare expenditures. Using our hypothesized causal pathways, we will select leading indicators to measure care delivery changes before we anticipate impacts on more distal outcomes. If we do observe impacts, leading indicators can help us understand the drivers of changes in our primary outcomes.

Findings from Year 1 suggest that commonly implemented practice activities align with causal pathways for access, episodic care management, and longitudinal care management. During the next year, we will select and analyze relevant leading indicators for these pathways. Examples of potential leading indicators for the access pathway are primary care substitutable ED visits and urgent care center visits. If practices are increasing access to care, we might expect to see reductions in primary care substitutable visits in the ED and concomitant increases in urgent care center visits that reflect practices diverting patients from acute care settings. Measures of chronic medication adherence, use of high-risk medications, and the Quality Gateway measures of HbA1c and blood pressure control are potential leading indicators that might reflect activities associated with increased attention to longitudinal care management. Finally,

follow-up visits after a hospital discharge, readmission measures, and measures of unplanned acute care are potential leading indicators for episodic care management.

There are limits to our ability to measure practice activities through claims or other data that capture practice activities. For example, CMS identified use of data and information technology as an activity that PCF practices might use to improve their care. Measuring practice activities in administrative data sources is especially challenging, and we will continue to seek novel ways to measure activities not well reflected in administrative data.

Over the next year of the impact evaluation, we will continue to assess our leading indicators and causal pathways as we learn more from the practices and prepare to estimate preliminary impacts of the model. Cohorts 1 and 2 have now started, and we will identify our set of comparison practices to serve as the counterfactual for our impact evaluation. We will specify key subgroups within the PCF population for which we expect impacts to be concentrated or for which we want to assess impacts separately to examine disparities in model impacts and implications for health equity. In our next report, we will show the findings on our selected leading indicators and preliminary impact estimates for primary evaluation outcomes using our matched comparison group.

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Appendix A.
Methods Appendices

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Appendix A.1. Attribution methodology

In this appendix, we explain the purpose of beneficiary attribution for the evaluation, which is distinct from the attribution we used for model payments (Section A); describe the steps we use to attribute beneficiaries to PCF practices; and explain how quarterly attribution informs our evaluation's planned intent-to-treat (ITT) approach to assigning beneficiaries to the first practice to which they were attributed (Section B), which we will use in future annual reports to estimate model impacts. We then compare how our evaluation attribution process differs from CMS' process of attributing beneficiaries for payment (Section C) and explore differences between the samples of beneficiaries attributed to PCF practices using the two processes (Section D).

A. Description of beneficiary attribution

Attribution is a methodology used to identify the group of beneficiaries served by a particular practitioner, practice, or health system. CMS attributes beneficiaries to each PCF practice to calculate PBPs and to track PCF beneficiaries' utilization and costs for PBAs. Similarly, for the evaluation, we attribute beneficiaries to each PCF practice and, eventually, to comparison practices, so that we can test whether beneficiaries served by PCF practices experience better care or have lower Medicare spending than beneficiaries served by comparison practices.

PCF provides each participating practice with population-based payments and flat visit fees for its Medicare FFS beneficiaries. To determine the payments that practices receive, CMS attributes beneficiaries to determine the size and acuity of the Medicare FFS population receiving regular, continuous care from the practice. The PCF payment attribution uses Medicare administrative data (including claims and enrollment data) to identify the Medicare FFS beneficiaries associated with each PCF practice.¹¹

As part of our evaluation of PCF, we use a similar claims-based attribution process to attribute Medicare beneficiaries, but our attribution methodology differs slightly from payment attribution so we can attribute beneficiaries not only to PCF practices but also to non-PCF practices that we might include in the evaluation's comparison group. We attribute eligible Medicare beneficiaries to practices for each quarter: for this report, this period includes eight baseline quarters in 2019 and 2020 and four intervention quarters in 2021 for Cohort 1 practices.

B. Attribution methodology

The PCF evaluation attribution process consists of six steps. First, we identify the set of primary care practices that compete for beneficiaries in the attribution process. Second, because Medicare claims report practitioners who provided services rather than the practice, we group practitioners into the practices identified in the first step; we define a practice as being composed of a unique group of practitioners at a given point. Third, we identify the set of Medicare beneficiaries eligible for attribution. Fourth, we specify the set of primary care services considered when determining whether a beneficiary receives regular care from each practice. Fifth, we use the information from the above steps to attribute each

¹¹ Please see CMS' PCF Payment and Attribution Methodologies for details on payment attribution, which includes voluntary alignment (Center for Medicare & Medicaid Innovation 2021). We summarize differences between this and our evaluation attribution methods in section A.4.

eligible Medicare beneficiary to a single practice in each quarter. Sixth, we assign each beneficiary during the baseline and intervention periods to the first practice to which they were attributed.

Step 1: Identify primary care practices

We start with a roster of all practices in the United States with at least one practitioner (defined as a physician, nurse practitioner, physician assistant, or clinical nurse specialist) with a primary care specialty (defined for physicians as specializing in family practice, general practice, geriatrics, or internal medicine). Each practice is intended to be a single physical location, or practice site. (For practice organizations with several sites, each site is considered a distinct practice.) We define each practice for attribution as comprising a unique group of practitioners who work at the address at a given point. We purchase yearly rosters, beginning in October 2019, from IQVIA, a commercial health care data vendor that maintains and verifies lists of practitioners who work in practices throughout the United States. The IQVIA OneKey database contains information about practices (such as name and physical location), the providers affiliated with the practice (such as name, specialty, and National Provider Identifier [NPI]), and corporate parents of the practices (including ownership type and name). We augment the OneKey data with practitioner specialty taxonomy codes and fill in missing NPIs by linking practitioner-level OneKey data with the National Plan and Provider Enumeration System (NPPES). We then identify PCF practices within the roster of OneKey practices using a combination of address, name, and practitioner information matched to CMS records on PCF participants. For PCF practices not found in the OneKey data, we append practice and practitioner information from those practices' PCF application data.

Although we had extensive validated information about PCF practices from their applications and subsequent roster files, for the purposes of our evaluation, we opted to identify practice and practitioner information—such as location and specialty—from the same OneKey data source for each year. As part of the evaluation, we will be constructing a matched comparison group of practices not participating in PCF, so we must rely on OneKey data for those practices' practitioner composition. By using OneKey data for all practices, we remove bias that could result from using different data sources for PCF versus non-PCF practices.

Step 2: Group practitioners into practices

To facilitate attribution for the evaluation, we construct a roster of practitioners working at PCF practices and their associated TINs (and CMS Certification Numbers [CCNs], when applicable).

Step 2.1: Create initial roster of NPIs from yearly OneKey rosters. As a starting point, we use practitioner rosters purchased from IQVIA for 2019 to 2021. (We use the 2019 roster to reflect practice composition for years 2017 to 2019.) The rosters link a unique practice identifier to a list of practitioners in each year affiliated with the practice. Providers can be affiliated with multiple practices in a given year in the OneKey data, so to better reflect PCF's participation rules, we choose a single practice for each practitioner for each year, preferring to keep a practitioner affiliated in a consistent practice over time.

We found about 73 percent overlap between practitioners in PCF rosters and the rosters we created from OneKey data, which suggests that although OneKey data do not reflect exactly the practitioners listed in PCF rosters, our roster captures a high proportion of them.

Step 2.2: Assign TINs to each practice for each year. Because OneKey data do not include TINs, we use claims data to assign a TIN to a practice for each year from 2018 to 2021.^{12,13} To do so, we select the TIN most frequently billed in Medicare claims data for primary care services by the NPIs of primary care practitioners in each practice. For each year, we assign the TIN based on claims in that year and then we maintain the TIN assigned to the practice based on claims occurring during the year before and year after that year.¹⁴

Step 3: Identify Medicare beneficiaries eligible for attribution

We start with the list of beneficiaries who had at least one eligible primary care visit (see Step 4 for the list) with any NPI with a primary care specialty, as determined in Step 2. Following the payment attribution methodology, we then limit the pool of beneficiaries who meet the following eligibility criteria in a given calendar quarter, as indicated by the Medicare enrollment database: (1) enrolled in both Medicare Part A and Part B at the start of the quarter, (2) have Medicare as their primary payer, (3) are not covered under a Medicare Advantage or other Medicare health plan, (4) are not incarcerated, (5) are not institutionalized, and (6) are alive at the start of the quarter. These criteria ensure we can reliably measure beneficiaries' outcomes in the Medicare FFS claims data, unlike, for example, for beneficiaries enrolled in a Medicare Advantage plan.

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 claim to be used in attribution for a given quarter: claim type, claim date, service type, and specialty of the practitioner who provided the service.

Claim type. For attribution, we use national Medicare FFS physician (Part B carrier) and outpatient claims. Most visits are in the physician claims file, except claims submitted by critical access hospitals, which are in the outpatient file. Similar to CMS' payment attribution approach, our approach excludes claims from Federally Qualified Health Centers (FQHCs) and Rural Health Clinics (RHCs).¹⁵

Claim date. We use primary care services occurring during a two-year lookback period in the attribution process. This is the same as for the payment attribution, although we use a slightly different lookback period. For each quarter, our lookback period is the 24-month period that ends the day before the quarter (Exhibit A.1.1). For example, for the first quarter of 2019, we use claims from January 1, 2017, through December 31, 2018. (In contrast, for the payment attribution, the lookback period is lagged by three

¹² We chose not to assign a TIN in 2017 because the practice rosters would have been too out of date to reliably assign a TIN. Rather, we rely on our backdating of the 2018 TIN, which we describe in more detail later in the paragraph.

¹³ For PCF practices, we examined the overlap between the assigned TINs and reported TINs: for nearly 99 percent of practices, at least one assigned TIN was also on the PCF roster. Using the assigned TINs in attributing beneficiaries, rather than using TINs on the application, increases the risk of misattributing beneficiaries to PCF practices if we assigned an incorrect or invalid TIN to those practices.

¹⁴ Specifically, we use these historical and backdated TINs to avoid cases in which TINs switched mid-year and we only capture one of the two TINs because we use a plurality approach to assigning TINs for a given year.

¹⁵ This restriction means that in payment and evaluation attribution, even if beneficiaries have most of their care or their most recent visits at an FQHC or RHC, they would not be attributed to that practice. Rather, they would be attributed to the practice that provided the plurality of their services if they had visits at a practice other than the FQHC or RHC during the lookback period or would not be attributed at all for that quarter if all of their visits were at the FQHC or RHC.

months to allow prospective payments. See Section A.1.C of this appendix for more detail.) We extracted the claims in February 2022.

Exhibit A.1.1. Lookback periods used in attribution

Attribution quarter	Lookback period
Q1 2019	1/1/2017 to 12/31/2018
Q2 2019	4/1/2017 to 3/31/2019
Q3 2019	7/1/2017 to 6/30/2019
Q4 2019	10/1/2017 to 9/30/2019
Q1 2020	1/1/2018 to 12/31/2019
Q2 2020	4/1/2018 to 3/31/2020
Q3 2020	7/1/2018 to 6/30/2020
Q4 2020	10/1/2018 to 9/30/2020
Q1 2021	1/1/2019 to 12/31/2020
Q2 2021	4/1/2019 to 3/31/2021
Q3 2021	7/1/2019 to 6/30/2021
Q4 2021	10/1/2019 to 9/30/2021

Q = quarter.

Service type. We limit claims to eligible primary care services using the Current Procedural Terminology (CPT) code reported on each claim. Exhibit A.1.2 lists the CPT codes of services we consider to be related to primary care, which follows the list CMS uses for PCF payment attribution (Center for Medicare & Medicaid Innovation 2022). Annual Wellness Visits (AWVs), including Welcome to Medicare Visits, receive precedence in the attribution algorithm, as we describe in Step 5.

Exhibit A.1.2. Primary care services eligible for attribution

Service	CPT codes
Office/outpatient visit evaluation and management (E&M)	99201–99205, 99211–99215
Prolonged non-face-to-face evaluation and management (E&M)	99358
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, 99492–99494
Cognition and functional assessment for patient with cognitive impairment	G0505, 99483
Outpatient clinic visit for assessment and management (critical access hospitals only)	G0463
Transitional care management services	99495–99496
Online digital evaluation and management (E&M)	99421–99423
Audio-only evaluation and management (E&M)	99441–99443
Virtual check-ins	G2010, G2012
Chronic care management services	99490

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Exhibit A.1.2. (continued)

Service	CPT codes
Complex chronic care management services	99487
Assessment/care planning for patients requiring chronic care management services	G0506
Care management services for behavioral health conditions	G0507, 99484, 99491
Prolonged services without face-to-face contact	99358

CPT = Current Procedural Terminology; E&M = evaluation and management.

Specialty of practitioner who provided service. Only claims that have a practitioner with a primary or secondary specialty of primary care, based on NPPES specialty information, are included in attribution (Exhibit A.1.3). This differs slightly from payment attribution methodology, where claims are considered for all practitioners in PCF practices regardless of their specialty.

Exhibit A.1.3. Practitioner primary care specialty codes

Specialty	Healthcare Provider 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

Step 5: Running the attribution algorithm

After we identify eligible beneficiaries and their eligible primary care services, we apply the following algorithm to attribute beneficiaries based on AWWs, including Welcome to Medicare Visits, or the plurality of services shown in Exhibit A.1.2. If a beneficiary had one or more AWWs during the two-year lookback period, we attribute the beneficiary to the practice that provided the *most recent* visit. Otherwise, if the beneficiary had other eligible primary care services, we attribute based on the plurality of those services occurring at a practice during the two-year lookback period for that quarter.¹⁶ This mirrors the algorithm used for PCF model payments as of 2022.

The payment attribution removes beneficiaries with end-stage renal disease (ESRD) or use of hospice services at this stage, as long as those beneficiaries were not previously attributed to a PCF practice. In the evaluation attribution algorithm, we instead impose a similar restriction as part of Step 6 (assignment), at which time we can determine whether a beneficiary had ESRD or used hospice services as of the start of that beneficiary's baseline or intervention periods. Section A.1.C of this appendix describes differences between the evaluation and payment attribution methodologies in more detail.

Step 6: Assigning beneficiaries based on attribution

We assign beneficiaries during baseline (that is, before PCF began) to the first practice to which they were attributed during the baseline period, following an ITT approach. That is, a beneficiary would be continued to be assigned to the same practice for the entire two-year period directly before PCF began, regardless of whether the beneficiary continued to receive care at that practice, as long as they were eligible in those subsequent quarters, following the eligibility criteria listed in Step 3. Similarly, we assign beneficiaries to the first practice to which they were attributed during the intervention period (when PCF is active) for the entire intervention. By tracking beneficiaries as part of their initial practice during either period, ignoring any practice switching, we remove potential contamination of the comparison group, particularly during the intervention period. For example, if a beneficiary switches from receiving care at a PCF practice to receiving care at a comparison practice, we continue to count the beneficiary among the group that might have benefitted from the intervention. To better reflect the care that beneficiaries receive over time, however, we allow beneficiaries to change practice assignment between baseline and intervention periods.

C. Differences between evaluation and payment beneficiary attribution methods

Our evaluation attribution method identifies Medicare beneficiaries attributed to any practice in each quarter using roughly the same claims-based attribution method that CMS uses to attribute beneficiaries for PCF payments. Our attribution approach for the evaluation, however, differs in the following ways (Exhibit A.1.4):

1. The evaluation approach uses practitioner rosters from OneKey data for PCF and non-PCF practices

Payment attribution uses rosters of practitioners that practices participating in PCF or CPC+ submit to CMS to determine the composition of PCF and CPC+ practices and their practitioner NPIs and TINs. To maintain consistency for all practices in our analytic population, including those not participating in either

¹⁶ Ties are broken by choosing the practice that provided the most recent service to the beneficiary; if ties remain, the beneficiary is attributed to a OneKey practice over an NPI not in OneKey. Any remaining ties are attributed to one of the remaining practices at random.

model, the evaluation uses a OneKey roster to identify the practitioners affiliated with a practice each year and assigns TINs to practices each year by selecting the most frequently billed TIN in Medicare claims for primary care services by those practitioners in the relevant year, the previous year, and subsequent year.

2. The evaluation lookback period begins immediately before the start of the quarter

Because of the prospective nature of payment attribution, CMS attributes beneficiaries using a two-year lookback period that ends three months before the start of that attribution quarter. For example, CMS attributed beneficiaries for the first quarter of 2021, which started January 1, 2021, based on claims from October 1, 2018, to September 30, 2020. For the evaluation, however, the three-month gap between the lookback period and attribution quarter is unnecessary because we want to identify the most appropriate sample of beneficiaries attributed to PCF practices without a need for calculating payments, outcomes, or any other characteristic prospectively. For this reason, the evaluation attribution uses a two-year lookback period ending the day before the start of the attribution quarter. For example, we attribute beneficiaries for the first quarter of 2021 based on claims from January 1, 2019, to December 31, 2020.

Relatedly, the beneficiary eligibility requirements reflect the different timing of the two methods. For payment attribution, CMS checks for eligibility one month before the start of the attribution quarter, but for the evaluation, we determine eligibility at the beginning of the quarter. For example, for attributing beneficiaries in the first quarter of 2020, beneficiaries had to meet the eligibility requirements described in Step 3 as of December 2019 to be eligible for payment attribution, and those beneficiaries would have had to meet requirements as of January 2020 to be eligible to be attributed for the evaluation.

3. The evaluation approach does not consider voluntary alignment, or for the earliest quarters, give priority to chronic care management services

For payment attribution, CMS first attributes the beneficiaries who voluntarily attested that an eligible practitioner in a PCF (or CPC+) practice is their primary care physician. Because potential comparison practices have no real incentive to encourage beneficiaries to use voluntary alignment, we cannot replicate the voluntary alignment criterion adequately for the potential comparison group that we will construct for the evaluation, so we do not include it in our attribution algorithm. Diagnostics from payment attribution indicate that few beneficiaries are attributed based on voluntary alignment: fewer than 0.5 percent of beneficiaries attributed to PCF practices in the first quarter of 2021 voluntarily attested to a practitioner; further, these beneficiaries often would have been attributed to the same PCF practice based on claims (data not shown).

In addition, CMS changed its attribution rules between the 2021 PCF performance year and the 2022 PCF year, and the evaluation approach adopted the 2022 change for all periods. Specifically, the payment attribution rules set forth in 2022 no longer attribute beneficiaries based first on the most recent chronic care management services received. (Instead, these services are treated like any other primary care service when calculating the plurality of services provided.) The evaluation applied this change for all attribution quarters to ensure a consistent definition of the study population over time.

Exhibit A.1.4. Similarities and differences between beneficiary attribution methods for payment and evaluation

	Payment attribution	Evaluation attribution
Similarities between methods		
Frequency of attribution	Quarterly	Same as payment attribution
Beneficiary eligibility criteria for observability	<ol style="list-style-type: none"> 1. Be enrolled in Medicare Parts A and B 2. Not be covered under Medicare Advantage or other Medicare health plan 3. Not be incarcerated 4. Be alive 	Same as payment attribution
Criteria used to identify eligible services for attribution	Evaluation and management HCPCS codes (Exhibit A.1.2)	Same as payment attribution
Differences between methods		
Attribution algorithm for 2019 and 2020	Beneficiaries not attributed for payment for quarters before the start of the intervention	Attributed based on the following hierarchy (mirroring payment attribution in 2022): <ol style="list-style-type: none"> 1. Practice at which the beneficiary received most recent Annual Wellness Visit or Welcome to Medicare Visit 2. Practice at which the beneficiary received the plurality of their eligible primary care services
Attribution algorithm for 2021	Attributed based on the following hierarchy: <ol style="list-style-type: none"> 1. Practice to which the beneficiary is voluntarily aligned 2. Practice at which the beneficiary received most recent chronic care management 3. Practice at which the beneficiary received most recent Annual Wellness Visit or Welcome to Medicare Visit 4. Practice at which the beneficiary received the plurality of their eligible primary care services 	Same as for 2019 and 2020 (mirroring payment attribution in 2022)
Criteria used to identify eligible practitioners for attribution	Practitioners in PCF and CPC+ rosters and those with NPPES primary or secondary specialty of primary care not in rosters (Exhibit A.1.3)	Practitioners affiliated with OneKey practices as well as those not in OneKey data, all restricted to those with NPPES primary or secondary specialty of primary care (Exhibit A.1.3)

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Exhibit A.1.4. (continued)

	Payment attribution	Evaluation attribution
Source for practice and practitioner rosters	PCF and CPC+ participation rosters, with all nonparticipating providers (all other NPI-TIN combinations observed in claims) competing as though they were single-provider practices	OneKey
Source for TINs	PCF and CPC+ participation rosters, with all nonparticipating providers (all other NPI-TIN combinations observed in claims) competing as though they were single-provider practices	Assigned TIN based on claims of practitioners affiliated with practices in OneKey
Practices and practitioners with whom PCF practices compete for beneficiaries	NPI-TIN combinations grouped as CPC+ practices in program rosters; NPI-TIN combinations not in PCF or CPC+ rosters but observed in claims	NPI-TIN combinations grouped as non-PCF practices in OneKey with an assigned TIN and at least one primary care provider; NPI-TIN combinations not in OneKey but observed in claims
Additional beneficiary eligibility criteria	<ol style="list-style-type: none"> 1. Cannot have ESRD or be in hospice when first attributed 2. Cannot be in a long-term care institution 3. Cannot be in a shared savings initiative other than Medicare Shared Savings program, primary care transformation efforts, or state-based reform efforts 	<ol style="list-style-type: none"> 1. Cannot have ESRD or be in hospice when first attributed during baseline or when first attributed during intervention 2. Cannot be in a long-term care institution in the quarter of attribution 3. No restrictions based on participation in other programs
Time frame of evaluating eligibility	One month before start of quarter	Day of the start of the quarter
Lookback period for claims	Two years ending three months before the start of the quarter	Two years ending the day before the start of the quarter
Tiebreaking for practices competing for attribution	Preference given to PCF and CPC+ practices over single NPIs not in PCF and CPC+ rosters	Preference given to OneKey practices over single NPIs not in OneKey, but no preference between PCF and potential comparison practices

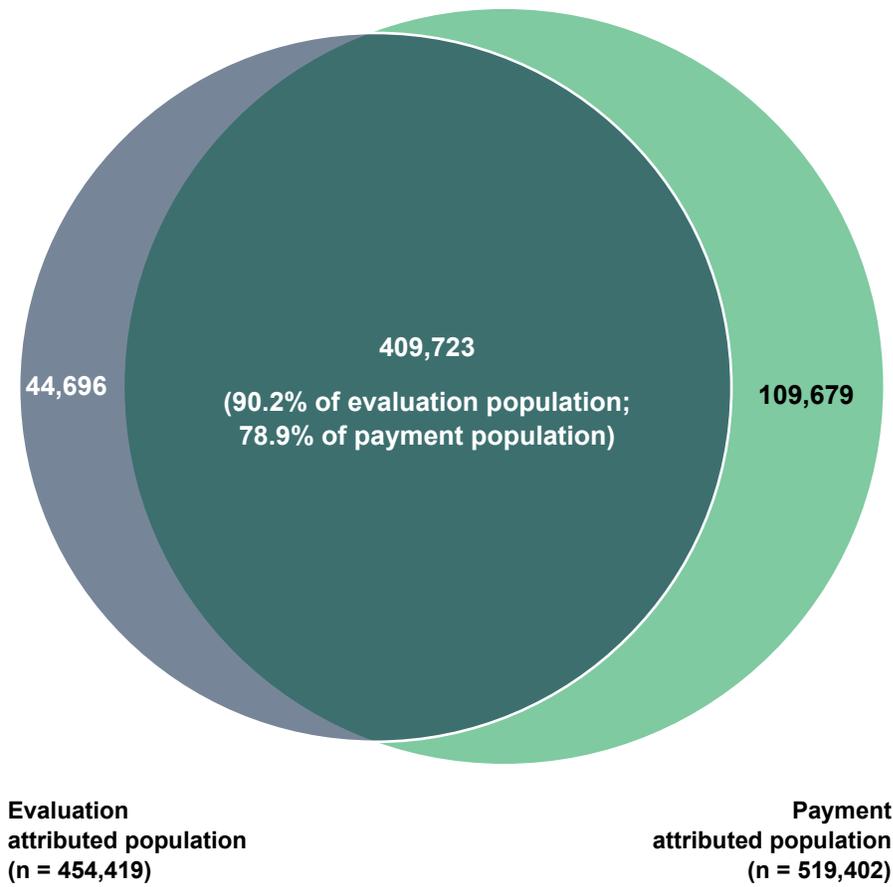
CPC+ = Comprehensive Primary Care Plus; ESRD = end-stage renal disease; HCPCS = Healthcare Common Procedure Coding System; NPI = NPPES = National Plan and Provider Enumeration System; National Provider Identifier; PCF = Primary Care First; TIN = Taxpayer Identifier Number.

D. Overlap between evaluation and payment beneficiary samples

Overall, the beneficiary population attributed to Cohort 1 practices used for the evaluation has a high degree of overlap with the attributed beneficiary population CMS used to calculate PCF payments in 2021. Exhibit A.1.5 illustrates this, showing the overlap for one calendar quarter; specifically, the exhibit compares the beneficiary population attributed to Cohort 1 practices for the evaluation in the fourth quarter of 2020 to the population attributed for payment in the first quarter of 2021 because these populations are based on primary care visits during the same two-year lookback period (October 1, 2018, to September 30, 2020). In this period, about 90 percent of beneficiaries in the evaluation population were attributed to PCF practices for payment, and about 79 percent of the payment population was attributed to PCF practices for the evaluation. Roughly 45,000 beneficiaries were attributed to PCF practices only by the evaluation, and about 110,000 beneficiaries were attributed to PCF practices only for payment.

For the evaluation, we are primarily concerned with the proportion of beneficiaries in the evaluation population who are also included in the payment population (that is, the 90 percent). We prioritize this overlap over the proportion of beneficiaries attributed for payments who are also in the evaluation population (the 79 percent) because we expect model impacts to be largest among beneficiaries for whom the practices receive model payments. Excluding 109,679 payment-attributed beneficiaries from the evaluation does not bias our estimates of model impacts, although it will somewhat reduce our statistical power to detect effects. In contrast, by including beneficiaries in the evaluation population for whom the practices do not receive payments, we might attenuate our impact estimates relative to PCF’s true impact if the 44,696 affected beneficiaries are not all receiving the PCF intervention.

Exhibit A.1.5. Overlap between beneficiaries attributed to Cohort 1 practices for the evaluation and those attributed for payment



Appendix A.2. Primary data collection

In 2021, the evaluation of the PCF model focused on efforts undertaken by participating practices to change care delivery and by partnering payers to align payment approaches and other principles defined by CMS such as data sharing. Primary data collection through interviews and written materials were critical to our evaluation. In this appendix, we describe how we collected primary data from both practices and payers and our analytic methods.

A. Primary data collection: Practices

To empirically assess practices' experiences with PCF and the changes they were making to care delivery, we drew from multiple data sources:

1. Interviews with a sample of practices to assess early experiences with model implementation
2. Virtual site visits with a sample of practices that we intend to interview at least once more over the course of the model (also known as longitudinal practice site visits) to describe strategies used to achieve the PCF outcomes and how these have changed over time
3. Interviews with practices that voluntarily withdrew their participation to assess barriers and implementations to participating in the model
4. Interviews with practices that were eligible for PCF but did not return the participation agreement to assess factors that influenced joining the model

In addition, we used PCF Practice Portal data that CMS requires PCF practices to provide as part of an annual self-assessment of their capabilities related to the five comprehensive primary care functions. Mathematica's evaluation team added questions to the PCF Practice Portal to understand topics such as reasons for participation and strategies used to reduce hospitalizations or lower costs.

B. Practice interviews and virtual site visits

Interviews conducted in 2021 provided critical information to address CMS' research questions. Among the topics covered in the interviews were the following:

- Reasons why practices decided to join the model (and among those that withdrew, the factors that influenced their decision to leave)
- Feedback on the PCF payments received to date, including how payments were used and concerns about potential payment adjustments in 2022
- Experiences with supports provided as part of the model, including data feedback and learning opportunities
- Practices' strategies for achieving the model outcomes, including whether these were new or existing strategies, and factors influencing how the model is being implemented
- Effects of the model on practitioners

1. Sampling

Our largest data collection effort was for the virtual site visits and involved interviews with multiple staff members from 28 practices. To select a diverse sample of up to 30 practices for virtual site visits, we used a stepwise sampling approach. First, we divided our sample so that we could have 20 practices assigned

to risk groups 1 or 2 and 10 practices assigned to risk groups 3 or 4. Then, for risk groups 1 and 2, we aimed for a sample that was proportional to the number of practices that were system-affiliated versus those that were not affiliated with hospitals or health care systems or were independent practices. We did so because this could affect how practices approach care delivery and budgeting related to PCF. For risk groups 3 and 4, we selected practices that reflect the different practice types participating in these risk groups, including system-affiliated practices, house call practices, and geriatric practices. We purposively selected practices from different geographic regions, of varying practice sizes, and with and without experience with advanced payment programs and models, such as Medicare Shared Savings Program and Independence at Home. Finally, among system-affiliated practices in risk groups 1 and 2, we identified a primary practice and another practice that was affiliated with the primary practice to assess variations in how strategies were implemented across multiple sites within a system. We selected the primary practice using the steps we described. We used the Social Vulnerability Index score to select the affiliated practices, selecting an affiliated practice with a lower score if the primary practice had a higher score and vice versa. Using the Social Vulnerability Index for the affiliated practices gave us an opportunity to capture perspectives from practices serving populations with a mix of social vulnerability needs, which was challenging to do in selecting the main sample of 30 practices given the number of practice characteristics that already were used to stratify the sample. Because of the limited number of practices in risk groups 3 and 4 and the oversampling that had already occurred, we did not attempt to identify affiliated practices among risk group 3 and 4 practices.

We conducted virtual site visits to reduce burden on practices during the COVID-19 pandemic. After contacting 43 practices to participate in a virtual site visit, we ended up with a sample of 28 practices, including 19 in risk groups 1 and 2 and 9 in risk groups 3 and 4. Practices that declined to participate typically cited pandemic-related burdens. In a few instances, system-level administrative leads agreed to interviews but would not provide access to practice-level staff. These were considered non-responsive because they impeded our efforts to report on PCF from the practice’s perspective.

Our sampling strategy for the remaining data sources aimed for diversity in perspectives on PCF (see Exhibit A.2.1) and included criteria germane to the purpose of the interview, such as reasons for not participating in the model or for withdrawing from the model. Although we usually identified practices using information included in the practice roster CMS and its contractors provided, we made an exception for the interviews we conducted shortly after the model launch. We recognized that many practices at this time were still developing or refining their strategies for reducing hospitalizations or lowering costs. For this reason, we first drew a convenience sample based on people from practices who were participating on the Connect site, the social media platform we described in Chapter 3, and then used the practice roster to confirm practice characteristics and contact information.

Exhibit A.2.1. Selection criteria for practices interviewed during the first performance year

Data source (including timing)	Sampling goals	Purpose
Virtual site visits (n = 28) from October 2021 to February 2022	Purposive sample that provided diversity in risk groups, system affiliation, number of beneficiaries, practice size, location, and participation in other CMS programs or models	Comprehensive feedback on reasons for participation and implementation strategies, including factors affecting implementation and perceptions of model incentive and supports and effects on practitioners

Exhibit A.2.1. (continued)

Data source (including timing)	Sampling goals	Purpose
Early experience interviews in April to May 2021 (n = 26)	Convenience sample based on our observations of practices' activities on the Connect site (a web-based collaboration platform in which practices receive guidance and share ideas and resources)	Gain early insight into the strategies that practices are pursuing and potential implementation barriers and facilitators; identify organizational characteristics that would inform later sampling decisions
Practice exit interviews (January to March 2021: n = 28; March 2022: n = 7)*	<p>2021: Interviews with practices that were accepted but chose not to participate. The sample included practices from both systems and non-systems and represented a range of reasons for not participating in the model (such as lack of model fit and resource constraints) based on data supplied by CMS</p> <p>2022: Interviews with Cohort 1 practices that were unaffiliated with each other and represented a range of reasons for not participating in 2022 based on data supplied by CMS</p>	Identify factors that impeded practices' participation in the model, including among practices that were accepted in the model but chose not to participate and those that withdrew after participating

CMS = Centers for Medicare & Medicaid Services.

*Note: The sample for our initial round of exit interviews included practices that withdrew by February 28, 2021, a date by which practices could withdraw without penalty. The sample for our second round included 53 practices that voluntarily withdrew from the model after that. Because many of these practices were affiliated with each other, there were 23 unique interview contacts. Among these 23, seven agreed to an interview.

2. Respondents, protocols, and analyses

Participating practices must submit points of contact to CMS; the responsibilities and job titles of these people vary widely across organizations. In our initial communications with the points of contact, we carefully described our data collection goals and the perspectives we hoped to gain, such as PCF champion or lead, front-line practitioners, care managers, or some combination of these. When a practice belonged to a larger health care system, we interviewed practice and system representatives. For risk group 1 and 2 practices, we also requested interviews with staff from the affiliated practices.

We interviewed everyone using semistructured protocols, which we tailored to each respondent based on what we knew about their practice from sources such as their application or web searches. Interview teams typically asked all questions of all respondents based on time allowed and respondents' knowledge and expertise. With the affiliated practices, however, the teams focused on the strategies they actually implemented in the interest of reducing their burden.

We audio recorded and transcribed all interviews. We then imported the transcripts into a qualitative data analysis software package and coded the transcripts using a codebook and deductive content analysis techniques. Next, we generated analytic summaries for each coded data segment, taking into consideration the practice's characteristics, such as whether it was owned by a hospital. We then synthesized the findings guided by the causal pathways.

Two analyses in this report required two additional analysis techniques. For the system analysis, we separately reviewed the affiliated transcripts, looking for a concordance or discordance with the themes that emerged from the primary transcripts. We then used the system transcripts to provide context for the

overall organizational strategy for implementing care delivery strategies. For analyses that sought to identify PCF's effects on practitioners, two analysts independently reviewed select coded data segments and identified emerging themes using inductive and deductive analysis techniques. To assure consistency of data interpretation, they reviewed coded data and reconciled differences in interpretation.

C. PCF Practice Portal

To complement our rich interview findings, we analyzed the PCF Practice Portal data CMS collected. All participating PCF practices must complete this reporting, so the portal data allows for a comprehensive assessment of all PCF practices. Cohort 1 practices completed the first round of PCF Practice Portal data reporting in March and April 2021. The portal reporting includes the following main sections:

- Questions developed by the CMS Innovation Center to provide an annual self-assessment of practices' current levels of care delivery capabilities
- Questions developed by the evaluation team on topics such as reasons for participation, planned care delivery changes in the first year of PCF (as reported in a series of close-ended questions), and planned strategies to reduce avoidable hospitalizations or expenditures during the first year of PCF (as reported in an open-ended question and subsequently coded)

The full set of items from both sections of the PCF portal reporting are available in Appendix D. All 827 participating practices, active as of April 2021, answered CMS' questions on baseline practice capabilities; 814 practices answered questions on planned care delivery changes and planned strategies to reduce avoidable hospitalizations or expenditures.

We reviewed basic frequencies of all items in the portal. There are several important caveats about interpreting data from the portal:

- Portal respondents, typically those affiliated with systems that have multiple practices in PCF, sometimes provided identical responses for more than one practice. This is particularly evident in the free text responses in which it is clear that the answer was copied and pasted repeatedly for different practices.
- We know from our interviews that system-level respondents, who might not be in the same location as the practice sites for which they are answering questions, have a different perspective about what is happening at the individual practice sites. Thus, their responses to the questions in the portal have to be understood from that perspective.
- Some topics, such as longitudinal care management, are reported from three different items (the CMS items, the close-ended evaluation questions, and the open-ended evaluation question), resulting in data that are not directly comparable.
- The close-ended question format means that practices' answers to these questions are largely binary. Thus, these data do not allow for nuanced answers or provide much information on the intensity or breadth of a given care delivery activity.
- The open-ended responses, compared with the close-ended binary questions, are likely a good indicator of top-of-mind planning (that is, what they thought of without prompting) and likely represent something quite salient.

2. Primary data collection: Payers

To learn more about the payer partnerships in 2021, we collected a brief worksheet and interviews with payer partners and regional conveners. We also collected data on non-partnering payers that submitted a statement of interest but chose not to participate in PCF in 2021 and analyzed select data from the survey of CPC+ payers to understand reasons for choosing whether to partner in PCF.

D. Worksheet

We asked Cohort 1 payer partners to complete a short worksheet that we prepopulated with each payer's application data. The purpose of the worksheet was to systematically collect detailed information that might be challenging or time consuming for a respondent to accurately recall during an interview, such as payment approaches and the number of attributed lives. This worksheet was fielded in the fall 2021. For payers that participated in CPC+ and PCF, the worksheet was administered as a bundle to reduce the burden on payers.

We also analyzed select CPC+ survey data administered by Mathematica's CPC+ evaluation team in fall 2020, which included seven questions about early perceptions of and plans for the PCF model by the CPC+ payers who are eligible to participate in PCF.

E. Interviews and virtual site visits

We interviewed the following three groups of respondents to understand payers' motivations to participate in PCF and how payer partners are implementing the model: (1) Cohort 1 payer partners; (2) payers that submitted an expression of interest and declined to participate in the model or those that applied to join PCF, were accepted, and did not partner in PCF in 2021; and (3) regional conveners that operate in PCF regions and offer a statewide perspective on primary care transformation efforts.

We contacted all 13 Cohort 1 payer partners for interviews. Six declined because they had not yet established contracts with PCF practices, were in the early stages of designing their payment approach or had not begun implementing a PCF-aligned initiative or did not respond at all. We interviewed the remaining seven payer partners by telephone. Interview topics included motivations for participation, payment approaches, interactions with practices, data feedback provided to practices, and barriers and facilitators related to partnering in PCF. We interviewed six regional conveners, which covered region-specific insights on PCF model participation and implementation. In addition, we conducted 12 interviews with payers that expressed initial interest in PCF or submitted applications to join PCF but ultimately did not join the model. Interview topics elicited information on motivations for submitting an expression of interest and considerations for joining in 2022.

Similar to the practice interviews, two-person teams interviewed people via phone using semistructured interview guides. When interviewing conveners, we typically interviewed the head of the organization or the staff member who had the greatest contact with the Innovation Center's PCF model team; these interviews occurred in September and October 2021. When interviewing payers, we typically interviewed the respondent most familiar with payer's value-based program portfolio; these interviews occurred in October and November 2021.

We audio recorded, transcribed, and loaded into qualitative data analysis software all the interviews for coding and analysis. Analysts reviewed the data to identify themes. As necessary, we used these data to clarify the data from the payer worksheets.

Appendix A.3. Measure Definition

In this appendix, we provide details on the baseline measures used in this report that are based on Medicare claims and enrollment information. There are two main categories of measures: (1) beneficiary characteristics and health status and (2) service utilization and expenditures. We report the service utilization measures as the annualized rate per 1,000 beneficiaries and the expenditure measures as per beneficiary per month. The latter is the expenditures for the months a beneficiary was eligible for Medicare FFS during the year divided by the number of months the beneficiary was eligible for Medicare FFS.

A. Beneficiaries' characteristics and health status

Beneficiaries' demographics (age, race, and gender), original reason for Medicare eligibility (age, disability, or end-stage renal disease [ESRD]), and current reason for Medicare eligibility are based on information in the Medicare enrollment database. We calculated beneficiaries' age as of January 1, 2021.

Dual eligibility status, Part D enrollment, and low-income subsidy eligibility come from information obtained from the Master Beneficiary Summary File from December 2020. We flagged a beneficiary as dually eligible if they had either full or partial dual-eligibility status during the month.

B. HCC score

We calculated 2021 HCC scores using CMS' HCC 2021 score software and algorithm based on information from Medicare claims and enrollment data and adapted the CMS algorithm for the purpose of the impact analysis. Specifically, we used the following approach:

1. To calculate the HCC score, we used a 12-month lookback for Medicare claims to obtain diagnosis information. Specifically, to calculate the 2021 HCC score, we used Medicare claims in 2020.
2. 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. For example, to calculate the 2021 HCC score, we used the following beneficiary information:
 - Demographics from 2020
 - Medicare eligibility (eligible because of age or disability) from 2020
 - New enrollee status from 2020 (we flagged a beneficiary with less than six months of Medicare FFS enrollment during the year as a new enrollee)
 - Dual-eligibility status (full, partial, or nondual) during the last three months of 2020
 - ESRD status during the last three months of 2020
 - Long-term institutionalization status during a 120-day period ending on December 31, 2020
 - The number of months since a kidney transplant, looking back from January 1, 2021
 - Whether the transplant was successful or the beneficiary was on dialysis as of the end of 2020.

3. The HCC algorithm estimates the following separate models reflecting different levels of health status: (1) ESRD (further differentiating by dialysis status and time since kidney transplant), (2) long-term institutionalization, (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. We assign the beneficiary the score from the model reflecting the highest level of morbidity, following CMS' approach. For example, a beneficiary who has ESRD and is institutionalized would be assigned the score from the ESRD model.
4. Finally, we used CMS' official normalization factors for 2021 HCC scores to calculate a normalized risk score for each beneficiary. Specifically, the normalized risk score is equal to the raw 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 and population demographics between the year an HCC model was calibrated and the year for which we calculated the HCC score.

We derive the number of HCC categories and measures of chronic conditions, except for measures of hyperlipidemia and hypertension, from the individual variables generated by the HCC software as part of the construction of the HCC score.

Measures of hyperlipidemia and hypertension are based on the Chronic Condition Algorithm. The HCC algorithm does not include individual measures for these conditions. Given the prevalence of these conditions in the Medicare population, however, we include them in our evaluation. The Chronic Condition Algorithm looks for (1) at least one qualifying diagnosis code on inpatient, skilled nursing facility, or home health claims or (2) at least two claims in the Hospital Outpatient or Carrier files with a qualifying diagnosis. Details on the algorithm and the qualifying diagnosis codes are available [here](#).

C. Medicare expenditures and service utilization

1. Total Medicare Part A and B expenditures:

This measure reflects Medicare expenditures for Part A and Part B covered services during the baseline period. It includes Medicare payments for inpatient, outpatient, and physician and non-physician services as well as skilled nursing facilities, home health, hospice services, and durable medical equipment (DME) services. Medicare Part A and B expenditures also include QPP payments and exclude third-party and beneficiary liability payments. 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.

2. Acute hospitalization expenditures and utilization:

This measure includes short-stay acute inpatient and critical access hospital facility expenditures. Transfers between facilities count as a single admission. Multiple claims representing transfers between hospitals are combined into a single record so that they count as one admission. Facility expenditures for stays in all facilities are included in the expenditure measure. We categorized an inpatient stay as a short-stay acute inpatient hospital stay when the third to 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 critical access hospital stay.

3. Outpatient ED utilization:

We identify outpatient ED visits 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 to 79999 or 80000 to 89999, we excluded it; we did so to exclude claims in which only radiological or pathology/laboratory services were provided. We then capped the number of ED visits to one per day.

4. Primary care utilization:

We report three measures of primary care utilization: (1) primary care visit with a primary care provider in an ambulatory setting, (2) primary care visit with a primary care provider in any setting, and (3) primary care visit to a non-behavioral health specialist in ambulatory settings.

In general, we look for claims with an accompanying code for a primary care visit as identified in the Carrier file; a claim for an FQHC or RHC in the Hospital Outpatient file, or a critical access hospital claim in the hospital outpatient file. Specialty codes associated with the NPI furnishing the services serve to determine whether the clinician's specialty is primary care or a non-behavioral health specialty.

5. Primary care visit with a primary care provider in an ambulatory setting:

We classify an encounter as a primary care visit with a primary care provider in an ambulatory setting if it meets the criteria in one of the three scenarios.

1. Primary care visit in an office (a and b must be true):

- a. A claim is in the carrier file and has one of the CPT/HCPCS codes in Exhibit A.3.1. These codes align with those covered by the flat visit fee under PCF. It also includes codes prohibited for PCF practices because comparison practices might report them, and PCF practices can report them in the baseline period. Finally, it includes codes used by RTA in attribution and telehealth codes.
- b. The performing provider has a primary care taxonomy code that is included in Exhibit A.3.2. If the NPPES taxonomy code is missing for the provider that appears in the Part B claim line file or if the performing provider field is missing in the Part B claim line, then use the HCFA specialty field that is in the Part B claim line. If HCFASPCL = 1, 8, 11, 37, 38, 50, 89, 97, or 99, the provider has a primary care specialty.

2. Primary care visit in an FQHC or RHC (a and b must be true):

- c. A claim is in the Hospital Outpatient file where FQHCs/RHCs are defined through a combination of the facility type and type of service variables (FAC_TYPE=7 and TYPESRVC=1, 3, or 7). A primary care related revenue center code from FQHCs or RHCs (0521, 0522, 0527, or 0528) or a relevant HCPCS code (G0466, G0467, G0468, G0402, G0438, G0439, or G0511) must be on any one of the claim lines.
- d. The rendering provider at the claim-line level has a primary care taxonomy code from Exhibit A.3.2. If the rendering provider is missing in the outpatient hospital claim-line file, the attending operating and other provider fields are used. If these are missing, then we assume the provider has a primary care specialty.

3. Primary Care visit in a critical access hospital (a and b must be true):
 - a. A claim is in the Hospital Outpatient file for a critical access hospital as identified through a combination of the last four digits of claim-level provider field = 1300-1399, a facility type of “special facility” (FAC_TYPE=7), and the type of service (TYPESRVC=5). A claim meeting these conditions must also have a revenue center code of 096x, 097x or 098x, and the claim must have CPT/HCPCS code from Exhibit A.3.1 G0463.
 - b. The rendering provider at the claim-line level has a primary care taxonomy code from Exhibit A.3.2. If the rendering provider is missing in the outpatient hospital claim-line file, we use the attending operating and other provider fields. If these are missing, we assume the provider has a primary care specialty.

Exhibit A.3.1. CPT and HCPCS codes to identify primary care visits in ambulatory settings

CPT/HCPCS Codes	Description	CPT/HCPCS Codes	Description
96160	Patient-focused health risk assessment	99492	Psychiatric collaborative care management
96161	Caregiver health risk assessment	99495–99496	Transitional care management
98966–98968	Telephone assessment and management service provided by a qualified nonphysician	99497–99498	Advanced care planning
98969	Online assessment for evaluation and management	G0076– G0087	Care management home visit
99091	Remote physiologic patient monitoring	G0101	Cervical or vaginal cancer screening; pelvic and clinical breast examination
99201–99205	E&M office or other outpatient visit, new patient.	G0102	Prostate cancer screening; digital rectal examination
99211–99215	E&M office or other outpatient visit, established patient	G0108	Diabetes outpatient self-management training services, individual, per 30 minutes
99324–99328	E&M domiciliary or rest home, new patient	G0109	Diabetes outpatient self-management training services, group session (2 or more), per 30 minutes
99334–99337	E&M domiciliary or rest home, existing patient	G0296	Visit to determine lung cancer screening eligibility
99339–99340	Domiciliary, rest home, or home care plan oversight.	G0402	Welcome to Medicare Visit
99341–99345	Home visit, new patient	G0438–G0439	Annual Wellness Visit
99347–99350	Home visit, existing patient	G0442	Annual alcohol misuse screening
99358	Prolonged care, non-face-to-face contact	G0444	Annual depression screening
99421–99423	Digital E&M services - physicians or other qualified health professionals	G0502; G0505	Psychiatric collaborative care management
99429	Other preventive medicine services	G0506	Comprehensive assessment and care planning for patients needing chronic care

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Exhibit A.3.1. (continued)

CPT/HCPCS Codes	Description	CPT/HCPCS Codes	Description
99439	Chronic Care Management	G0507	Care management services for behavioral health conditions
99441–99443	Telephone E&M	G2010	Remote evaluation of recorded video and/or images submitted by an established patient
99453–99454	Remote patient monitoring	G2012	Virtual check-in by a physician or other qualified health care professional who can report E&M services
99457	Remote physiologic monitoring treatment management services	G2061–G2063	Qualified nonphysician healthcare professional online assessment and management service
99483	Cognitive assessment and care plan services	G2064	Principal care management service at least 30 minutes – physician or other qualified health care professional
99484	Behavioral health integration services	G2065	Principal care management service at least 30 minutes – clinical staff time directed by a physician or other qualified health care professional
99487	Complex chronic care management	G2211	Primary Care Management
99489	Complex CCM services	Q0091	Screening Papanicolaou smear; obtaining, preparing and conveyance of cervical or vaginal smear to lab
99490–99491	CCM services. This code range is not related to additional time.		

CCM = chronic care management; CPT = Current Procedural Terminology; E&M = evaluation and management; HCPCS = Healthcare Common Procedure Coding System.

Exhibit A.3.2. NPES primary care taxonomy codes

Description	Taxonomy Code	Description	Taxonomy Code
Family Medicine	207Q00000X	Clinical Nurse Specialist	364S00000X
Adult Medicine	207QA0505X	• Acute Care	364SA2100X
Geriatric Medicine	207QG0300X	• Adult Health	364SA2200X
Hospice and Palliative Medicine	207QH0002X	• Chronic Care	364SC2300X
General Practice	208D00000X	• Community Health/Public Health	364SC1501X
Internal Medicine	207R00000X	• Family Health	364SF00001X
• Geriatric Medicine	207RG0300X	• Gerontology	364SG0600X
• Hospice and Palliative Medicine	207RH0002X	• Holistic	364SH1100X
Nurse Practitioner	363L00000X	• Women’s Health	364SW0102X
• Acute Care	363LA2100X	Physician Assistant	363A00000X
• Adult Health	363LA2200X	• Medical	363AM0700X
Nurse Practitioner cont.			

Exhibit A.3.2. (continued)

Description	Taxonomy Code	Description	Taxonomy Code
• Community Health	363LC1500X		
• Family	363LF0000X		
• Gerontology	363LG0600X		
• Primary Care	363LP2300X		
• Women’s Health	363LW0102X		

Source: NPPES.

NPPES = National Plan and Provider Enumeration System.

6. Primary care visit with a primary care provider in all settings:

We define all settings as the ambulatory settings listed above *plus* visits in an inpatient hospital, outpatient ED, and skilled nursing facility identified using the CPT/HCPCS codes in Exhibit A.3.3. We use the same set of codes as above to determine clinician specialty.

Exhibit A.3.3. CPT and HCPCS codes to identify primary care visits in non-ambulatory settings

CPT/HCPCS Codes	Description	CPT/HCPCS Codes	Description
99291	E&M critical care and first hour.	99234-99236	E&M observation or inpatient hospital care
G0508-G0509	Critical care telehealth consult	99281-99285	E&M Emergency department visit
99221-99223	E&M Initial hospital care	99288	Direct advanced life support
99231-99233	E&M Subsequent hospital care	99304-99306	E&M Nursing facility care initial
99238-99239	Hospital discharge	99307-99310	E&M Nursing facility care, subsequent
G0406-G0408	Inpatient telephone follow up	99315-99316	Nursing facility discharge
G0459	Telehealth inpatient pharmacy management	99318	Annual nursing facility assessment
99217	Observation care discharge	99379	Nursing facility care supervision
99218-99220	E&M initial observation care	99380	Nursing facility care supervision
99224-99226	E&M subsequent observation care	G0425-G0427	Inpatient/ED teleconsult

CPT = Current Procedural Terminology; E&M = evaluation and management; ED = emergency department; HCPCS = Healthcare Common Procedure Coding System.

7. Primary care visit to non-behavioral health specialist in an ambulatory setting:

We classify an encounter as a primary care visit to non-behavioral health specialist if it meets the criteria in one of the three scenarios:

1. Primary care visit in an office (a and b must be true):
 - a. A claim is in the carrier file and has one of the CPT/HCPCS codes in Exhibit A.3.1. These codes align with those covered by the flat visit fee under PCF. It also includes codes prohibited for PCF

- practices because comparison practices might report them, and PCF practices can report them in in the baseline period. Finally, it includes codes used by RTA in attribution and telehealth codes.
- b. The performing provider has a specialist taxonomy code that is included in Exhibit A.3.4. If the NPPES taxonomy code is missing for the provider that appears in the Part B claim line file or if the performing provider field is missing in the Part B claim line, use the HCFA specialty field in the Part B claim line. If HCFASPCL is not 1, 8, 11, 37,38,50, 89, 97, 99, 26, 62, 68, or 80, then they are a non-behavioral health specialist.
2. Primary care visit in an FQHC or RHC (a and b must be true):
 - a. A claim is in the Hospital Outpatient file where FQHCs/RHCs are defined through a combination of the facility type and type of service variables (FAC_TYPE=7 and TYPESRVC=1, 3, or 7). A primary care related revenue center code from FQHCs or RHCs (0521, 0522, 0527, or 0528) or a relevant HCPCS code (G0466, G0467, G0468, G0402, G0438, G0439, or G0511) must be on any one of the claim lines.
 - b. The rendering provider at the claim-line level has a specialist taxonomy code from Exhibit A.3.4. If the rendering provider is missing in the outpatient hospital claim-line file, we use the attending operating and other provider fields.
 3. Primary Care visit in a critical access hospital (a and b must be true):
 - a. A claim is in the Hospital Outpatient file for a critical access hospital as identified through a combination of the last four digits of claim-level provider field = 1300-1399, a facility type of “special facility” (FAC_TYPE=7), and the type of service (TYPESRVC=5). A claim meeting these conditions must also have a revenue center code of 096x, 097x or 098x, and the claim must have CPT/HCPCS code from Exhibit A.3.1 G0463.
 - b. The rendering provider at the claim-line level has a specialist taxonomy code from Exhibit A.3.4. If the rendering provider is missing in the outpatient hospital claim-line file, we use the attending operating and other provider fields. If these are missing, we assume the provider has a primary care specialty.

Exhibit A.3.4. NPPES non-behavioral health specialist taxonomy codes

Description	Taxonomy code	Description	Taxonomy code
Surgery (General)	208600000X	Pathology	
Plastic and Reconstructive Surgery	2086S0122X	Anatomic Pathology	207ZP0101X
Surgery of the Hand	2086S0105X	Anatomic Pathology & Clinical Pathology	207ZP0102X
Surgical Critical Care	2086S0102X	Chemical Pathology	207ZP0104X
Surgical Oncology	2086X0206X	Clinical Pathology	207ZC0006X
Trauma Surgery	2086S0127X	Laboratory Medicine	207ZP0105X
Vascular Surgery	2086S0129X	Cytopathology	207ZC0500X
Thoracic Surgery (Cardiothoracic Vascular Surgery)	208G00000X	Dermatology	207ZD0900X
Transplant Surgery	204F00000X	Forensic Pathology	207ZF0201X
Colon & Rectal Surgery	208C00000X	Hematology	207ZH0000X
Oral & Maxillofacial Surgery	204E00000X	Immunopathology	207ZI0100X

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Exhibit A.3.4. (continued)

Description	Taxonomy code	Description	Taxonomy code
Hospice and Palliative Care	2086H0002X	Medical Microbiology	207ZM0300X
Orthopedic Surgery	207X00000X	Molecular Genetic Pathology	207ZP0007X
Adult Reconstructive Orthopedic Surgery	207XS0114X	Physical Medicine & Rehabilitation	208100000X
Foot and Ankle Surgery	207XX0004X	Brain Injury	2081P0301X
Hand Surgery	207XS0106X	Sports Medicine	2081S0010X
Orthopedic Surgery of the Spine	207XS0117X	Hospice and Palliative Medicine	2081H0002X
Orthopedic Trauma	207XX0801X	Neuromuscular Medicine	2081N0008X
Sports Medicine	207XX0005X	Pain Medicine	2081P2900X
Plastic Surgery	208200000X	Spinal Cord Injury Medicine	2081P0004X
Plastic Surgery Within the Head & Neck	2082S0099X	Pain Medicine	2086H0002X
Surgery of the Hand	2082S0105X	Interventional Pain Medicine	208VP0000X
Otolaryngology	207Y00000X	Radiology	1223X0008X
Facial Plastic Surgery	207YS0123X	Diagnostic Radiology	2085R0202X
Otolaryngic Allergy	207YX0602X	Radiation Oncology	2085R0001X
Otology & Neurotology	207YX0901X	Nuclear Medicine Practitioner	204C00000X
Plastic Surgery within the Head & Neck	207YX0007X	Nuclear Medicine	207U00000X
Facial Plastic Surgery	207YX0905X	Nuclear Cardiology	207UN0901X
Anesthesiology	207L00000X	Nuclear Medicine Practitioner	207UN0902X
Critical Care Medicine	207LC0200X	Nuclear Medicine Practitioner	207UN0903X
Internal Medicine	-	Body Imaging	2085B0100X
Cardiovascular Disease	207RC0000X	Diagnostic Neuroimaging	2085D0003X
Gastroenterology	207RG0100X	Neuroradiology	2085N0700X
Pulmonary Disease	207RP1001X	Nuclear Radiology	2085N0904X
Nephrology	207RN0300X	Vascular & Interventional	2085R0204X
Infectious Disease	207RI0200X	Radiological Physics	2085R0205X
Endocrinology	207RE0101X	Diagnostic Ultrasound	2085U0001X
Rheumatology	207RR0500X	Radiation Therapy	2085R0203X
Critical Care Medicine	207RC0200X	Hospice and Palliative Medicine	2085H0002X
Hematology	207RH0000X	Urology	208800000X
Hematology & Oncology	207RH0003X	Female Pelvic Medicine & Reconstructive Surgery	2088F0040X
Medical Oncology	207RX0202X	Optometrist	152W00000X
Bariatric Medicine	207RB0002X	Corneal and Contact Management	152WC0802X
Clinical Cardiac Electrophysiology	207RC0001X	Low Vision Rehabilitation	152WL0500X
Hypertension Specialist	207RH0005X	Occupational Vision	152WX0102X
Clinical & Laboratory Immunology	207RU0001X	Sports Vision	152WS0006X
Gastroenterology	207RI0008X	Vision Therapy	152WV0400X
Magnetic Resonance Imaging (MRI)	207RM1200X	Podiatrist	213E00000X
Sports Medicine	207RS0010X	Foot & Ankle Surgery	213ES0103X
Transplant Hepatology	207RT0003X	Foot Surgery	213ES0131X
Advanced Heart Failure and Transplant Failure and Transplant Cardiology	207RA00001X	General Practice	213EG0000X

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Exhibit A.3.4. (continued)

Description	Taxonomy code	Description	Taxonomy code
Clinical & Laboratory Immunology	207RI0001X	Primary Podiatric Medicine	213EP1101X
Cardiology		Public Medicine	213EP0504X
Interventional	207RI0011X	Radiology	213ER0200X
Advanced Heart Failure and Transplant	207RA0001X	Sports Medicine	213ES0000X
Dermatology	207N00000X	Emergency Medicine	207P00000X
Clinical & Laboratory Dermatological Immunology	207NI0002X	Practitioner	207PT0002X
MOHS-Micrographic Surgery	207ND0101X	Emergency Medical Services	207PE0004X
Dermopathology	207ND0900X	Hospice and Palliative Medicine	207PH0002X
Procedural Dermatology	207NS0135X	Sports Medicine	207PS0010X
Obstetrics & Gynecology	207V00000X	Undersea and Hyperbaric Medicine	207PE0005X
Bariatric Medicine	207VB0002X	Medical Toxicology	207PT0002X
Critical Care Medicine	207VC0200X	Allergy and Immunology	207K00000X
Female Pelvic Medicine and Reconstructive Surgery	207VF0040X	Allergy	207KA0200X
Gynecologic Oncology	207VX0201X	Clinical and Laboratory Immunology	207KI0005X
Gynecology	207VG0400X	Allergy & Immunology	207RA0201X
Obstetrics	207VX0000X	Anesthesiology	207LH0002X
Reproductive Endocrinology	207VE0102X	Critical Care Medicine	207LC0200X
Hospice and Palliative Medicine	207VH0002X	Hospice and Palliative Medicine	207LH0002X
Ophthalmology	207W00000X	Otologist, Laryngologist, Rhinologist	207YS0012X
Glaucoma Specialist	207WX0009X		
Retina Specialist	207WX0107X		
Uveitis and Ocular Inflammatory Disease	207WX0108X		
Cornea and External Diseases Specialist	207WX0120X		
Ophthalmic Plastic and Reconstructive Surgery	207WX0200X		
Dental Providers	1223S0112X		

Source: NPPES.

NPPES = National Plan and Provider Enumeration System.

8. Behavioral health visits in an ambulatory setting:

We classify an encounter as behavioral health visit in an ambulatory setting if it meets the criteria in one of the three scenarios:

1. Behavioral health visit in an office (a and either b or c must be true):
 - a. A claim is in the carrier file and has a behavioral health procedure in an ambulatory setting listed in Exhibit A.3.5.
 - b. The performing provider has a behavioral health taxonomy code that is in Exhibit A.3.6.

- c. If the NPPES taxonomy code is missing for the provider that appears in the Part B claim line file or if the performing provider field is missing in the Part B claim line, we use the HCFA specialty field in the Part B claim line. If HCFASPCL = 26, 62, 68, or 80, they are a behavioral health specialist.
2. Behavioral health visit in an FQHC or RHC (a and b must be true):
 - a. A claim is in the Hospital Outpatient Hospital file where FQHCs/RHCs is defined through a combination of the facility type and type of service variables (FAC_TYPE=7 and TYPESRVC=1, 3, or 7) and has a revenue center code for FQHCs or RHCs (0521, 0522, 0527, or 0528), or HCPCS code G0512, or any of the HCPCS codes in Exhibit A.3.5 on any one of the claim lines.
 - b. The rendering provider at the claim-line level has a behavioral health taxonomy code from Exhibit A.3.6. If the rendering provider is missing in the outpatient hospital claim-line file, we use the attending operating and other provider fields.
 3. Behavioral health visit in a critical access hospital (a, b, and c must be true):
 - a. A claim is in the Hospital Outpatient hospital file in which a critical access hospital is defined through a combination of the provider field (last four digits of claim level field PROVIDER =1300-1399), facility type (FAC_TYPE=8), and type of service (TYPESRVC=5),
 - b. The claim has revenue code 0961 or 0984 and a CPT/HCPCS code in Exhibit A.3.5 or G0463.
 - c. The rendering provider at the claim-line level has a behavioral health taxonomy code from Exhibit A.3.6. If the rendering provider is missing in the outpatient hospital claim-line file, we use the attending operating and other provider fields.

Exhibit A.3.5. CPT and HCPCS codes to identify behavioral health visits in ambulatory settings

CPT/HCPCS Codes	Description	CPT/HCPCS Codes	Description
90832–90840, 90845–90849, 9085	Psychotherapy	96136–96139, 96146	Psychological or neuropsychological test administration
0364T, 0365T	Adaptive behavior treatment by protocol, administered by technician	96150–96155	Health and behavior assessment
90791–90792	Psychiatric diagnostic interview examination	97151–97152	Behavior Identification Supporting Assessment
90865	Narcosynthesis for psychiatric diagnostic and/or therapeutic purposes	97153–97158	Adaptive Behavior Treatment
90875–90876	Individual psychophysiological therapy incorporating biofeedback training by any modality (face-to-face with patient), with psychotherapy	94408–94409, G0396–G0397	Alcohol and/or substance (other than tobacco) abuse structured screening, and brief intervention services
90880	Medical hypnotherapy	G0409	Social work and psychological services, directly relating to and/or furthering the patient's rehabilitation goals
90899	Unlisted psychiatric service or procedure	G0443	Brief face-to-face behavioral counseling for alcohol misuse

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Exhibit A.3.5. (continued)

CPT/HCPCS Codes	Description	CPT/HCPCS Codes	Description
96105	Assessment of Aphasia and Cognitive Performance Testing	G0445	High intensity behavioral counseling to prevent sexually transmitted infection
96110	Developmental screening	G0446	Face-to-face intensive behavioral therapy for cardiovascular disease
96116, 96121	Neurobehavioral status exam	G0447, G0473	Face-to-face behavioral counseling for obesity
96125	Standardized cognitive performance testing	99406–99407	Smoking and tobacco use cessation counseling visit
96127	Brief emotional/behavioral assessment (e.g., depression inventory, attention-deficit/hyperactivity disorder scale)	99484	Care management services for behavioral health conditions
96130–96131	Psychological testing evaluation services by physician or other qualified health care professional	99492–99494	Behavioral health care manager activities
96132–96133	Neuropsychological testing evaluation services by physician or other qualified health care professional	G0502–G0505	Psychiatric collaborative care management

CPT = Current Procedural Terminology; HCPCS = Healthcare Common Procedure Coding System.

Exhibit A.3.6. NPES behavioral health specialist taxonomy codes

Description	Taxonomy code	Description	Taxonomy code
Psychoanalyst	102L00000X	Psychiatry & Neurology	-
Psychologist	103T00000X	Clinical Neurophysiology	2084N0600X
Addiction (Substance Use Disorder)	103TA0400X	Neurology	2084N0400X
Adult Development & Aging	103TA0700X	Neurology with Special Qualifications in Child Neurology	2084N0402X
Cognitive & Behavioral	103TB0200X	Neurological Surgery	207T00000X
Counseling	103TC1900X	Neuromuscular Medicine	2084N0008X
Educational	103TE1000X	Neurodevelopmental Disabilities	2084P0005X
Exercise & Sports	103TE1100X	Psychosomatic Medicine	2084P0015X
Family	103TF0000X	Pain Medicine	2084P2900X
Forensic	103TF0200X	Sports Medicine	2084S0010X
Health	103TH0004X	Sleep Medicine	2084S0012X
Health Service	103TH0100X	Vascular Neurology	2084V0102X
Men & Masculinity	103TM1700X	Behavioral Neurology & Neuropsychiatry Specialty	2084B0040X
Mental Retardation & Developmental Disabilities	103TM1800X	Neurocritical Care	2084A2900X
Prescribing (Medical)	103TP0016X	Bariatric Medicine	2084B0002X
Psychoanalysis	103TP0814X	Brain Injury Medicine	2084P0301X
Psychotherapy	103TP2700X	Forensic Psychiatry	2084F0202X

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Exhibit A.3.6. (continued)

Description	Taxonomy code	Description	Taxonomy code
Group Psychotherapy	103TP2701X	Hospice and Palliative Medicine	2084H0002X
Rehabilitation	103TR0400X	Psychiatry	2084P0800X
Women	103TW0100X	Addiction Psychiatry	2084P0802X
Clinical	103TC0700X	Geriatric Psychiatry	2084P0805X
Sleep Specialist, PhD	173F00000X	Behavioral Neurology & Neuropsychiatry Specialty	2084B0040X
Therapist		Diagnostic Neuroimaging	2084D0003X
Marriage & Family Therapist	106H00000X	Addition Medicine	2084A0401X
Poetry Therapist	102X00000X	Preventative Medicine	
Developmental Therapist	222Q00000X	Addiction Medicine	2083A0300X
Music Therapist	225A00000X	Internal Medicine	-
Recreation Therapist	225800000X	Addiction Medicine	207RA0401X
Dance Therapist	225600000X	Family Medicine	-
Art Therapist	221700000X	Sleep Medicine Specialization	207QS1201X
Massage Therapist	225700000X	Addition Medicine	207QA0401X
Recreation Therapist	226000000X	Registered Nurse	-
Counselor	101Y00000X	Psychiatric/Mental Health	163WP0808X
Mental Health	101YM0800X	Psychiatric/Mental Health, Adult	163WP0809X
Substance Use Disorder/Addiction	101YA0400X	Addiction (Substance Use Disorder)	163WA0400X
Rehabilitation Counselor	225C00000X	Pain Management	163WP0000X
Pastoral	101YP1600X	Clinical Nurse Specialist	-
Professional	101YP2500X	Neuroscience	364SN0800X
School	101YS0200X	Psychiatric/Mental Health	364SP0808X
Social Worker	-	Psychiatric/Mental Health, Adult	364SP0809X
Clinical	1041C0700X	Psychiatric/Mental Health, Chronically Ill	364SP0811X
School	1041S0200X	Psychiatric/Mental Health, Community	364SP0812X
Psychologist	103T00000X	Psychiatric/Mental Health, Geropsychiatric	364SP0813X
School	103TS0200X	Clinical Neuropsychologist	103G00000X
Occupational Therapist	-	Nurse Practitioner	-
Neurorehabilitation	225XN1300X	Psychiatric/Mental Health	363LP0808X
Mental Health Specialization	225XM0800X		

Source: NPPES.

NPPES = National Plan and Provider Enumeration System.

Exhibit A.3.7. Behavioral health related ICD-10 diagnosis codes

Code family	Description
F01–F09	Mental disorders due to known physiological conditions
F10–F19	Mental and behavioral disorders due to psychoactive substance use (substance use disorders)

Code family	Description
F20–F29	Schizophrenia, schizotypal, delusional, and other non-mood psychotic disorders
F30–F39	Mood [affective] disorders
F40–F48	Anxiety, dissociative, stress-related, somatoform and other nonpsychotic mental disorders
F50–F59	Behavioral syndromes associated with physiological disturbances and physical factors
F60–F69	Disorders of adult personality and behavior
F70–F79	Intellectual disabilities
F80–F89	Pervasive and specific developmental disorders
F90–F98	Behavioral and emotional disorders with onset usually occurring in childhood and adolescence
F99	Unspecified mental disorder

ICD = International Classification of Diseases.

9. DME and home health expenditures and utilization:

DME: The DME expenditure measure includes Medicare payments for Medicare-covered equipment under the Part B benefit. DME prescribed by a primary care practitioner is covered by Part B, and DME received during a skilled nursing facility or hospital inpatient stay is paid through Medicare Part A. We cannot identify the individual DME expenditures covered under Part A because DME services are covered under the Part A payment.

We flag a beneficiary as having used DME services if there is a DME claim for the beneficiary. Unlike the other utilization measures, we report this as the percentage of beneficiaries who had a DME claim in the baseline period.

A third DME-related measure we report is the percentage of beneficiaries with frailty-related DME use. This is a binary measure, and we identify the beneficiary as having frailty-related DME if one of the HCPCS codes in Exhibit A.3.8 is on the claim. These codes are derived from Kim et al. 2018.

Exhibit A.3.8. Frailty-related DME codes

HCPCS codes	Description
E0250-E0373	Hospital beds and associated supplies
K0001-K0462, K0669	Wheelchairs, components, and accessories
E0100-E0159	Walking aids and attachments
E1353-E1406	Accessories for oxygen delivery devices
A4244-A4290	Other supplies including diabetes supplies
A5500-A5513	Diabetic footwear

DME = durable medical equipment; HCPCS = Health Care Common Procedure Coding System.

Home health: The home health expenditure measure includes both Part A and Part B expenditures paid to Medicare home health agency providers.

We flag a beneficiary as having used home health services if there is a claim for the beneficiary. As with the DME measure, we report this as the percentage of beneficiaries who had a home health claim in the baseline period.

10. Frailty and advanced illness measures:

In addition to utilization and expenditure measures, we constructed two claims-based measures based on HEDIS® exclusion criteria to beneficiaries with frailty-related conditions or symptoms and advanced illness, respectively (Exhibit A.3.9)

Exhibit A.3.9. Frailty-related and advanced illness diagnosis codes

Frailty-related diagnosis codes		Frailty-related diagnosis codes		Advanced illness diagnosis codes		Advanced illness diagnosis codes	
R26.9	Unspecified abnormalities of gait and mobility	Z99.11	Dependence on respirator [ventilator status]	C20–C90 ^{a,b}	Malignant neoplasm diagnosis	J43.9	Emphysema, unspecified
R41.81	Age-related cognitive decline	Z99.3	Dependence on wheelchair	F01.50, F03.91	Dementia, Vascular and Unspecified	J84.10	Pulmonary fibrosis, unspecified
R53.1	Weakness	Z99.81	Dependence on supplemental oxygen	A81.00	Creutzfeldt-Jakob disease, unspecified	J96.11	Chronic respiratory failure with hypoxia
R54	Age-related physical debility	Z99.89	Dependence on other enabling machines and devices	G30–G31 ^{a,b}	Alzheimer's disease, and other specified dementias	J96.12	Chronic respiratory failure with hypercapnia
Z73.6	Limitation of activities due to disability	R26.2	Difficulty in walking, not elsewhere classified	F10.27	Alcohol dependence with alcohol-induced persisting dementia	J96.90	Respiratory failure, unspecified, unspecified whether with hypoxia or hypercapnia
L89.90	Pressure ulcer of unspecified site, unspecified stage	R26.89	Other abnormalities of gait and mobility	G10–G20 ^{a,b}	Huntington's disease & specified neurologic illnesses	K70.10, K70.11	Alcoholic hepatitis wo/w ascites
M62.81	Muscle weakness (generalized)	R53.83	Other fatigue	I09.81	Rheumatic heart failure	K70.30, K70.31	Alcoholic cirrhosis of liver wo/w ascites
W01.1 90A	Fall on same level, slipping, tripping, initial encounter	R53.81	Other malaise	I50.20	Unspecified systolic (congestive) heart failure	K74.0	Hepatic fibrosis
W18.3 0XA ^a	Fall on same level, unspecified, initial encounter	R62.7	Adult failure to thrive	I50.22	Chronic systolic (congestive) heart failure	K74.1	Hepatic sclerosis
W19.X XXA ^a	Unspecified fall, initial encounter	R63.4	Abnormal weight loss	I50.32	Chronic diastolic (congestive) heart failure	K74.69	Other cirrhosis of liver
Z74.09	Other reduced mobility	R63.6	Underweight	I50.812	Chronic right heart failure	L89.000-L89.96 ^b	Pressure ulcers

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Exhibit A.3.9. (continued)

Frailty-related diagnosis codes		Frailty-related diagnosis codes		Advanced illness diagnosis codes		Advanced illness diagnosis codes	
Z74.9	Problem related to care provider dependency, unspecified	R64	Cachexia	I50.89	Other heart failure	N18.5	Chronic kidney disease, stage 5
Z91.81	History of falling	R26.1	Paralytic gait	I50.9	Heart failure, unspecified	N18.6	End stage renal disease

Source: <https://www.cahealthwellness.com/content/dam/centene/cahealthwellness/pdfs/provider/hedis-provider-pocket-guide-2021-chw.pdf>

^a X denotes any value in this position.

^b This indicates any code within the range.

Appendix A.4. Payment comparison methods

In this appendix, we describe how we obtained the payment comparison results from Chapter 3. The goal of this analysis was to compare the total payments that PCF practices receive under the model with reimbursements under standard Medicare FFS. To this end, we calculated how much each PCF practice would have received under the physician fee schedule for the services it would have delivered had it not participated in the model.

When comparing payments under the PCF model with how much a practice would have earned under the physician fee schedule, we opted not to consider just the services provided after implementing PCF. It is likely that the new PCF payment structure could lead to changes in the number and types of services provided. For example, PCF practices might increase the number of face-to-face visits but provide fewer intensive services during each visit than they would if they were being paid under the physician fee schedule. To avoid these behavioral changes, we instead considered the services that PCF practices provided to their attributed beneficiaries during a pre-implementation baseline year (but reflecting the post-implementation year's physician fee schedule payment rates for those services). Specifically, we considered services provided in 2019 (that is, before the COVID-19 public health emergency) and priced them using the 2021 physician fee schedule. For this annual report, we only included Cohort 1 practices. We also show detailed results by practice risk group below.

Construction of the practice-level analytical file for the payment comparison analysis proceeded as follows:

1. We pulled 2019 carrier claims for Medicare FFS beneficiaries attributed to a Cohort 1 PCF practice in 2019. We used the attribution algorithm described in Appendix A.1 to identify these beneficiaries. We disregarded denied claims in this analysis. Because PCF payments are determined quarterly, we conducted the steps below separately for each quarter of 2019.
2. Practices receive \$40.82 for each visit that falls under the FVF, with adjustments described in steps 6 and 7. In the carrier claims, we identified procedures with the following characteristics that match the model's payment methodology: the PCF practice would have received a FVF (that is, claim line records that have a Healthcare Common Procedure Coding System [HCPCS] code of 99201–99205, 99211–99215, 99324–99328, 99334–99337, 99341–99345, 99347–99350, 99354, 99355, 99415, 99416, 99495–99498, G0402, G0438, or G0439 evaluation and management [E&M] services);^{17,18} the performing provider number was on the provider roster for the practice to which the beneficiary was attributed; and the procedure is the first one on a given day. In addition, we identified procedures that satisfied these conditions but were not the first on a given day. Although the latter category of procedures is not reimbursed under PCF (practices receive at most one FVF per beneficiary per day), practices would have received payment for multiple procedures per day under Medicare FFS.
3. We also identified chronic care management–related services, which have a HCPCS code of 99339, 99340, 99487, 99489, 99491, G2211, or G2212 and a performing provider number belonging to a provider on the provider roster for the practice to which the beneficiary was attributed.¹⁹ PCF practices are prohibited from billing chronic care management–related services but would be reimbursed for these services under Medicare FFS.

¹⁷ See Table 3-1 in PCF Payment and Attribution Methodologies PY 2022, Version II, December 2021.

¹⁸ HCPCS code 99201 was removed in 2021, so we treated claim lines with the code 99201 as if the provider had billed a code of 99202.

¹⁹ HCPCS code G2212 became effective in 2021, so we did not observe it in 2019 claims.

4. We then assigned a physician fee schedule payment to all procedures identified in steps 2 (regardless of how many services the practice provided on a given day) and 3. PCF practices would have received reimbursement for these E&M and chronic care management–related services under Medicare FFS. We used the most recent version of the 2021 physician fee schedule to assign payments.²⁰ These payments depend on the HCPCS code and locality of the provider (geographic adjustment), so we merged physician fee schedule payment data with claims data based on HCPCS codes and the provider’s zip code.²¹ In addition, physician fee schedule payments depend on the place of service. If the place of service is 19–26, 31–34, 50–58, 61, 62, 65, 71, or 72, the facility payment applies.²² Otherwise, the non-facility payment applies. Physician fee schedule payments are 10 percent higher for services delivered in Health Professional Shortage Areas. We identified Health Professional Shortage Area claims through provider zip code, the modifier AQ, or a specific Health Professional Shortage Area code of 1, 3, 5, or 7 on the claim line.²³ Finally, physician fee schedule payments are reduced by 15 percent if a nurse practitioner (provider specialty code 50), certified clinical nurse specialist (89), or physician assistant (97) provides the service instead of a physician.
5. We calculated the coinsurance amount practices would receive under PCF as 20 percent of the physician fee schedule payment for E&M and chronic care management–related services calculated in step 4.
6. We applied Merit-based Incentive Payment System (MIPS) adjustments to physician fee schedule payment amounts and to FVFs as follows:
 - c. We identified claim lines with positive or negative MIPS adjustment as indicated by a Line Other Applied Indicator Code of V or W and took the corresponding Line Other Applied Amount.
 - d. We subtracted this amount from the line payment amount if the MIPS adjustment was positive and added it if the adjustment was negative to obtain a MIPS-adjusted payment.
 - e. We calculated a MIPS adjustment factor by dividing the MIPS-adjusted payment by the original line payment amount. This adjustment factor is smaller than one for positive MIPS adjustments and larger than one for negative MIPS adjustment.
 - f. We applied the MIPS adjustment factor based on 2019 claims to the 2021 physician fee schedule payment amounts by dividing the payment amount by the adjustment factor. This adjustment

²⁰ Physician fee schedule data are available at <https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/PhysicianFeeSched/PFS-National-Payment-Amount-File>.

²¹ The zip code to locality crosswalk is available at <https://www.cms.gov/files/zip/2021-end-year-zip-code-file-revised-05272022.zip>.

²² The place of service codes for facility payments correspond to Off Campus-Outpatient Hospital, Urgent Care Facility, Inpatient Hospital, On Campus-Outpatient Hospital, Emergency Room – Hospital, Ambulatory Surgical Center, Birthing Center, Military Treatment Facility, Skilled Nursing Facility, Nursing Facility, Custodial Care Facility, Hospice, Federally Qualified Health Center, Inpatient Psychiatric Facility, Psychiatric Facility-Partial Hospitalization, Community Mental Health Center, Intermediate Care Facility/ Individuals with Intellectual Disabilities, Residential Substance Abuse Treatment Facility, Psychiatric Residential Treatment Center, Non-residential Substance Abuse Treatment Facility, Non-residential Opioid Treatment Facility, Comprehensive Inpatient Rehabilitation Facility, Comprehensive Outpatient Rehabilitation Facility, End-Stage Renal Disease Treatment Facility, Public Health Clinic, Rural Health Clinic (https://www.cms.gov/Medicare/Coding/place-of-service-codes/Place_of_Service_Code_Set).

²³ The list of Health Professional Shortage Areas is available at https://data.hrsa.gov/DataDownload/DD_Files/BCD_HPSA_FCT_DET_PC.csv. We used crosswalks from census tract, county subdivision, and county to zip code, available at [DATASETS | HUD USER](#), to match provider zip codes with Health Professional Shortage Areas.

increases or lowers physician fee schedule payments according to practice’s 2019 MIPS adjustments.

- g. We applied the same MIPS adjustment to the FVF that practices receive under PCF.

Although PCF practices will not receive MIPS adjustments if they qualify as advanced alternative payment model participants in future years of the model, the MIPS adjustments do apply for the first model year. Because MIPS adjustments roughly cancel out, on average, they are unlikely to meaningfully change our findings.

7. We geographically adjusted FVF amounts by multiplying them by the Geographic Adjustment Factor applicable for the county where the practice is located. We determine the Geographic Adjustment Factor as follows: $\text{Geographic Adjustment Factor} = 0.50866 \times GPCI_{PW} + 0.44839 \times GPCI_{PE} + 0.04295 \times GPCI_{MP}$, where $GPCI_{PW}$, $GPCI_{PE}$, and $GPCI_{MP}$ are the Geographic Practice Cost Indices for physician work, practice expenses, and malpractice insurance. We used the Geographic Practice Cost Indices from the 2021 physician fee schedule.²⁴
8. We identified procedures that are considered under leakage adjustment. These are carrier claim line items with a HCPCS code of 99201–99205, 99211–99215, 99324–99328, 99334–99337, 99339–99345, 99347–99350, 99495–99497, G0402, G0438, or G0439 when the provider’s taxonomy code is 207Q00000X, 207QA0505X, 207QG0300X, 207QH0002X, 208D00000X, 207R00000X, 207RG0300X, 207RH0002X, 364S00000X, 364SA2100X, 364SA2200X, 364SC2300X, 364SC1501X, 364SF0001X, 364SG0600X, 364SH1100X, 364SW0102X, 363L00000X, 363LA2200X, 363LC1500X, 363LF0000X, 363LG0600X, or 363LP2300X; or with 99487, 99490, or 99491 when the provider has any taxonomy code. In addition, the place of service has to be 02, 05–08, 10–20, 22, 33, 49, 50, 53, 60, 71, 72, or 99.²⁵ The services that satisfy these conditions enter calculation of the leakage adjustment if they are provided by a provider who is not on the roster of the practice to which the beneficiary was attributed.
9. We rolled up the claim line data to the practice level by taking, for each practice, the sum of each of the following quantities appearing on the practice’s claims: (1) the physician fee schedule payments practices would have received for E&M and chronic care management–related services (MIPS adjusted), (2) FVF payments (MIPS and geographically adjusted), (3) coinsurance payments, and (4) the number of services beneficiaries received from the practice to which they were attributed and from other providers (for leakage adjustment).
10. We calculated quarterly PBPs as the number of attributed beneficiaries times \$84 (for practices in risk group 1), \$135 (risk group 2), \$300 (risk group 3), or \$525 (risk group 4). We applied the geographic adjustment described in step 7 to these PBPs.
11. We calculated practice-level leakage adjustments for each quarter by calculating the leakage ratio (number of leakage adjustment–eligible services attributed beneficiaries received outside the practice divided by total number of leakage adjustment–eligible services) in the same quarter and calculated leakage-adjusted PBP by multiplying total PBP by (1 – leakage ratio).

²⁴ The Geographic Adjustment Factors are available at <https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/PhysicianFeeSched/Downloads/CountyGPCIsandGAFsMasterFile.zip>.

²⁵ See Table 2 to 4 and Appendices B and I in PCF Payment and Attribution Methodologies PY 2022, Version II, December 2021. The provider taxonomy codes refer to primary care specialties including nurse practitioners (except for acute care and women’s health nurse practitioners) and excluding physician assistants. The place of service codes refer to places where primary care services are usually provided, such as office, home, urgent care facility, and FQHC.

12. We expressed all payments in dollars per beneficiary per month by dividing the quarterly payments by three times the number of attributed beneficiaries per practice.
13. We calculated weighted means for practice-level payments per beneficiary per month when we used the number of attributed beneficiaries as weights and combined payments from all four quarters. Under PCF, we considered PBP (with and without leakage adjustment), FVF, and coinsurance payments. Under Medicare FFS, we considered payments based on the 2021 physician fee schedule, which consist of Medicare Part B payments and coinsurance (Exhibit 3.3 in Chapter 3). We also considered the distribution of total payments under PCF and Medicare FFS separately for each risk group and displayed the distributions as box-and-whisker plots (Exhibit 3.4 in Chapter 3). In these plots, the boxes indicate the 25th percentile, median, and 75th percentile and the “whiskers” indicate upper and lower adjacent values. The upper adjacent value is defined as the observed payment amount closest to and at most as large as $x_{[75]} + 2 / 3(x_{[75]} - x_{[25]})$, where $x_{[25]}$ and $x_{[75]}$ are the 25th and 75th percentiles. The lower adjacent value is defined as the observed payment amount closed to and at least as large as $x_{[25]} - 2 / 3(x_{[75]} - x_{[25]})$.

Appendix B.

Supplemental materials on practice participation

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Exhibit B.1. Practice characteristics that determine PCF ineligibility

Practice characteristics	
Practice type	Any practice that was a concierge practice (any practice that charges patients a retainer fee), a Rural Health Clinic, or a Federally Qualified Health Center was ineligible and could not complete the application.
Primary care percent	Any practice where primary care services account for less than 49.5 percent of the practices' collective billing based on revenue was deemed ineligible (or, for multi-specialty practices, if the practices' eligible primary care practitioners' combined revenue from primary care services was below 49.5 percent)
Attributed beneficiaries	Any beneficiary count below 100 was deemed ineligible. Any practices that had 0 beneficiaries and were also considered a "New" practice were allowed to participate, pending updated beneficiary counts in the future. Any practices at least 100 beneficiaries but fewer than 125 were allowed in a "Glide path", pending updated beneficiary counts the future.
Agree to share application data	If a practice did not agree for CMS to share application and acceptance data, including TIN(s), with current and future PCF payer partners or other programs within your state, the application was deemed ineligible
State and county	If not in an eligible region/county, the application was deemed ineligible unless the practice was participating in the Independence at Home model.
Care delivery: Practices selecting "A" for care delivery questions 1, 3, 4 or 9 in the PCF application were deemed ineligible; responses to other care delivery questions were not used to determine eligibility.	
Care Delivery #1 - Patients	<p>Patients</p> <ul style="list-style-type: none"> a. are not assigned to specific practitioner panels. (<i>Ineligible response</i>) b. are assigned to specific practitioner panels but panel assignments are not routinely used by the practice for administrative or other purposes. c. are assigned to specific practitioner panels and panel assignments are routinely used by the practice mainly for scheduling purposes. d. are assigned to specific practitioner panels and panel assignments are routinely used for scheduling purposes and are continuously monitored to balance supply and demand.
Care Delivery #2 - Non-Physician Teams	<p>Non-physician practice team members</p> <ul style="list-style-type: none"> a. play a limited role in providing clinical care b. primarily tasked with managing patient flow and triage c. provide some clinical services such as assessment or self-management support d. perform key clinical service roles that match their abilities and credentials
Care Delivery #3 - Follow Up with ED Patients	<p>Follow-up by the primary care practice with patients seen in the Emergency Department (ED) or hospital</p> <ul style="list-style-type: none"> a. generally, does not occur. (<i>Ineligible response</i>) b. occurs only if the ED or hospital alerts the primary care practice. c. occurs because the primary care practice makes proactive efforts to identify patients. d. is done routinely because the 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.

Appendix B Supplemental materials on practice participation

Exhibit B.1. (continued)

<p>Care Delivery #4 - Patient Access - After Hours</p>	<p>Patient after-hours access (24 hours, 7 days a week) to a physician, PA/NP, or nurse</p> <ul style="list-style-type: none"> a. is not available or limited to an answering machine. (<i>Ineligible response</i>) b. 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. c. is provided by a coverage arrangement (e.g. answering service) that shares necessary patient data with and provides a summary to the practice. d. 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.
<p>Care Delivery #5 - Clinical leaders</p>	<p>Clinical leaders</p> <ul style="list-style-type: none"> a. intermittently focus on improving quality b. have developed a vision for quality improvement, but no consistent process for getting there c. committed to a quality improvement process, and sometimes engage teams in implementation and problem solving d. consistently champion and engage clinical teams in improving patient experience of care and clinical outcomes
<p>Care Delivery #6 - Method/Tool for Patient Risk</p>	<p>A standard method or tool(s) to stratify patients by risk level</p> <ul style="list-style-type: none"> a. is not available b. is available but not consistently used to stratify all patients c. is available and is consistently used to stratify all patients but is inconsistently integrated into all aspects of care delivery d. is available, consistently used to stratify all patients, and is integrated into all aspects of care delivery
<p>Care Delivery #7 - high-risk patients</p>	<p>Clinical care management services for high-risk patients</p> <ul style="list-style-type: none"> a. are not available b. are provided by external care managers with limited connection to the practice c. are provided by external care managers who regularly communicate with the care team d. are systematically provided by the care manager functioning as a member of the practice team, regardless of location
<p>Care Delivery #8 - Care Plans</p>	<p>Care plans</p> <ul style="list-style-type: none"> a. are not routinely developed or recorded b. are developed and recorded but reflect providers' priorities only c. are developed collaboratively with patients and families and include self-management and clinical goals, but they are not routinely recorded or used to guide subsequent care d. are developed collaboratively, include self-management and clinical care management goals, are routinely recorded, and guide care at every subsequent point of service

Appendix B Supplemental materials on practice participation

Exhibit B.1. (continued)

Care Delivery #9 - Advance care planning	This practice site discusses advance care planning (e.g., for end-of-life care and advanced directives for when patients might become too sick to make their own decisions) with <ol style="list-style-type: none"> none of the practice's high-risk patients. (<i>Ineligible response</i>) some of the practice's high-risk patients. many or all of the practice's high-risk patients. many or all of the practice's high-risk patients, and patient preferences for end-of-life care are documented and accessible to the care team.
Care Delivery #10 - Site has formal, written agreements with	Practices may or may not have agreements with other care organizations (e.g., specialists) that they refer patients to. A formal, written agreement with these organizations describes expectations for timely patient visits, the frequency and type of information communicated between your primary care practice and other care organizations, and their respective roles. This practice site has formal, written agreements with <ol style="list-style-type: none"> no medical or surgical groups some medical or surgical groups many medical and surgical groups most or all medical surgical groups
Health information technology (Health IT)	
Health IT requirements	Any practice that reported in the application that it was not able to complete the health IT requirements indicated listed in the PCF RFA was deemed ineligible. These include the ability to use 2015 Edition Certified Electronic Health Record Technology (CEHRT), support data exchange with other providers and health systems via Application Programming Interface (API) and connect to their regional health information exchange (HIE).
EHR and eCQM requirements	Any practice that was not able to obtain EHR and eCQM data for your PCF Practice Site and PCF Taxpayer Identification Number (TIN)/National Provider Identifier (NPI) only, distinct from health system or other practice data was deemed ineligible

Exhibit B.2. Characteristics of PCF Cohort 1 practices that started in 2021, by risk group

	Risk Group			
	1 (N = 760)	2 (N = 56)	3 (N = 21)	4 (N = 9)
Practice owned and operated by a larger health care organization (health system or group practice)	88%	57%	52%	33%
Total system applicants (total independent organizations in which all practices within a health system are grouped and counted once) ^{a,b}	99	33	9	2
Practice Size (number of practitioners)				
Large (10 or more practitioners)	11%	11%	14%	44%
Medium (3 to 9 practitioners)	61%	57%	57%	44%
Small (1 or 2 practitioners)	28%	32%	29%	11%
Which statement best characterizes your practice?^c				
Practice within a hospital system	33%	21%	19%	0%

Appendix B Supplemental materials on practice participation

Exhibit B.2. (continued)

	Risk Group			
	1 (N = 760)	2 (N = 56)	3 (N = 21)	4 (N = 9)
Practice within an integrated delivery system	38%	20%	10%	33%
Medical group practice	27%	50%	67%	67%
Practice within a network of individual practices	1%	0%	0%	0%
Other	2%	9%	5%	0%
Practice specialty type (respondents could choose all that apply)				
The practice is a single-specialty primary care practice	74%	63%	52%	56%
The practice is a primary care practice with other integrated practitioners or is a multi-specialty practice	20%	36%	33%	22%
The practice participates in other lines of business besides primary care, such as urgent care on weekends or physical exams for an insurance company	<1%	0%	0%	11%
More than one specialty types selected	5%	2%	14%	11%
Participation in Medicare Shared Savings Program^d				
Yes, the practice is part of an ACO that is participating in the Shared Savings Program and will continue participation.	57%	59%	38%	11%
No, the practice is not participating or applying to participate in the Shared Savings Program.	43%	41%	57%	89%
No, but the practice was part of an ACO that intended to apply to participate in the Shared Savings Program before the model began.	<1%	0%	5%	0%
PCF region^e				
Alaska	0	0	0	0
Arkansas	15	1	1	0
California	82	10	2	2
Colorado	11	0	0	1
Delaware	11	2	1	0
Florida	88	13	4	1
Greater Buffalo region	12	1	0	1
Greater Kansas City region	7	1	0	0
Greater Philadelphia region	54	4	1	1
Hawaii	2	2	1	0
Louisiana	3	0	2	1
Maine	44	1	0	0
Massachusetts	58	1	1	0
Michigan	33	1	4	1
Montana	0	0	0	0
Nebraska	11	2	0	0
New Hampshire	5	0	0	0

Appendix B Supplemental materials on practice participation

Exhibit B.2. (continued)

	Risk Group			
	1 (N = 760)	2 (N = 56)	3 (N = 21)	4 (N = 9)
New Jersey	74	5	2	0
North Dakota	0	0	0	0
North Hudson-Capital region (NY)	13	4	0	0
Ohio and Northern Kentucky	101	2	0	0
Oklahoma	32	1	1	0
Oregon	15	0	0	0
Rhode Island	0	0	0	0
Tennessee	39	1	0	0
Virginia	50	4	1	0
Washington D.C. ^f	0	0	0	1

Source: Mathematica's analysis of PCF application data reflecting participants as of January 2021 and limited to those that had received any PCF payment.

Note: Percentages might not sum to 100 because of rounding.

^a This variable captures the unique count of systems. Practices that answered "no" to the question "Do you belong to a larger healthcare organization?" are not included. Practices that answered "yes" to that question are included, even if they are the only PCF practice in that system.

^b The number of unique systems across all PCF practices is 105. The risk group categories sum to 143 because some systems have practices in more than one risk group. Each risk group column can be interpreted as, "the count of unique systems that have at least 1 practice in this risk group".

^c Responses to questions about practice description and specialty type are worded as they were in the PCF practice application. Unless otherwise noted, response options were mutually exclusive.

^d Application data asked about planned participation in 2020, which was the year that the model was initially intended to launch.

^e Alaska, Missouri (Outside of the Greater Kansas City region), and North Dakota each had only one practice apply, but it eventually withdrew or declined to participate. No practices from Montana applied to PCF Cohort 1.

^f IAH practices could join PCF regardless of region; DC is listed to include these IAH practices.

ACO = accountable care organization; PCF = Primary Care First.

Exhibit B.3. Demographic characteristics of beneficiaries assigned to PCF Cohort 1 practices over a two-year baseline period (2019–2020)^a

	Total	Risk Group			
		1	2	3	4
Number of PCF practices ^b	834	748	55	22	9
Number of assigned Medicare beneficiaries	517,075	480,521	25,041	8,006	3,507
Age categories (%)					
18 to 64	9	9	10	8	9
65 to 74	41	42	32	19	17
75 to 84	34	34	34	31	27
84 or older	15	14	23	42	47
Female (%)	58	58	61	64	69

Appendix B Supplemental materials on practice participation

Exhibit B.3. (continued)

	Total	Risk Group			
		1	2	3	4
Race categories (%)^c					
Non-Hispanic White	84	85	72	77	61
Black (or African American)	6	6	12	7	21
Hispanic	4	4	5	4	10
Asian/Pacific Islander	3	3	8	10	4
American Indian/Alaska Native	0	0	0	1	0
Other	2	2	2	2	2
Medicare Part D enrollment (%)	74	74	74	76	72
Poverty indicators					
Any eligibility for low-income subsidy (%)	15	15	23	29	49
Eligible for full low-income subsidy	14	13	22	28	48
Eligible for partial low-income subsidy	1	1	1	1	1
Dual eligibility (%)	14	13	22	28	48
Original reason for Medicare eligibility (%)^d					
Old-Age and Survivor's Insurance	82	82	80	80	76
Disability insurance benefits	18	18	20	20	24
Current reason for Medicare eligibility (%)^d					
Old-Age and Survivor's Insurance	91	91	90	92	91
Disability insurance benefits	9	9	10	8	9

Source: Mathematica's analysis of the Enrollment DataBase, OneKey, and Medicare Bayesian Improved Surname Geocoding.

^a All values in this table are reported as percentages (multiplied by 100) and are measured as of December 2020 except age, which we calculated as of April 2022. Percentages might not sum to 100 because of rounding.

^b Only 834 PCF Cohort 1 practices had assigned beneficiaries in the two-year baseline period (2019–2020). PCF practices might lack assigned beneficiaries if, for example, they did not exist in 2019 or they had no primary care practitioners in 2019.

^c From Medicare Bayesian Improved Surname Geocoding. There are fewer than 0.1 percent of beneficiaries with race unknown (not shown in the table).

^d There are fewer than 0.1 percent of beneficiaries who qualify because of end-stage renal disease or both end-stage renal disease and disability insurance benefits.

Exhibit B.4. Health status characteristics of beneficiaries assigned to PCF Cohort 1 practices over a two-year baseline period (2019–2020)^a

	Total	Risk Group			
		1	2	3	4
Number of PCF practices ^b	834 ^b	748	55	22	9
Number of assigned Medicare beneficiaries	517,075	480,521	25,041	8,006	3,507
Number of HCC conditions (%)^c					
0	26	27	15	10	6
1 or 2	40	41	35	31	22
3 or 4	19	18	26	28	27
5 or more	15	14	24	32	45

Appendix B Supplemental materials on practice participation

Exhibit B.4. (continued)

	Total	Risk Group			
		1	2	3	4
Chronic conditions (%)					
Diabetes (HCC 17-19) ^d	25	25	33	32	36
Advanced cancer (HCC 8-12) ^e	15	15	17	16	11
Advanced chronic obstructive pulmonary disease (HCC 111)	12	12	15	16	22
Chronic kidney disease (HCC 136-138) ^f	9	9	15	15	10
Alzheimer's and other related dementia (HCC 51-52)	6	6	12	26	42
Heart failure (HCC 85)	13	12	17	24	33
Ischemic heart disease (HCC 86-88) ^g	7	7	10	10	10
Major depressive, bipolar and paranoid disorders (HCC 59)	12	11	17	17	21
Rheumatoid arthritis and inflammatory connective tissue disease (HCC 40)	8	8	10	9	5
Hypertension ^h	60	59	69	76	81
Hyperlipidemia ^h	55 ^h	54	64	64	56
Has advanced illness (%) ⁱ	33	32	41	56	67
Frailty- and frailty-utilization indicators					
Frailty (%) ^j	34	33	43	58	74
Any DME utilization (%) ^j	29	28	32	40	50
Frailty-related DME utilization (%) ^j	14	13	16	25	33
Any home health agency utilization (%) ^j	11	10	15	29	42

Source: Mathematica's analysis of Medicare claims, the Enrollment DataBase, and OneKey.

^a Percentages might not sum to 100 because of rounding.

^b Only 834 PCF Cohort 1 practices had assigned beneficiaries in the two-year baseline period (2019–2020). PCF practices might lack assigned beneficiaries if, for example, they did not exist in 2019 or they had no primary care practitioners in 2019.

^c This includes all 189 HCC conditions, not just the selected conditions shown in this table.

^d This includes diabetes with acute complications, chronic complications, or without complications.

^e This includes metastatic cancer and acute leukemia; lung and other severe cancers; lymphoma and other cancers; colorectal, bladder, and other cancers; breast, prostate, and other cancers; and tumor.

^f This includes stage 5, stage 4, and stage 3 chronic kidney disease.

^g This includes acute myocardial infarction, unstable angina, and angina pectoris.

^h This is not an HCC. Instead, it is from the MBSF chronic conditions file

ⁱ This is identified as beneficiaries with a diagnosis code for one of the following conditions: Malignant neoplasm diagnosis; Dementia, Vascular and Unspecified; Creutzfeldt-Jakob disease, unspecified; Alzheimer's disease, and other specified dementias; Alcohol dependence with alcohol-induced persisting dementia; Huntington's disease & specified neurologic illnesses; Rheumatic heart failure; Unspecified systolic (congestive) heart failure ; Chronic systolic (congestive) heart failure; Chronic diastolic (congestive) heart failure; Chronic right heart failure; Other heart failure; Heart failure, unspecified; Emphysema, unspecified; Pulmonary fibrosis, unspecified; Chronic respiratory failure with hypoxia; Chronic respiratory failure with hypercapnia; Respiratory failure, unspecified, unspecified whether with hypoxia or hypercapnia; Alcoholic hepatitis wo/w ascites; Alcoholic cirrhosis of liver wo/w ascites; Hepatic fibrosis; Hepatic sclerosis; Other cirrhosis of liver; Pressure ulcers; Chronic kidney disease, stage 5; and End stage renal disease.

^j Frailty is defined by a claims-based measures based on HEDIS[®] exclusion criteria to beneficiaries with frailty-related diagnosis codes. The DME expenditure measure includes Medicare payments for Medicare-covered equipment

Appendix B Supplemental materials on practice participation

Exhibit B.4. (continued)

under the Part B benefit. The frailty-related DME use is a binary measure; the beneficiary is identified as having frailty-related DME if one of a set of frailty-related DME HCPCS codes is on the claim. These codes are derived from Kim et al. 2018. The home health expenditure measure includes both Part A and Part B expenditures paid to Medicare home health agency providers. Appendix A.3 provides additional details on these measures.

CMS = Centers for Medicare & Medicaid Services; DME = durable medical equipment; FFS = fee for service; HCC = Hierarchical Condition Category; HEDIS = Healthcare Effectiveness Data and Information Set; MBSF = Medicare Beneficiary Summary File.

Exhibit B.5. Baseline beneficiary expenditures and utilization (unadjusted) by risk group of assigned practice for Cohort 1

	Total	Risk Group			
		1	2	3	4
Number of PCF practices	834	748	55	22	9
Number of assigned Medicare beneficiaries	517,075	480,521	25,041	8,006	3,507
Medicare expenditures (\$ per beneficiary per month)					
Total expenditures	946	909	1,189	1,744	2,655
Expenditures for acute inpatient care (short-stay acute care and critical access hospitals)	306	294	383	549	982
Expenditures for primary care visits in all settings ^a	110	105	146	189	255
Home health agency expenditures	50	44	79	190	307
DME expenditures	24	24	27	39	53
Service use (annualized per 1,000 beneficiaries)					
Acute hospitalizations (short-stay acute care and CAHs)	246	237	305	441	635
Outpatient emergency department visits	384	376	446	570	564
Primary care visits to primary care practitioners in all settings ^a	13,525	13,067	17,582	22,714	28,787
Primary care visits to primary care practitioners in ambulatory settings ^b	4,465	4,294	5,980	7,883	10,233
Primary care visits to non-behavioral health specialists in ambulatory settings ^c	4,153	4,110	4,982	4,536	3,349
Behavioral health visits in ambulatory settings ^c	635	617	884	817	1,082

Source: Mathematica's analysis of Medicare claims, the Enrollment DataBase, and OneKey.

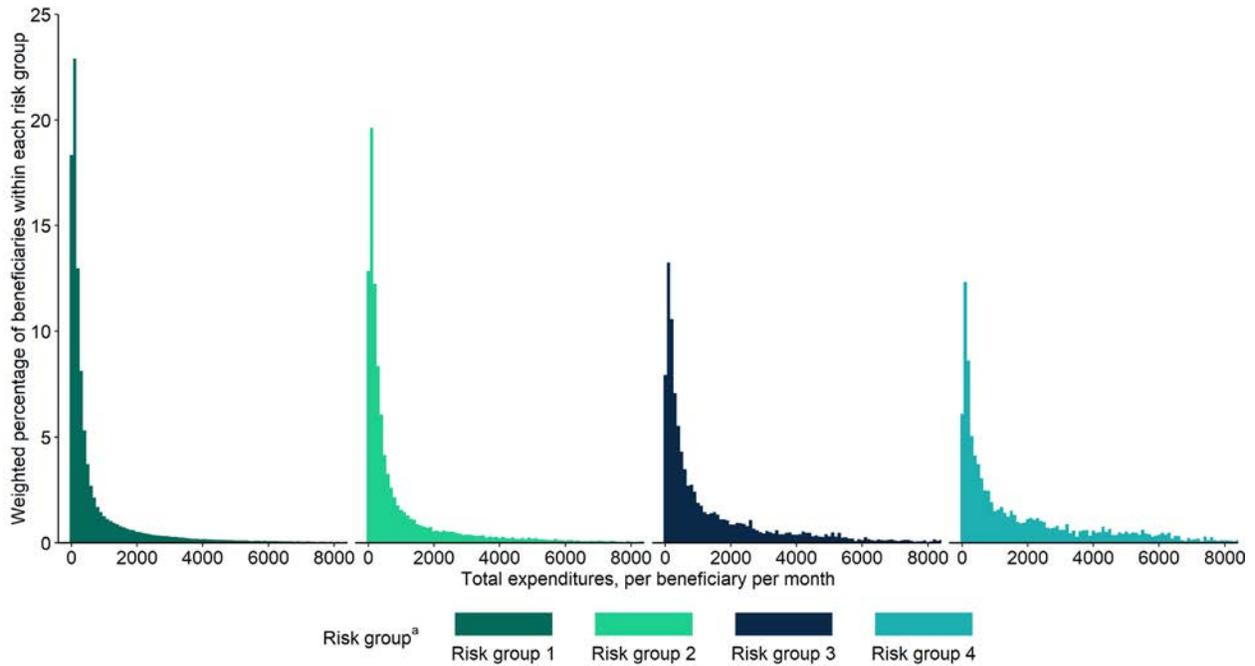
^a This includes visits to CAHs, FQHCs, and RHCs. See Appendix A.3 for details on primary care visit measure specification.

^b This includes outpatient and carrier data. For outpatient data, we only include primary care visits at CAHs (that is, claims from a CAH to an NPI with primary care specialty).

^c This is based only on carrier data. Visits to CAHs, FQHCs, and RHCs are not included.

CAH = critical access hospital; CMS = Centers for Medicare & Medicaid Services; DME = durable medical equipment; FFS = fee for service; FQHC = Federally Qualified Health Center; NPI = National Provider Identifier; RHC = Rural Health Clinic.

Exhibit B.6. Baseline beneficiary total expenditures, per beneficiary per month, by risk group of assigned practice for Cohort 1



Source: Mathematica’s analysis of Medicare claims, the Medicare Enrollment DataBase, and OneKey.

^a CMS assigns practices to risk groups based on the average HCC score of attributed beneficiaries. HCC scores are a measure of risk for predicted expenditures, based on the beneficiaries’ chronic conditions, as identified in Medicare claims data.

CMS = Centers for Medicare & Medicaid Services; HCC = Hierarchical Condition Category.

Exhibit B.7. Characteristics of Cohort 1 practices were active participants as of January 1, 2022 compared to Cohort 1 practices that left the model in 2021

	Active participants as of January 1, 2022 (n=726)	Left model in 2021 (n=120)
Practice owned and operated by a larger health care organization (health system or group practice)	86%	78%
Total system applicants (total independent organizations in which all practices within a health system are grouped and counted once) ^{a,b}	93	38
Risk Group		
Risk groups 1 or 2	701	115
Risk groups 3 or 4	25	5
Practice Size (number of practitioners)		
Large (10 or more practitioners)	13%	2%
Medium (3 to 9 practitioners)	62%	49%
Small (1 or 2 practitioners)	25%	49%

Appendix B Supplemental materials on practice participation

Exhibit B.7. (continued)

	Active participants as of January 1, 2022 (n=726)	Left model in 2021 (n=120)
Which statement best characterizes your practice?^c		
Practice within a hospital system	31%	33%
Practice within an integrated delivery system	40%	9%
Medical group practice	26%	53%
Practice within a network of individual practices	1%	2%
Other	2%	3%
Practice specialty type (respondents could choose all that apply)		
The practice is a single-specialty primary care practice	70%	85%
The practice is a primary care practice with other integrated practitioners or is a multi-specialty practice	24%	11%
The practice participates in other lines of business besides primary care, such as urgent care on weekends or physical exams for an insurance company	1%	0%
More than one specialty types selected	6%	4%
Participation in Medicare Shared Savings Program in 2020^d		
Yes, the practice is part of an ACO that is participating in the Shared Savings Program and planned to continue participation.	56%	54%
No, the practice is not participating or applying to participate in the Shared Savings Program.	43%	45%
Yes, the practice was part of an ACO that is participating in the Shared Savings Program but planned to stop participating before the model began.	<1%	0%
PCF Region^e		
Alaska	0	0
Arkansas	15	2
California	85	11
Colorado	10	2
Delaware	12	2
Florida	94	12
Greater Buffalo region	6	8
Greater Kansas City region	8	0
Greater Philadelphia region	40	20
Hawaii	2	3
Louisiana	3	3
Maine	44	1
Massachusetts	58	2
Michigan	36	3
Montana	0	0

Appendix B Supplemental materials on practice participation

Exhibit B.7. (continued)

	Active participants as of January 1, 2022 (n=726)	Left model in 2021 (n=120)
Nebraska	12	1
New Hampshire	5	0
New Jersey	63	18
North Dakota	0	0
North Hudson-Capital region (NY)	16	1
Ohio and Northern Kentucky	100	3
Oklahoma	26	8
Oregon	15	0
Rhode Island	0	0
Tennessee	33	7
Virginia	42	13
Washington D.C. ^f	1	0

Source: Mathematica’s analysis of PCF application data reflecting participants as of January 2022 and limited to those that had received any PCF payment.

Note: Percentages might not sum to 100 because of rounding.

^a This variable captures the unique count of systems. Practices that answered “no” to the question “Do you belong to a larger healthcare organization?” are not included. Practices that answered “yes” to that question are included, even if they are the only PCF practice in that system.

^b The number of unique systems across all PCF practices is 105. The risk group categories sum to >105 because some systems have practices both that left and remained in the model. Each column can be interpreted as, “the count of unique systems that have at least 1 practice in this category”.

^c Responses to questions about practice description and specialty type are worded as they were in the PCF practice application. Unless otherwise noted, response options were mutually exclusive.

^d Application data asked about planned participation in 2020, which was the year that the model was initially intended to launch.

^e Alaska, Missouri (Outside of the Greater Kansas City region), and North Dakota each had only one practice apply, but it eventually withdrew or declined to participate. No practices from Montana applied to PCF Cohort 1.

^f IAH practices could join PCF regardless of region; DC is listed to include these IAH practices.

Exhibit B.8. Characteristics of PCF Cohort 2 practices that started in 2022, by risk group

	Risk Group			
	1 (N = 2,010)	2 (N = 180)	3 (N = 27)	4 (N = 11)
Practice owned and operated by a larger health care organization (health system or group practice)	83%	71%	44%	36%
Practice size (number of practitioners)				
Large (10 or more practitioners)	24%	23%	30%	64%
Medium (3 to 9 practitioners)	60%	46%	56%	27%
Small (1 or 2 practitioners)	17%	31%	15%	9%

Appendix B Supplemental materials on practice participation

Exhibit B.8. (continued)

	Risk Group			
	1 (N = 2,010)	2 (N = 180)	3 (N = 27)	4 (N = 11)
Which of the following best describes your practice?^a				
Practice within a hospital system	41%	27%	19%	9%
Practice within an integrated delivery system	12%	8%	0%	0%
Medical group practice	41%	60%	78%	91%
Practice within a network of individual practices	2%	1%	0%	0%
Other	4%	3%	4%	0%
Practice specialty type (respondents could choose all that apply)^a				
The practice is a single-specialty primary care practice	71%	74%	70%	55%
The practice is a primary care practice with other integrated practitioners or is a multi-specialty practice	21%	21%	22%	36%
The practice participates in other lines of business besides primary care, such as urgent care on weekends or physical exams for an insurance company	1%	0%	4%	0%
More than one specialty types selected	7%	5%	0%	9%
Participation in Medicare Shared Savings Program				
Yes, the practice is part of an ACO that is participating in the Shared Savings Program and planned to continue participation.	45%	59%	52%	36%
No, the practice is not participating or applying to participate in the Shared Savings Program.	52%	38%	44%	64%
Yes, the practice was part of an ACO that is participating in the Shared Savings Program but planned to stop participating before the model began.	3%	3%	4%	0%
Participation in CPC+ models				
Track 1	29%	26%	11%	0%
Track 2	41%	32%	33%	27%
None	30%	42%	56%	73%
PCF region^b				
Alaska	0	0	0	0
Arkansas	93	10	0	0
California	80	15	4	0
Colorado	149	6	1	0
Delaware	0	4	0	0
Florida	59	14	4	2
Greater Buffalo region	19	2	0	0
Greater Kansas City region	93	3	0	0
Greater Philadelphia region	142	12	2	2
Hawaii	46	0	0	0

Appendix B Supplemental materials on practice participation

Exhibit B.8. (continued)

	Risk Group			
	1 (N = 2,010)	2 (N = 180)	3 (N = 27)	4 (N = 11)
Louisiana	9	1	1	0
Maine	18	1	0	0
Massachusetts	37	5	1	0
Michigan	249	31	3	2
Montana	33	0	0	0
Nebraska	20	0	0	0
New Hampshire	8	0	0	0
New Jersey	220	23	7	4
North Dakota	20	0	0	0
North Hudson-Capital region (NY)	72	9	0	0
Ohio and Northern Kentucky	405	27	3	1
Oklahoma	84	9	1	0
Oregon	91	1	0	0
Rhode Island	32	2	0	0
Tennessee	20	4	0	0
Virginia	11	1	0	0
Washington D.C. ^c	0	0	0	0

Source: Mathematica’s analysis of PCF application data reflecting participants as of January 2022 and limited to those that had received any PCF payment.

Note: Percentages might not sum to 100 because of rounding.

^a Responses to questions about practice description and specialty type are worded as they were in the PCF practice application. Unless otherwise noted, response options were mutually exclusive.

^b Alaska is a PCF region, however no practices from Alaska participated in PCF Cohort 2.

^c IAH practices could join PCF regardless of region; DC is listed to include these IAH practices.

ACO = accountable care organization; CPC+ = Comprehensive Primary Care Plus.

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Appendix C.

Supplemental materials on PCF payment to practices

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Appendix C.1. Payment Findings

1. Services included in payment structure components

The professional PBP is meant to partially replace FFS revenue from specific primary care services for a practice’s attributed beneficiary population. Practices whose patients have, on average, more complex conditions receive a higher PBP to compensate for the more resource-intensive care these patients require. Exhibit C.1.1 lists the services and related HCPCS codes included in the calculations of the professional PBP, flat visit fee, and leakage rate adjustment.

Exhibit C.1.1. Services included in the PCF professional PBP, flat visit fee, and leakage rate adjustment for attributed Medicare beneficiaries

	Professional PBP	Flat visit fee	Leakage adjustment
Office/outpatient visit E&M	99202–99205, 99211–99215, G2211	99202–99205, 99211–99215	99202–99205, 99211–99215
Prolonged E&M	99354, 99355, 99415, 99416, G2212	99354, 99355, 99415, 99416	Not included
Transitional care management services	99495, 99496	99495, 99496	99495, 99496
Home care/domiciliary care E&M	99324–99328, 99334–99337, 99341–99345, 99347–99350	99324–99328, 99334–99337, 99341–99345, 99347–99350	99324–99328, 99334–99337, 99341–99345, 99347–99350
Home care/domiciliary care plan oversight	99339, 99340	Not included	99339, 99340
Advance care planning	99497, 99498	99497, 99498	99497
Welcome to Medicare and Annual Wellness Visits	G0402, G0438, G0439	G0402, G0438, G0439	G0402, G0438, G0439
Chronic care management services ^a	99487, 99489-99491	Not included	99487, 99490, 99491

Source: Mathematica’s summary of Primary Care First: Payment and Attribution Methodologies PY 2022, Version August 2021, Center for Medicare & Medicaid Innovation.

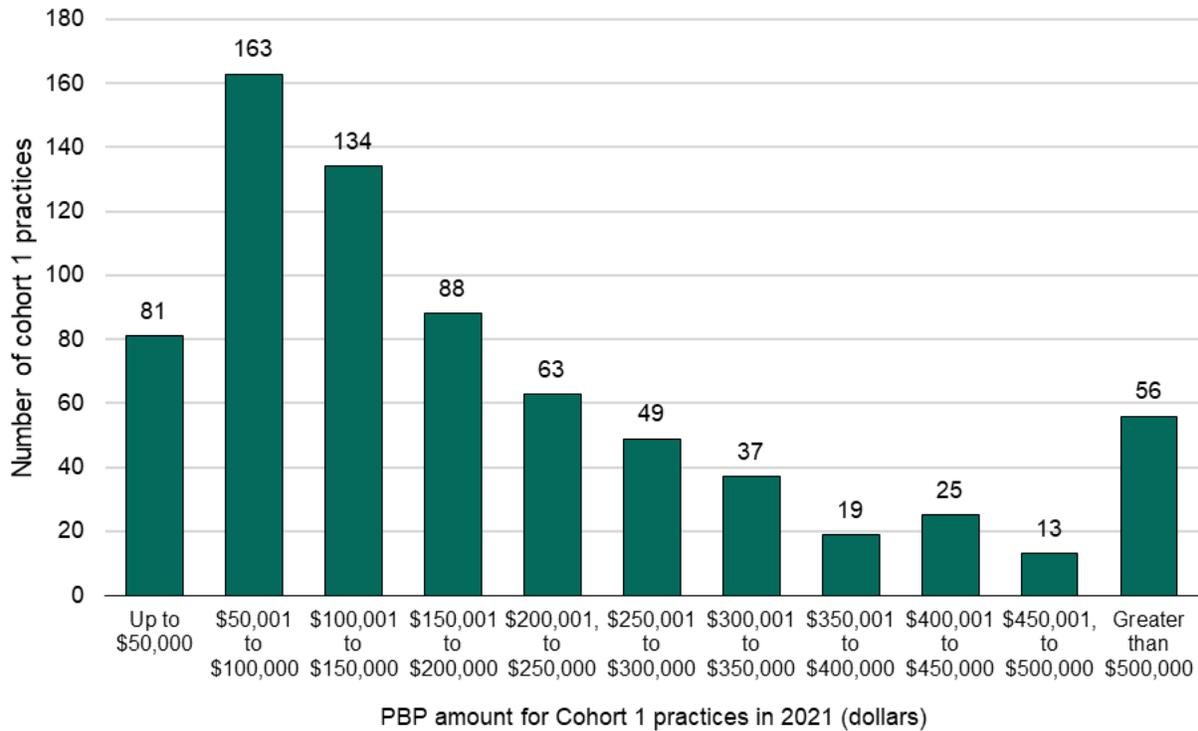
^a For the leakage adjustment, services can contribute to leakage if they are billed by a primary care practitioner except for chronic care services, which counts toward leakage if billed by any Medicare practitioner.

E&M = evaluation and management; HCPCS = Healthcare Common Procedures Coding System; PBP = population-based payment.

2. Distribution of annual PBPs for PCF Cohort 1 practices in risk group 1, in 2021

In 2021, the median annual PBP for was \$143,412 for PCF Cohort 1 practices in risk group 1 and ranged from a minimum annual PBP of \$2,363 to a maximum of \$2,475,252. Exhibit C.1.2 shows the distribution of annual PBPs for PCF Cohort 1 practices in risk group 1. The PBP for more than half of practices in risk group 1 was less than \$150,000, although a small proportion received a PBP greater than \$500,000 (Exhibit C.1.2).

Exhibit C.1.2. The distribution of annual 2021 payments for risk group 1 shows that annual PBPs were less than \$150,000 per practice for most risk group 1 practices.

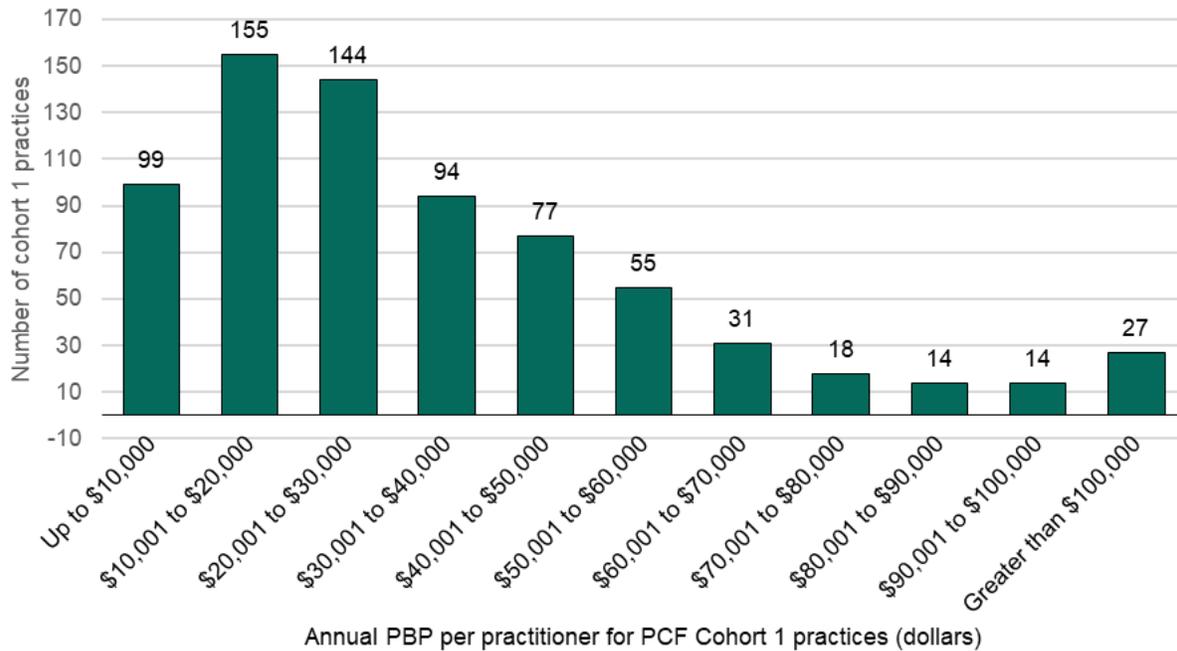


Source: Mathematica’s analysis of PCF payment data.
 PBP = population-based payment.

3. Distribution of annual per practitioner PBP for PCF Cohort 1 practices in risk group 1 in 2021

In 2021, the median annual per practitioner PBP for was \$27,001 for PCF Cohort 1 practices in risk group 1 and ranged from a minimum annual per practitioner PBP of \$1,490 to a maximum of \$294,273 per practitioner. Exhibit C.1.3 shows the distribution of annual per practitioner PBPs for PCF Cohort 1 practices in risk group 1.

Exhibit C.1.3. The distribution of annual per practitioner PBP for risk group 1 shows that annual PBPs were less than \$30,000 per practitioner for more than half of risk group 1 practices.



Source: Mathematica’s analysis of PCF payment data.

PBP = population-based payment.

4. Payment comparison results by risk group

Exhibit C.1.4 shows our payment comparison results by risk group and overall for all Cohort 1 practices. The numbers in the last column correspond to the bar graph in Exhibit 3.6 in Chapter 3. Total payments to PCF practices are higher under the model than they would have been under Medicare FFS by \$6.75 per beneficiary per month, on average, or by 22 percent when payments are adjusted for leakage. Without leakage adjustment, the average difference is \$17.10 per beneficiary per month, or 56 percent. This difference is mostly driven by PBPs. The difference between model and FFS payments is larger for practices in higher risk groups. Exhibit C.1.5 shows the density of total payments (in average dollars per beneficiary per month on the practice level) by risk group to Cohort 1 practices under the PCF model and FFS and illustrates that the entire payment distribution is shifted to the right under PCF for risk groups 2 to 4.

Exhibit C.1.4. Payment comparison results by risk group, Cohort 1

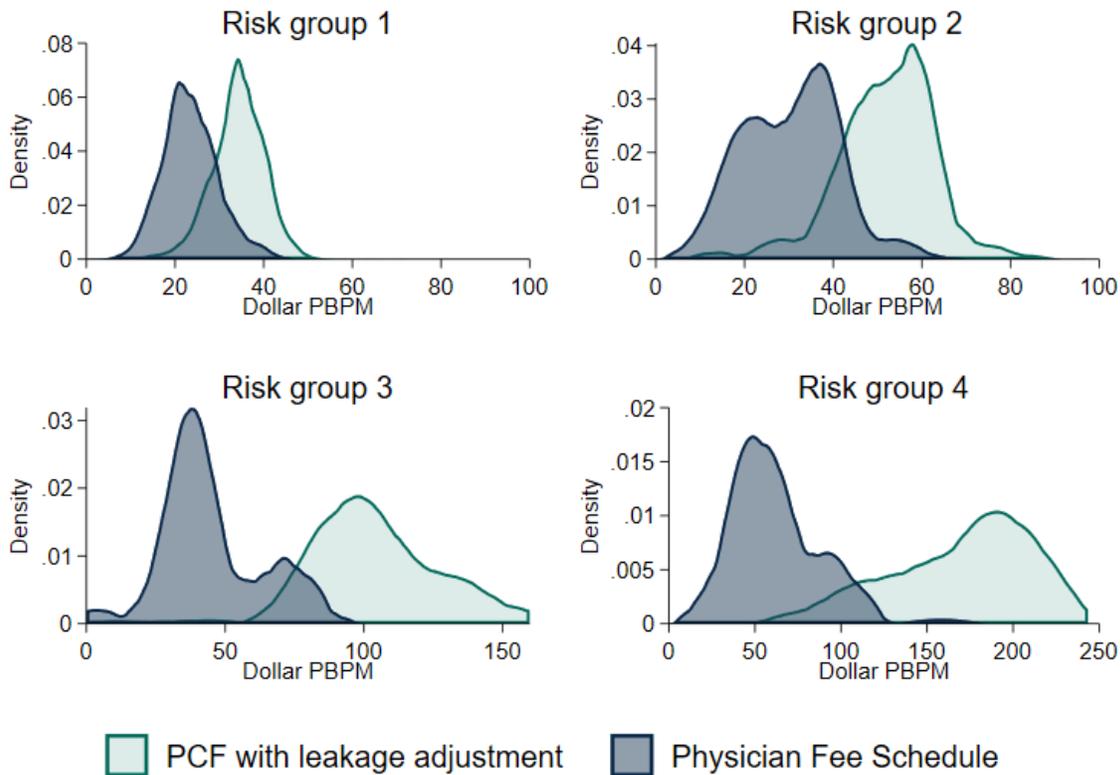
Payment component	Projected payment in dollars per beneficiary per month				
	Risk Group				Overall
	1	2	3	4	
Mean PBP, not leakage adjusted	\$28.33	\$45.55	\$106.64	\$183.06	\$31.88
Mean PBP, leakage adjusted	\$18.91	\$32.12	\$74.65	\$134.44	\$21.52
Mean FVF	\$9.52	\$12.33	\$16.88	\$20.42	\$9.93
Mean coinsurance	\$5.81	\$7.52	\$11.08	\$15.14	\$6.09
Mean PCF total practice payment, not leakage adjusted	\$43.66	\$65.40	\$134.60	\$218.61	\$47.89
Mean PCF total practice payment, leakage adjusted	\$34.23	\$51.97	\$102.61	\$169.99	\$37.54
Mean FFS total	\$29.38	\$38.15	\$55.93	\$78.10	\$30.79
Mean difference in payments, not leakage adjusted	\$14.28	\$27.25	\$78.67	\$140.51	\$17.10
Mean difference in payments, leakage adjusted	\$4.85	\$13.82	\$46.68	\$91.89	\$6.75
Mean percentage difference, not leakage adjusted	48.60%	71.44%	140.65%	179.90%	55.54%
Mean percentage difference, leakage adjusted	16.51%	36.24%	83.45%	117.66%	21.91%
Number of practices with lower payments under PCF than FFS, not leakage adjusted	7	0	0	0	7
Number of practices with lower payments under PCF than FFS, leakage adjusted	82	1	0	0	83
Number of practices ^a	689	74	21	7	791
Average number of beneficiaries per practice	556	439	424	235	539

Source: Mathematica’s analysis using 2019 Medicare carrier claims data.

^a Here, we show the number of practices with attributed beneficiaries in 2019.

FFS = fee for service; FVF = flat visit fee; PBP = population-based payment.

Exhibit C.1.5. Density of projected average per-practice PBPM PCF and FFS payments by risk group, Cohort 1 practices in 2021



Source: Mathematica’s analysis using 2019 Medicare carrier claims data.

FFS = fee for service; PBPM = per beneficiary per month.

5. Quality Gateway measure performance

To be eligible for a positive PBA, PCF practices must meet or exceed minimum thresholds for Quality Gateway measures. Beginning in April 2022, Cohort 1 practices must have met the minimum performance threshold, the 30th percentile compared to a benchmark population, for the quality measures during the preceding one-year performance measurement period. For performance year 2021, the benchmark population for the Diabetes Hemoglobin A1c Poor Control, Controlling High Blood Pressure, and Colorectal Cancer Screening was the MIPS benchmark population. The performance year benchmark population for the PECS Quality Gateway measure in performance year 2021 was the PCF population. For the Advance Care Plan measure, practices were only assessed on their ability to report the measure in 2021. Based on a review of initial Quality Gateway measure data, most practices that reported data met benchmarks on diabetes control, high blood pressure control, colorectal cancer screening, and Advance Care Plan Quality Gateway measures in 2021 (Exhibit C.1.6).

Exhibit C.1.6. Percentage of PCF Cohort 1 practices that achieved benchmark for Quality Gateway measures in 2021, among practices reporting measure performance

	CMS122: Diabetes Control	CMS165: High Blood Pressure Control	CMS130: Colorectal Cancer Screening	Quality ID 47: ACP Measure
Risk group 1	100% (691)	100% (694)	98% (678)	93% (622)
Risk group 2	98% (46)	100% (47)	96% (45)	96% (42)
Risk group 3	n.a.	n.a.	n.a.	100% (16)
Risk group 4	n.a.	n.a.	n.a.	100% (6)

Source: Mathematica’s analysis of preliminary Quality Gateway measure performance for eCQM and CQM measures.

Notes: This exhibit shows the number and proportion of PCF practices within a risk group that achieved benchmark among all those practices that reported quality measure data. We excluded practices that did not report quality measure performance from the denominator. Diabetes control, high blood pressure control, and colorectal cancer screening measures were not Quality Gateway measures for practices in risk groups 3 and 4 and thus are not applicable.

ACP = Advance Care Plan; CMS = Centers for Medicare & Medicaid Services; CQM = clinical quality measure; eCQM = electronic clinical quality measure; n.a. = not applicable.

Appendix C.2. Benchmarks for Quality Gateway measures

Exhibit C.2.1. Performance Year 2021 Quality Gateway benchmarks

Measure	NQF/Quality ID/CMS ID	Benchmark
Risk groups 1 and 2		
Diabetes: Hemoglobin A1c (HbA1c) Poor Control (> 9%)	Quality ID: 001 CMS ID: CMS122	30th percentile of MIPS reporters: 99.45%
Controlling High Blood Pressure	Quality ID: 236 CMS ID: CMS165	30th percentile of MIPS reporters: 30.00%
Colorectal Cancer Screening	Quality ID: 113 CMS ID: CMS130	30th percentile of MIPS reporters: 2.59%
All risk groups		
Advance Care Plan	NQF ID: 0326	Pay for reporting
Patient Experience of Care Survey (CAHPS® with supplemental items)	NQF ID: 0005	30th percentile of PCF participants: 70.00%

Source: CMS Primary Care First: Payment and Attribution Methodologies, Volume 1, Version 4. June 2022.

CAHPS = Consumer Assessment of Healthcare Providers and Systems; CMS = Centers for Medicare & Medicaid Services; MIPS = Merit-based Incentive Payment System; NQF = National Quality Forum.

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Appendix D.

Supplementary data tables and resources from the PCF Portal

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Appendix D.1. Questions asked in the portal and coding information

Exhibit D.1.1. Questions developed by CMS to provide an annual self-assessment of practices' current levels of care delivery capabilities

Question #	Question	Analysis Notes
Care Delivery: 1.0 Access and Continuity		
1.1	Does your practice provide 24/7 access to care informed, when necessary, by real-time access to the patient's EHR? <ol style="list-style-type: none"> No, we do not have 24/7 access to care guided by the EHR when needed Yes, we have 24/7 access to a care team practitioner, guided by EHR. 	
1.3	What percentage of patients are empaneled to a practitioner or care team? <ol style="list-style-type: none"> None Some Most All 	Analysis counted Most + All as a "Yes".
Care Delivery: 2.0 Care Management		
2.1	Do you risk stratify your empaneled patients? <ol style="list-style-type: none"> Yes No 	
2.2	Which of the following best describes your practice's care management approach? <ol style="list-style-type: none"> Proactive, relationship-based (longitudinal) care management for patients identified as high need and/or high risk Short-term, goal-oriented episodic care management for patients who have acute or urgent needs (e.g., transitions of care, new serious diagnosis or injury, medical crisis, major life event or other triggering event) Both above strategies None of the above 	Analysis separates episodic and longitudinal care management by assigning anyone who answered longitudinal (1) or both (3) to longitudinal, and anyone who answered episodic (2) or both (3) to episodic.
2.3	How do you use documented, personalized care plans? <ol style="list-style-type: none"> For patients receiving care management only For patients identified as at high risk or increased complexity regardless of whether or not they receive care management services For SIP patients only (if a SIP practice). Varies based on practitioner preference Other _____ [Free Text] We don't use documented, personalized care plans 	Analysis counted answer option 2 as a "Yes"

Appendix D. Supplementary data tables and resources from the PCF Portal

Exhibit D.1.1 (Continued)

Question #	Question	Analysis Notes
2.4	What type of clinicians and staff at your practice support your high-need and/or high-risk patients (select all that apply) <ol style="list-style-type: none"> 1. Practitioner specializing in high-need patients 2. Care Manager 3. Social Worker 4. Behavioral Health Specialist 5. Pharmacist 6. Community Health Aid or Outreach 7. Health Coach or Educator 8. Other _____ [Free Text] 9. None of the above 	
2.5	Our practice routinely and proactively follows up with patients discharged from hospital: <ol style="list-style-type: none"> 1. Yes—All patients 2. Yes—Selectively, based on patient diagnosis, patient characteristics, and/or patient risk. 3. No—We do not routinely and proactively follow up on patients discharged from hospital. 	
2.5	Our practice follows up with patients discharged within: <ol style="list-style-type: none"> 1. 24 hours 2. 48 hours 3. 72 hours 4. One week 5. Two weeks 6. We do not have this data, or unknown timeframe. 	Analysis counted responses within three days so counted responses of 24+ 48 + 72 hours.
2.5	Our practice routinely and proactively follows up with patients discharged from emergency department: <ol style="list-style-type: none"> 1. Yes—All patients 2. Yes—Selectively, based on patient diagnosis, patient characteristics, and/or patient risk. 3. No—We do not routinely and proactively follow up on patients discharged from hospital. 	
	Our practice follows up with patients discharged within: <ol style="list-style-type: none"> 1. 24 hours 2. 48 hours 3. 72 hours 4. One week 5. Two weeks 6. We do not have this data, or unknown timeframe. 	Analysis counted responses within three days so counted responses of 24+ 48 + 72 hours.

Appendix D. Supplementary data tables and resources from the PCF Portal

Exhibit D.1.1 (Continued)

Question #	Question	Analysis Notes
Care Delivery: 4.0 Patient and Caregiver Engagement		
4.1	<p>How does your practice identify patients for advance care planning? (select all that apply)</p> <ol style="list-style-type: none"> 1. We do not systematically identify patients for advance care planning 2. High-risk status (using the practice's risk stratification methodology) 3. Patients with serious illness and/or based on age (e.g., cancer diagnosis, end-stage kidney disease, heart failure, COPD) 4. Clinician or care team referral/identification 5. Other _____ [Free Text] 	<p>Analysis combined all responses except "We do not systematically identify patients for advance care planning" for the number of practices doing advance care planning.</p>
4.2	<p>How does your practice engage patients/caregivers in your efforts to redesign or improve your practice? (select all that apply)</p> <ol style="list-style-type: none"> 1. We do not engage patients/caregivers to advise in practice improvement activities. 2. Patient and Family Advisory Council 3. Focus Groups 4. Patient Surveys 5. Participation on improvement committees or workgroups 6. Other _____ [Free Text] 	<p>Analysis combined all responses except "We do not engage patients/caregivers to advise in practice improvement activities" for the number of practices engaging patients/families in practice improvement efforts.</p>
Care Delivery: 5.0 Planned Care and Population Health		
5.2	<p>Care team members in our practice meet to plan care for your high-need and/or high-risk patients under care management:</p> <ol style="list-style-type: none"> 1. Never 2. Only as needed or ad hoc 3. At least daily 4. At least weekly 5. At least monthly 	<p>Analysis counted responses of "at least weekly" + "at least daily".</p>

Exhibit D.1.2. Questions developed by the evaluation team asking about (1) planned care delivery changes in the first year of PCF (closed-ended questions) and (2) planned strategies to reduce AHU or total cost of care during the first year of PCF (open-ended question)

Question #	Question				
1	<p>What is the <u>primary reason</u> your practice site is participating in PCF?</p> <p><i>SELECT ONE ONLY</i></p> <ol style="list-style-type: none"> 1. Improve quality of care 2. Be at the forefront of primary care transformation 3. Increase practice revenue 4. Align with other value-based purchasing initiatives or efforts 5. The decision was made by leadership 6. Other _____ [Free Text] 				
2	<p>In the first year of your participation in PCF, do you expect to make any of the following changes to care delivery at your practice site?</p> <p><i>SELECT ONE RESPONSE PER ROW</i></p> <table border="1"> <thead> <tr> <th>YES, change likely in the first year</th> <th>NO, change not needed in the first year</th> <th>NO, though change may be needed (insufficient resources or other barriers)</th> <th>DON'T KNOW/ UNSURE</th> </tr> </thead> </table>	YES, change likely in the first year	NO, change not needed in the first year	NO, though change may be needed (insufficient resources or other barriers)	DON'T KNOW/ UNSURE
YES, change likely in the first year	NO, change not needed in the first year	NO, though change may be needed (insufficient resources or other barriers)	DON'T KNOW/ UNSURE		
STAFFING					
2a.	Add more practitioners (MD, DO, CNS, NP, or PA)				
2b.	Add more medical assistants, nurses, or care managers				
2c.	Add behavioral health staff or in some other way enhance behavioral health integration at our practice site				
ACCESS					
2d.	Increase patient access to practitioners via billable care (for example, extended office hours, home visits)				
2e.	Increase patient access to practitioners via non-billable care (for example, patient portal, email)				
2f.	Schedule longer appointments for more complex patients who need it				
CARE MANAGEMENT					
2g.	Expand our care management processes to help more patients manage their medical conditions between visits				
2h.	Improve or expand ability to be notified when a patient has a hospital discharge or emergency department (ED) visit				
2i.	Improve or develop new processes to systematically follow up with patients after hospital discharge or ED visit				
COMPREHENSIVENESS AND COORDINATION					
2j.	Expand the types of medical services provided at the practice site to reduce referrals to specialty care (for example, mole removal for biopsy to reduce referrals to dermatologists)				
2k.	Increase coordination with specialists				
2l.	Increase screening for patients' social needs (for example, housing, transportation, food)				
2m.	Improve coordination with community resources to meet patients' social needs (for example, housing, transportation, food)				
2n.	Increase coordination with other providers (for example, home health agencies, hospice agencies, pharmacists, durable medical equipment suppliers)				
2o.	Improve handoffs to new primary care provider when a patient leaves the practice				

Appendix D. Supplementary data tables and resources from the PCF Portal

Exhibit D.1.2. (Continued)

2p.	Reduce use of lower-value tests or other services that on average provide little or no clinical benefit
PATIENT AND CAREGIVER ENGAGEMENT	
2q.	Increase patient and caregiver awareness of appropriate use of alternatives to the emergency department (ED)
CARE FOR SERIOUSLY ILL AND OTHER COMPLEX PATIENTS	
2r.	Improve contact with patients potentially at risk for hospitalizations or ED visits who have not had a recent contact with our practice
2s.	Increase access to palliative care (for example, referrals to palliative care, training our staff in palliative care, or adding palliative care practitioner to our practice)
2t.	Improve advance care planning (for example, discussing or documenting end-of-life care preferences)
2u.	Develop and update care plans (a structured, personalized plan of care, developed with patient input) for seriously ill and other complex, chronically ill patients
HEALTH IT AND DATA FEEDBACK	
2v.	Enhance health information technology capabilities (for example, upgrade EHR/EMR functionality, add or improve telehealth technology, or other health IT changes)
2w.	Increase use of available data to improve care delivery (for example, reviewing patient-level claims data or internal reports)
3	As part of PCF, CMS plans to offer performance-based payment adjustments to participating practices for reducing unnecessary acute hospitalizations and/or total cost of care. What will be your practice site's main strategies for reducing such hospitalizations or costs? [Free Text]
4	How confident are you that your practice site will be able to meet this PCF target of reducing unnecessary acute hospitalizations or total cost of care? SELECT ONE ONLY 1. Completely confident 2. Somewhat confident 3. Not very confident 4. Not at all confident

Appendix D.2. Four-way comparison of initial care delivery capabilities by risk group and system affiliation

Exhibit D.2.1. Differences in initial care delivery capabilities were between practices in different risk groups and between system-affiliated and non-system-affiliated practices

Percentage of practices in each group reporting the care delivery activity at model start (n = 827)				
Question	Risk group 1 and 2		Risk group 3 and 4	
	Non-system (N = 111)	System (N = 685)	Non-system (N = 15)	System (N = 16)
Access and Continuity				
Provide 24/7 access to care informed by real-time access to electronic health record	97%	99%	93%	100%
Empanelment (most or all of patients)	88%	95%	93%	100%
Care Management				
Risk stratification	80%	94% ^a	80%	81%
Longitudinal care management	77% ^b	89%	87%	100% ^a
Episodic care management	96%	98%	87%	88%
Hospital follow-up within 72 hours	71%	94% ^a	73%	56% ^b
Emergency department follow-up within 72 hours	66% ^a	45%	47%	44%
Personalized care planning for all high-risk patients (regardless of care management)	35%	25%	47% ^a	31%
Patient and Caregiver Engagement				
Engage patients in improvement efforts	72% ^b	97%	87%	94%
Systematic approach to identify patients for advance care planning	94%	91%	93%	94%
Planned Care and Population Health				
Care team meetings at least weekly	24%	33%	47%	75% ^a

Source: Mathematica's analysis of CMS' care delivery items from the 2021 PCF Practice Portal.

^a Green shaded cells indicate meaningful differences of at least 10 percentage points *higher* than the other three groups in the four-way comparison.

^b Blue shaded cells indicate meaningful differences of at least 10 percentage points *lower* than the other three groups in the four-way comparison.

CMS = Centers for Medicare & Medicaid Services.

Appendix D.3. Four-way comparison of reported planned care delivery changes by risk group and system affiliation

Exhibit D.3.1. Differences in reported planned changes at the domain level across subgroups

Percentage of practices in each group that said “yes, change likely in the first year of PCF” for any subitem in that domain (n = 827)				
Question	Risk group 1 and 2		Risk group 3 and 4	
	Non-system (N = 111)	System (N = 685)	Non-system (N = 15)	System (N = 16)
Access and Continuity	69%	64%	73%	88% ^a
Care Management	82%	82%	93% ^a	75%
Patient and Caregiver Engagement	77% ^b	93%	87%	100%
Comprehensiveness and Coordination	62% ^b	90%	87%	100% ^a
Planned Care and Population Health	60% ^b	85%	73%	94%
Care for Seriously Ill and Other Complex Patients	71% ^b	84%	87%	100% ^a
Health IT and Data Feedback	60%	83%	60%	94% ^a
Staffing	51%	76%	73%	50%

Source: Mathematica’s analysis of planned care delivery changes from the 2021 PCF Practice Portal.

^a Green shaded cells indicate meaningful differences of at least 10 percentage points *higher* than the other three groups in the four-way comparison.

^b Blue shaded cells indicate meaningful differences of at least 10 percentage points *lower* than the other three groups in the four-way comparison.

PCF = Primary Care First.

Appendix D.4. Reported planned care delivery changes by risk group and system affiliation (two-way and four-way comparisons)

Exhibit D.4.1. The most meaningful differences in reported planned changes were across risk groups and between system-affiliated and non-system-affiliated practices

Question	Risk group		System Affiliation		Risk group 1 and 2		Risk group 3 and 4	
	1 and 2 (N = 796)	3 and 4 (N = 31)	No (N = 126)	Yes (N = 701)	Non-system (N = 111)	System (N = 685)	Non-system (N = 15)	System (N = 16)
Access and Continuity								
Increase access to practitioners via billable care	35%	48% ^a	37%	35%	36%	34%	47%	50%
Increase access to practitioners via non-billable care	54%	81% ^a	55%	55%	52%	54%	73%	88% ^a
Schedule longer appointments for complex patients	33%	65% ^a	56% ^a	30%	55%	29%	67%	63%
Care Management								
Expand longitudinal care management	75%	74%	64%	77% ^a	63%	77%	73%	75%
Improve notification processes when patients have a hospital discharge or ED visit	58%	77% ^a	62%	58%	59%	58%	87% ^a	69%
Improve follow-up processes with patients after hospital discharge or ED visit	70%	77%	61%	72% ^a	59%	72%	80%	75%
Patient and Caregiver Engagement								
Improve advance care planning	79%	87%	68%	82% ^a	67%	81%	80%	94% ^a
Increase patient and caregiver awareness of appropriate ED use and alternatives	72%	74%	62%	74% ^a	60%	74%	80%	69%
Comprehensiveness and Coordination								
Expand medical services at practice site to reduce specialty care referrals	12%	45% ^a	36% ^a	9%	32%	9%	60% ^a	31%
Increase coordination with specialists	62%	77% ^a	55%	64%	52%	63%	73%	81%
Increase screening for patient's social needs	70%	68%	48%	74% ^a	45%	74%	67%	69%
Improve coordination with community resources to meet patient's social needs	69%	74%	48%	73% ^a	44%	73%	73%	75%

Appendix D. Supplementary data tables and resources from the PCF Portal

Exhibit D.4.1. (Continued)

Question	Risk group		System Affiliation		Risk group 1 and 2		Risk group 3 and 4	
	1 and 2 (N = 796)	3 and 4 (N = 31)	No (N = 126)	Yes (N = 701)	Non-system (N = 111)	System (N = 685)	Non-system (N = 15)	System (N = 16)
Increase coordination with other providers	57%	74% ^a	51%	58%	48% ^b	58%	73%	75%
Improve handoffs to new PCP for leaving patients	21%	42% ^a	22%	22%	18%	22%	53% ^a	31%
Reduce use of tests and services with little clinical benefit	23%	39% ^a	37% ^a	21%	35%	20%	53% ^a	25%
Planned Care and Population Health								
Increase use of available data to improve care delivery	82%	84%	62%	86% ^a	60% ^b	85%	73%	94%
Care for Seriously Ill and Other Complex Patients								
Improve contact with patients at risk for hospitalizations or ED visits	68%	84% ^a	57%	71% ^a	54% ^b	71%	80%	88%
Increase access to palliative care	44%	77% ^a	41%	46%	36%	45%	73%	81%
Develop and update care plans for seriously ill and complex patients	63%	65%	58%	64%	55%	64%	80% ^a	50%
Health IT and Data Feedback								
Enhance health IT capabilities	80%	77%	60%	83%	60%	83%	60%	94% ^a
Staffing								
Add more practitioners	24%	48% ^a	39% ^a	22%	36%	22% ^b	60% ^a	38%
Add more medical assistants, nurses, or care managers	59%	58%	48%	61% ^a	45%	62%	73% ^a	44%
Add more behavioral health staff (or increase behavioral health integration some other way)	52% ^a	42%	25%	56% ^a	23% ^b	56%	47%	38%

Source: Mathematica's analysis of planned care delivery changes from the 2021 PCF Practice Portal.

^a Green shaded cells indicate meaningful differences of at least 10 percentage points *higher* than the other group in the two-way comparisons or the other three groups in the four-way comparison.

^b Blue shaded cells indicate meaningful differences of at least 10 percentage points *lower* than the other three groups in the four-way comparison.

ED = emergency department; IT = information technology; PCF = Primary Care First; PCP = primary care provider.

Appendix D.5. Frequencies of all portal items

Exhibit D.5.1. Frequencies for questions developed by CMS to provide an annual self-assessment of practices' current levels of care delivery capabilities

Question	Response	Count (N=827)	Percentage
Does your practice provide 24/7 access to care informed, when necessary, by real-time access to the patient's EHR?			
	No	13	1.6%
	Yes	814	98.4%
What percentage of patients are empaneled to a practitioner or care team?			
	None	9	1.1%
	Some	41	5.0%
	Most	272	32.9%
	All	505	61.1%
Do you risk stratify your empaneled patients?			
	No	70	8.5%
	Yes	757	91.5%
Which of the following best describes your practice's care management approach?			
	Proactive	22	2.7%
	Short-term	98	11.9%
	Both	705	85.2%
	None	2	0.2%
How do you use documented, personalized care plans?			
	Care management patients only	350	42.3%
	All high-risk complex patients	221	26.7%
	SIP only	2	0.2%
	Varies	146	17.7%
	Other	39	4.7%
	Do not use them	69	8.3%
What type of clinicians and staff at your practice support your high-need and/or high-risk patients (select all that apply)			
	Practitioner specializing in high-need patients	514	62.2%
	Care Manager	209	25.3%
	Social Worker	389	47.0%
	Behavioral Health Specialist	535	64.7%
	Pharmacist	538	65.1%
	Community Health Aid or Outreach	690	83.4%
	Health Coach or Educator	679	82.1%
	Other	631	76.3%
	None of the above	785	94.9%

Appendix D. Supplementary data tables and resources from the PCF Portal

Exhibit D.5.1. (Continued)

Question	Response	Count (N=827)	Percentage
Our practice routinely and proactively follows up with patients discharged from hospital:			
	Yes, all patients	540	65.3%
	Yes, selectively	281	34.0%
	We do not routinely follow up	6	0.7%
Our practice follows up with patients discharged from hospital within:			
	24 hours	32	3.9%
	48 hours	476	57.6%
	72 hours	234	28.3%
	One week	43	5.2%
	Two weeks	18	2.2%
	Unknown	18	2.2%
	SKIP	6	0.7%
Our practice routinely and proactively follows up with patients discharged from emergency department:			
	Yes, all patients	339	41.0%
	Yes, selectively	449	54.3%
	We do not routinely follow up	39	4.7%
Our practice follows up with patients discharged from ED within:			
	24 hours	32	3.9%
	48 hours	183	22.1%
	72 hours	178	21.5%
	One week	310	37.5%
	Two weeks	9	1.1%
	Unknown	76	9.2%
	SKIP	39	4.7%
How does your practice identify patients for advance care planning? (select all that apply)			
	We do not systematically identify patients for advance care planning	69	8.3%
	High-risk status (using the practice's risk stratification methodology)	572	69.2%
	Patients with serious illness and/or based on age (e.g., cancer diagnosis, end-stage kidney disease, heart failure, COPD)	330	39.9%
	Clinician or care team referral/identification	373	45.1%
	Other	633	76.5%
How does your practice engage patients/caregivers in your efforts to redesign or improve your practice? (select all that apply)			
	We do not engage patients/caregivers to advise in practice improvement activities.	54	6.5%
	Patient and Family Advisory Council	541	65.4%
	Focus Groups	768	92.9%
	Patient Surveys	142	17.2%
	Participation on improvement committees or workgroups	686	83.0%
	Other	767	92.7%

Appendix D. Supplementary data tables and resources from the PCF Portal

Exhibit D.5.1. (Continued)

Question	Response	Count (N=827)	Percentage
Care team members in our practice meet to plan care for your high-need and/or high-risk patients under care management:			
	Never	17	2.1%
	Only as needed or ad hoc	400	48.4%
	At least daily	76	9.2%
	At least weekly	199	24.1%
	At least monthly	135	16.3%

Exhibit D.5.2. Frequencies for questions developed by the evaluation team asking about planned care delivery changes in the first year of PCF (closed-ended questions)

Question	Response	Count (N=827)	Percentage
What is the primary reason your practice site is participating in PCF?			
	Improve quality of care	240	29.0%
	Be at the forefront of primary care transformation	300	36.3%
	Increase practice revenue	23	2.8%
	Align with other value-based purchasing initiatives or efforts	142	17.2%
	The decision was made by leadership	31	3.7%
	Other	78	9.4%
	Missing	13	1.6%
In the first year of your participation in PCF, do you expect to make any of the following changes to care delivery at your practice site? - Add more practitioners (MD, DO, CNS, NP, or PA)			
	YES, change likely in the first year	203	24.5%
	No not needed in first year	393	47.5%
	No though change needed	42	5.1%
	Don't Know	176	21.3%
	Missing	13	1.6%
In the first year of your participation in PCF, do you expect to make any of the following changes to care delivery at your practice site? - Add more medical assistants, nurses, or care managers			
	YES, change likely in the first year	489	59.1%
	No not needed in first year	123	14.9%
	No though change needed	68	8.2%
	Don't Know	134	16.2%
	Missing	13	1.6%
In the first year of your participation in PCF, do you expect to make any of the following changes to care delivery at your practice site? - Add behavioral health staff or in some other way enhance behavioral health integration at our practice site			
	YES, change likely in the first year	424	51.3%
	No not needed in first year	162	19.6%
	No though change needed	95	11.5%
	Don't Know	133	16.1%
	Missing	13	1.6%

Appendix D. Supplementary data tables and resources from the PCF Portal

Exhibit D.5.2. (Continued)

Question	Response	Count (N=827)	Percentage
In the first year of your participation in PCF, do you expect to make any of the following changes to care delivery at your practice site? - Increase patient access to practitioners via billable care (for example, extended office hours, home visits)			
	YES, change likely in the first year	290	35.1%
	No not needed in first year	296	35.8%
	No though change needed	117	14.1%
	Don't Know	111	13.4%
	Missing	13	1.6%
In the first year of your participation in PCF, do you expect to make any of the following changes to care delivery at your practice site? - Increase patient access to practitioners via non-billable care (for example, patient portal, email)			
	YES, change likely in the first year	453	54.8%
	No not needed in first year	233	28.2%
	No though change needed	65	7.9%
	Don't Know	63	7.6%
	Missing	13	1.6%
In the first year of your participation in PCF, do you expect to make any of the following changes to care delivery at your practice site? - Schedule longer appointments for more complex patients who need it			
	YES, change likely in the first year	280	33.9%
	No not needed in first year	316	38.2%
	No though change needed	72	8.7%
	Don't Know	146	17.7%
	Missing	13	1.6%
In the first year of your participation in PCF, do you expect to make any of the following changes to care delivery at your practice site? - Expand our care management processes to help more patients manage their medical conditions between visits			
	YES, change likely in the first year	620	75.0%
	No not needed in first year	69	8.3%
	No though change needed	36	4.4%
	Don't Know	89	10.8%
	Missing	13	1.6%
In the first year of your participation in PCF, do you expect to make any of the following changes to care delivery at your practice site? - Improve or expand ability to be notified when a patient has a hospital discharge or emergency department (ED) visit			
	YES, change likely in the first year	485	58.6%
	No not needed in first year	244	29.5%
	No though change needed	60	7.3%
	Don't Know	25	3.0%
	Missing	13	1.6%
In the first year of your participation in PCF, do you expect to make any of the following changes to care delivery at your practice site? - Improve or develop new processes to systematically follow up with patients after hospital discharge or ED visit			
	YES, change likely in the first year	580	70.1%
	No not needed in first year	168	20.3%
	No though change needed	38	4.6%

Appendix D. Supplementary data tables and resources from the PCF Portal

Exhibit D.5.2. (Continued)

Question	Response	Count (N=827)	Percentage
	Don't Know	28	3.4%
	Missing	13	1.6%
In the first year of your participation in PCF, do you expect to make any of the following changes to care delivery at your practice site? - Expand the types of medical services provided at the practice site to reduce referrals to specialty care (for example, mole removal for biopsy to reduce referrals to dermatologists)			
	YES, change likely in the first year	108	13.1%
	No not needed in first year	408	49.3%
	No though change needed	85	10.3%
	Don't Know	213	25.8%
	Missing	13	1.6%
In the first year of your participation in PCF, do you expect to make any of the following changes to care delivery at your practice site? - Increase coordination with specialists			
	YES, change likely in the first year	514	62.2%
	No not needed in first year	131	15.8%
	No though change needed	78	9.4%
	Don't Know	91	11.0%
	Missing	13	1.6%
In the first year of your participation in PCF, do you expect to make any of the following changes to care delivery at your practice site? - Increase screening for patients' social needs (for example, housing, transportation, food)			
	YES, change likely in the first year	580	70.1%
	No not needed in first year	123	14.9%
	No though change needed	76	9.2%
	Don't Know	35	4.2%
	Missing	13	1.6%
In the first year of your participation in PCF, do you expect to make any of the following changes to care delivery at your practice site? - Improve coordination with community resources to meet patients' social needs (for example, housing, transportation, food)			
	YES, change likely in the first year	572	69.2%
	No not needed in first year	96	11.6%
	No though change needed	90	10.9%
	Don't Know	56	6.8%
	Missing	13	1.6%
In the first year of your participation in PCF, do you expect to make any of the following changes to care delivery at your practice site? - Increase coordination with other providers (for example, home health agencies, hospice agencies, pharmacists, durable medical equipment suppliers)			
	YES, change likely in the first year	473	57.2%
	No not needed in first year	159	19.2%
	No though change needed	95	11.5%
	Don't Know	87	10.5%
	Missing	13	1.6%
In the first year of your participation in PCF, do you expect to make any of the following changes to care delivery at your practice site? - Improve handoffs to new primary care provider when a patient leaves the practice			
	YES, change likely in the first year	181	21.9%

Appendix D. Supplementary data tables and resources from the PCF Portal

Exhibit D.5.2. (Continued)

Question	Response	Count (N=827)	Percentage
	No not needed in first year	396	47.9%
	No though change needed	57	6.9%
	Don't Know	180	21.8%
	Missing	13	1.6%
In the first year of your participation in PCF, do you expect to make any of the following changes to care delivery at your practice site? - Reduce use of lower-value tests or other services that on average provide little or no clinical benefit			
	YES, change likely in the first year	191	23.1%
	No not needed in first year	288	34.8%
	No though change needed	75	9.1%
	Don't Know	260	31.4%
	Missing	13	1.6%
In the first year of your participation in PCF, do you expect to make any of the following changes to care delivery at your practice site? - Increase patient and caregiver awareness of appropriate use of alternatives to the emergency department (ED)			
	YES, change likely in the first year	595	71.9%
	No not needed in first year	133	16.1%
	No though change needed	46	5.6%
	Don't Know	40	4.8%
	Missing	13	1.6%
In the first year of your participation in PCF, do you expect to make any of the following changes to care delivery at your practice site? - Improve contact with patients potentially at risk for hospitalizations or ED visits who have not had a recent contact with our practice			
	YES, change likely in the first year	570	68.9%
	No not needed in first year	112	13.5%
	No though change needed	76	9.2%
	Don't Know	56	6.8%
	Missing	13	1.6%
In the first year of your participation in PCF, do you expect to make any of the following changes to care delivery at your practice site? - Increase access to palliative care (for example, referrals to palliative care, training our staff in palliative care, or adding palliative care practitioner to our practice)			
	YES, change likely in the first year	374	45.2%
	No not needed in first year	142	17.2%
	No though change needed	121	14.6%
	Don't Know	176	21.3%
	Missing	14	1.7%
In the first year of your participation in PCF, do you expect to make any of the following changes to care delivery at your practice site? - Improve advance care planning (for example, discussing or documenting end-of-life care preferences)			
	YES, change likely in the first year	657	79.4%
	No not needed in first year	78	9.4%
	No though change needed	19	2.3%
	Don't Know	59	7.1%
	Missing	14	1.7%

Appendix D. Supplementary data tables and resources from the PCF Portal

Exhibit D.5.2. (Continued)

Question	Response	Count (N=827)	Percentage
In the first year of your participation in PCF, do you expect to make any of the following changes to care delivery at your practice site? - Develop and update care plans (a structured, personalized plan of care, developed with patient input) for seriously ill and other complex, chronically ill patients			
	YES, change likely in the first year	519	62.8%
	No not needed in first year	122	14.8%
	No though change needed	100	12.1%
	Don't Know	72	8.7%
	Missing	14	1.7%
In the first year of your participation in PCF, do you expect to make any of the following changes to care delivery at your practice site? - Enhance health information technology capabilities (for example, upgrade EHR/EMR functionality, add or improve telehealth technology, or other health IT changes)			
	YES, change likely in the first year	660	79.8%
	No not needed in first year	117	14.1%
	No though change needed	28	3.4%
	Don't Know	8	1.0%
	Missing	14	1.7%
In the first year of your participation in PCF, do you expect to make any of the following changes to care delivery at your practice site? - Increase use of available data to improve care delivery (for example, reviewing patient-level claims data or internal reports)			
	YES, change likely in the first year	678	82.0%
	No not needed in first year	83	10.0%
	No though change needed	25	3.0%
	Don't Know	27	3.3%
	Missing	14	1.7%
How confident are you that your practice site will be able to meet this PCF target of reducing unnecessary acute hospitalizations or total cost of care?			
	Completely	161	19.5%
	Somewhat	639	77.3%
	Not very	13	1.6%
	Not at all	0	0
	Missing	14	1.7%

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