

FINAL REPORT

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EVALUATION OF THE NEXT GENERATION ACCOUNTABLE CARE ORGANIZATION (NGACO) MODEL

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Executive Summary

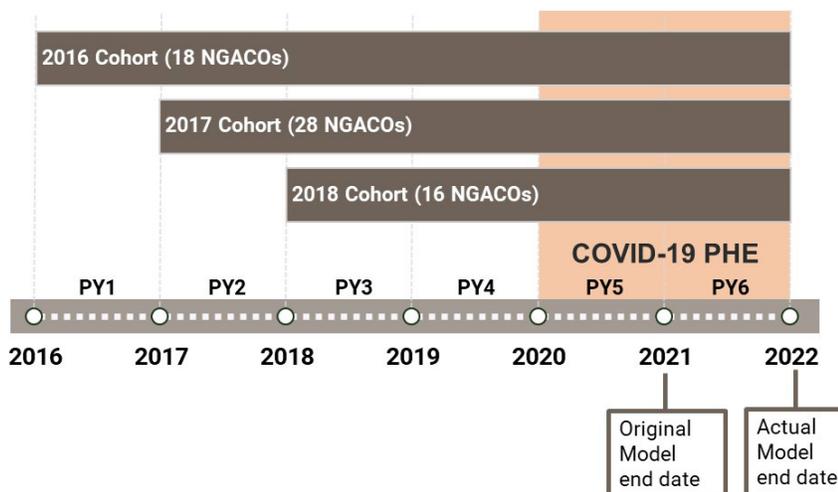
This report is the sixth and final evaluation report on the Next Generation Accountable Care Organization (NGACO) Model for the Center for Medicare & Medicaid Innovation (Innovation Center) at the Centers for Medicare & Medicaid Services (CMS). In the report, we summarize and synthesize findings across all six performance years (PYs, 2016-2021) to provide a comprehensive story of how the participating entities responded to the model and how they achieved or did not achieve the model’s goals.

Overview of the NGACO Model and Evaluation

Accountable Care Organizations (ACOs) are groups of health care providers that voluntarily partner to provide coordinated care with the aim of lowering costs. The Innovation Center launched the NGACO Model in 2016 in the fee-for-service (FFS) Medicare program as an advanced alternative payment model (AAPM) that built on CMS’ previous ACO initiatives by offering greater financial risk-sharing opportunities, flexible payment arrangements, and benefit enhancements to promote value over volume in health care delivery. Three cohorts of participants joined the model, one starting in each of the first three performance years of the model—2016 (PY 1), 2017 (PY 2), and 2018 (PY 3), as illustrated in **Exhibit ES.1**. CMS originally planned to conclude the NGACO Model in December 2020 (through PY 5) but extended the model through December 2021 (PY 6) in response to the COVID-19 public health emergency (PHE).

A primary goal of the NGACO Model was to test whether strong financial incentives, along with tools to support patient engagement and care management, could improve the value of health services and reduce spending for Medicare FFS beneficiaries. The Innovation Center selected NORC at the University of Chicago (NORC) to conduct an independent evaluation of the NGACO Model.

Exhibit ES.1. NGACO Model Timeline



Model Participation

Sixty-two NGACOs participated over the course of the model. At the end of the final performance year (PY 6), 35 NGACOs remained: 11 from the 2016 cohort (out of 18), 11 from the 2017 cohort (out of 28), and 13 from the 2018 cohort (out of 16). Just over half of all NGACOs (56%) participated from their year of entry through to the end of the model. Two NGACOs withdrew between PY 5 and PY 6. NGACOs from the 2018 cohort were most likely to remain in the model (81%), compared with NGACOs from the 2016 and 2017 cohorts (61% and 39%, respectively). In PY 6 (2021), the model included beneficiaries in 28 states and 90 hospital referral regions (HRRs), a decline from a maximum of 127 HRRs in PY 3.

Model Features

NGACOs' financial risk-sharing arrangements differed from previous ACO models in that, as an incentive to participate, NGACOs earned shared savings if Medicare spending for their aligned FFS beneficiaries was lower than a benchmark set by CMS; however, NGACOs also shared losses if their costs exceeded the benchmark. **Exhibit ES.2** summarizes the NGACO Model's features.

Exhibit ES.2. Key Features of the NGACO Model

<p>Providers</p>	<p>The model identified two types of providers. Participant Providers were used to designate NGACOs' prospectively aligned beneficiary populations and were responsible for quality of care and all Medicare Parts A and B expenditures for their aligned beneficiaries. Preferred Providers were not used for prospective alignment or quality calculations, but were eligible to share in ACO savings.</p>
<p>Benchmarks</p>	<p>Each NGACO's benchmark was calculated by CMS, based on the NGACO's historical expenditures, expenditures in its region, and projected spending in the PY.</p>
<p>Risk Sharing</p>	<p>NGACOs chose between: 1) 80% (partial) or 100% (full) two-sided risk for shared savings or losses; and 2) risk caps of shared savings or losses between 5% and 15% of benchmark expenditures. In PY 5 and PY 6, NGACOs had the option of signing an amendment to avoid liability for shared losses during the PHE in exchange for a cap on shared savings of 5% of the benchmark.</p>
<p>Alignment</p>	<p>CMS aligned eligible beneficiaries prospectively to an NGACO if the NGACO's Participant Providers accounted for the plurality of a beneficiary's qualified evaluation and management (QEM) visits (referred to as "claims-based alignment"). Beneficiaries could also voluntarily align to Participant Providers.</p>
<p>Payment Mechanisms</p>	<p>Four payment mechanisms were available: 1) traditional FFS; 2) FFS with a fixed per beneficiary per month (PBPM) infrastructure payment (ISP); 3) population-based payments (PBPs) that gave NGACOs a fixed percentage of expected FFS claims reductions in prospective monthly payments; or 4) all-inclusive population-based payments (AIPBP), in which the NGACO received expected FFS claim reductions in prospective monthly payments.</p>
<p>Benefit Enhancements</p>	<p>Six benefit enhancements granted NGACOs greater flexibility in the delivery of care: 1) a waiver of the three-day hospital stay rule for skilled nursing facility (SNF) admission; 2) the expansion of covered locations for telehealth; 3) post-discharge home visits by non-physicians under the general supervision of a NGACO physician; 4) cost-sharing support for Medicare Part B services; 5) a chronic disease management reward; and 6) care management home visits.</p>

Evaluation Approach

The evaluation applied a mixed methods design that integrates multiple quantitative and qualitative data sources and methods to answer research questions about the model from diverse perspectives. This design allows for an iterative approach to exploring existing hypotheses and identifying new ones.

Over the NGACO Model's six years, we addressed several research questions about whether, how, and for whom the NGACO Model achieved its goals. In this final report, we bring together data collected across the PYs to address the following broad questions:

- What was the impact of the NGACO Model on Medicare spending, utilization, and quality of care?
- What factors at the organization, provider, beneficiary, model feature, and implementation levels were associated with Medicare spending reductions?
- How did NGACOs approach the implementation of the model?
- Which combinations of factors were associated with reductions in Medicare spending?
- Which combinations of factors were associated with a lack of Medicare spending reductions?

Evaluation Data Sources and Methods

- **Quantitative Data and Analysis.** Using Medicare claims data, we applied a difference-in-differences (DID) framework to estimate differential changes in spending, utilization, and quality of care outcomes between the baseline period and each PY among NGACO beneficiaries, relative to a matched comparison group.
- **Survey Data and Analysis.** NORC designed an NGACO Leadership Survey for the evaluation, with the last round fielded in 2021. The survey included questions concerning 12 domains related to NGACOs' implementation strategies and selection of model features. We conducted descriptive analyses of survey responses to identify trends across NGACOs.
- **Qualitative Data and Analysis.** Earlier in the evaluation, we gathered information from two rounds of interviews with NGACO leadership and staff as well as interviews with NGACOs that withdrew from the model. This report reflects further synthesis and analysis of these data to generate more nuanced findings informed by the other data sources.
- **Comparative Case Analysis.** The impact of a complex model such as NGACO is likely driven by multiple factors and by dynamic interactions among them. For this reason, we applied rigorous empirical techniques to explore multifaceted pathways to spending outcomes. Specifically, we used configurational comparative methods (CCM) to systematically group NGACOs that shared combinations of characteristics—related to markets, organizational structures, beneficiaries, providers, and implementation approaches—that either reduced spending while maintaining or improving quality or failed to reduce spending.

NGACO Model Impacts on Spending, Utilization, and Quality of Care

We examined model-wide impacts of the NGACO Model across six PYs on total Medicare spending (Parts A and B), individual spending and utilization categories, and quality of care, as well as underlying factors that contributed to the observed outcomes.

Gross and Net Spending Impacts

Gross spending impacts represent changes in total Medicare Parts A and B spending. Net spending impact estimates are the sum of the gross spending impact estimates for the NGACO Model and of CMS payouts to NGACOs for shared savings and the Coordinated Care Reward (CCR). Gross and net spending impacts over time are displayed in **Exhibit ES.3**.

Gross spending key findings:

- Over the model's six-year performance period, gross spending declined by 1.9% (\$270.3 per beneficiary per year (PBPY) or \$1.7 B in the aggregate, $p < 0.01$), relative to the comparison group.
- Gross spending reductions increased over time, with the largest spending reduction in PY 6.
- The increase in gross spending reductions over time may have related to three factors: 1) NGACOs' learning and improvement strategies; 2) a selection effect, where higher-performing NGACOs were more likely to remain in the model; or 3) potentially larger spending reductions among NGACOs in the context of the COVID-19 PHE in PYs 5-6, although NGACO and comparison groups in our evaluation were similarly exposed to the pandemic.

Net spending key findings:

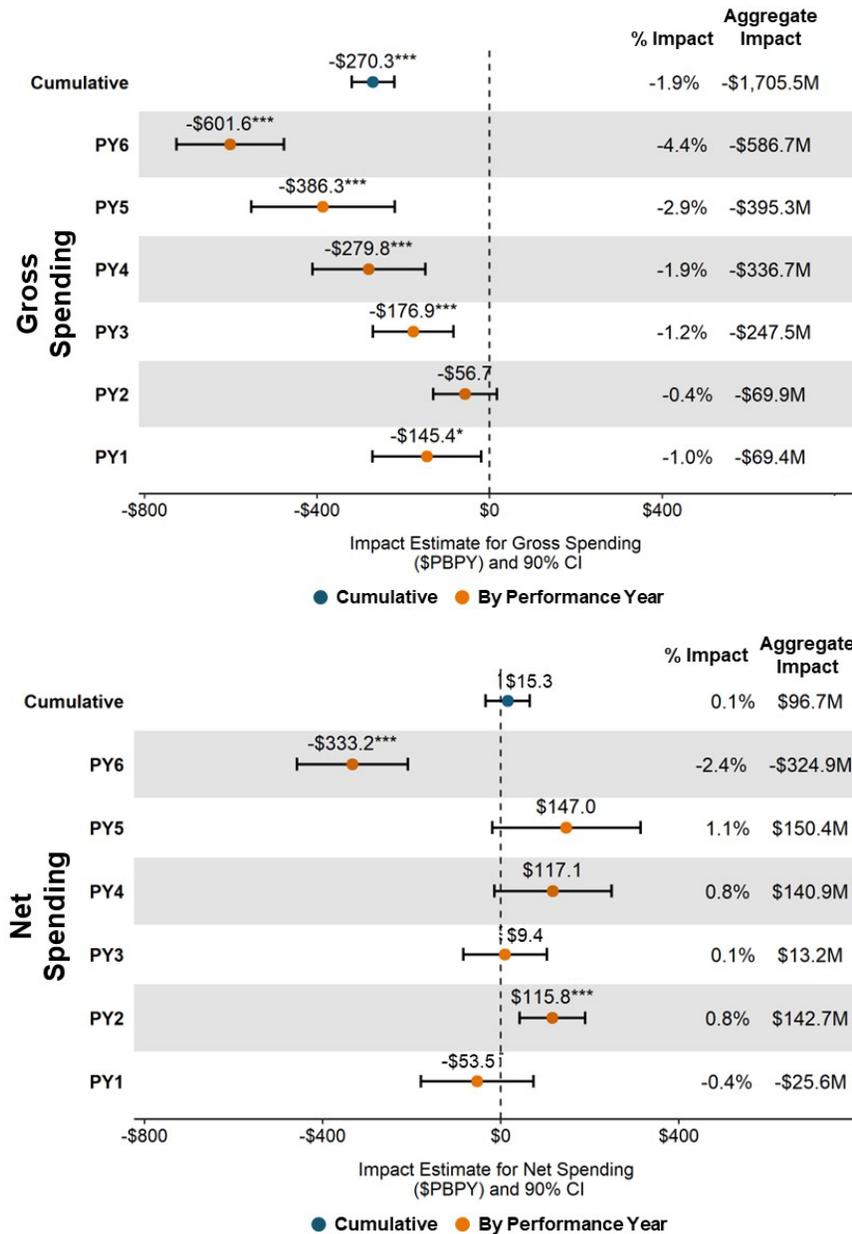
Net spending did not decline in the model overall, as shared savings paid to NGACOs across all PYs exceeded the cumulative reduction in gross spending. This finding may reflect inconsistencies with the financial benchmarking methodology, as captured by the evaluation's DID design; for example, one NGACO that received shared savings increased their spending relative to a comparison group. For PY 6, the achievement of net spending decreases may reflect improvements in the methodology for setting benchmarks in the context of COVID-19.

- In PY 6, net spending declined for the first time over the course of the model by 2.4% (\$333.2 PBPY or \$325M in the aggregate, $p < 0.01$). This finding reflected the greater impacts on gross spending observed in PY 6.

Other findings provide additional context:

- NGACOs that remained in the model reduced cumulative gross spending by 2.2% (\$297.4 PBPY, $p < 0.01$). On contrast, NGACOs that withdrew from the model had a nonsignificant increase in cumulative spending of 0.1% (\$18.5 PBPY).
- NGACOs that remained in the model showed larger gross spending reductions over time across PYs, with the largest reductions in the final two years of the model (PY 5 and 6), during the COVID-19 PHE.

Exhibit ES.3. Gross Spending Declined Over Time, But Net Savings Were Neutral Until PY 6



NOTES: Net spending impact estimates are the sum of the gross spending impact estimates for the NGACO Model and CMS’ payouts to NGACOs for shared savings and CCR. Confidence intervals at 90% level are displayed as bars around the impact estimates. Percentage impact is the impact relative to expected average spending for NGACO beneficiaries in PY(s) absent the model. All amounts are in 2021 dollars. Estimated impacts BPBY for spending significant at *p<0.1, **p<0.05, and ***p<0.01.

SOURCE: NORC analysis of NGACO and comparison group enrollment, claims, and model programmatic data.

Spending and Utilization Categories

NGACOs’ population health approaches contributed to reduced spending and utilization in particular settings (**Exhibit ES.4**). Specific approaches included care management for beneficiaries at high risk of hospitalization, initiatives to prevent emergency department (ED) visits and readmissions, coordination

with skilled nursing facilities (SNFs) to prevent intensive post-acute care (PAC) stays, and annual wellness visits (AWVs) to engage beneficiaries.

Exhibit ES.4. Impact on Spending and Utilization Categories

		Spending		Utilization
Acute care hospital		-1.5% (-\$65.1) ***		-0.6% (-1.6) ***
Professional services (including evaluation and management visits)		-1.9% (-\$66.4) ***		-2.1% (-287.7) ***
Outpatient facility (including emergency department visits and observation stays)		-0.9% (-\$26.0) ***		-1.3% (-7.0) ***
Other post-acute care		-4.5% (-\$19.9) **		N/A

NOTES: Spending impacts are PBPY and utilization impacts are per 1,000 BPY. Estimated impacts PBPY significant at *p<0.1, **p<0.05, and ***p<0.01. Results exclude ACO-years that failed the parallel trends test, except for acute care hospital spending and utilization, other PAC spending, and professional services. The cumulative results are from cohort-level weighted averages since all cohorts passed the parallel trends test in all years. Percentage impact is the impact relative to expected average spending for NGACO beneficiaries in PY(s) absent the model. All amounts are in 2021 dollars. Estimated impacts PBPY for spending significant at *p<0.1, **p<0.05, and ***p<0.01. **SOURCE:** NORC analysis of NGACO and comparison group enrollment and claims.

Quality of Care

We included three measures of quality of care in the evaluation; none saw a significant cumulative improvement or decline. The measures include: 1) hospitalizations for ambulatory care-sensitive conditions (ACSCs); 2) unplanned 30-day hospital readmissions; and 3) hospital readmissions from SNFs. In PY 6, unplanned 30-day readmissions for NGACO beneficiaries declined by 1.9% (2.7 per 1,000 BPY, p<0.05), and 30-day post-SNF hospitalizations declined by 1.9% (2.7 per 1,000 BPY, p<0.05).

Variations in NGACO Model Outcomes by Organization, Provider, Beneficiary, and Model Feature Characteristics

Organization Types

We analyzed impacts of the NGACO Model by organization type across six PYs for total Medicare spending (Parts A and B), individual spending and utilization categories, and quality of care. Exhibit ES.5 shows key findings. Physician practice-affiliated NGACOs had the greatest impacts on acute care and SNF days; these practices may have been better able to avoid inpatient hospital spending and utilization because they are not large revenue sources. Integrated delivery system (IDS/hospital

system)-affiliated NGACOs had the greatest impact on PAC in intensive settings; such NGACOs may have had more influence over hospital discharge decisions and usage of PAC inpatient facilities, enabling reductions in other PAC spending.

Exhibit ES.5. Impacts on Outcomes Varied by Organization Type

Outcome	Physician Practice-Affiliated NGACOs	IDS/Hospital System-Affiliated NGACOs	Hospital-Physician Partnerships NGACOs
Total Medicare Parts A and B gross spending	-2.4% (-\$366.5) ***	-1.9% (-\$244.8) ***	-1.2% (-\$165.3) ***
Acute care hospital spending	-2.1% (-\$93.6) ***	-1.2% (-\$49.0) ***	-0.7% (-\$25.9)
Acute care hospital stays	-1.5% (-4.3) ***	-0.9% (-2.6) ***	0.3% (0.9)
Professional services spending	-1.27% (-\$50.4) ***	-1.32% (-42.6) ***	-3.5% (-\$106.7) ***
Other post-acute care spending	-2.5% (-\$11.6) **	-7.0% (-\$28.4) ***	-3.9% (-\$15.2) **
Skilled nursing facility days	-3.4% (-55.7) ***	-2.2% (-34.8) ***	-1.5% (-22.4)
Hospitalizations for Ambulatory Care-Sensitive Conditions	-1.2% (-0.4) **	0.8% (-0.3) *	-0.9% (-0.3)

NOTES: Spending impacts are PBPY and utilization impacts are per 1,000 BPY. Estimated impacts PBPY significant at *p<0.1, **p<0.05, and ***p<0.01. The largest impact estimates are displayed in **orange** and in italics.

SOURCE: NORC analysis of NGACO and comparison group enrollment and claims.

NGACO Provider Networks

NGACOs chose the providers (e.g., practitioners) in their networks, either as “Participant Providers” (accountable for quality and cost measures and used for beneficiary alignment) or as “Preferred Providers” (used to expand networks but not accountable for cost and quality measures). We explored the composition of practitioner networks, changes in networks over time, associations between provider participation and spending, and the relationships between financial and nonfinancial strategies to engage providers with cost and quality outcomes.

- Providers remaining in the model were more likely to be primary care physicians; those who joined were more likely to be primary care non-physicians and those who left were more likely to be physician specialists. Over the course of the model, NGACOs favored primary care practitioners as Participant Providers and physician specialists as Preferred Providers. Shifts in the composition of provider networks—toward a larger share of primary care providers with a greater ability to drive down costs—may have contributed to increased gross spending reductions in the NGACO Model over time.
- The spending effects differed meaningfully for providers remaining in the model for at least three years, those who left the model, and those who joined the model after their NGACO’s first year.
 - Providers who remained in the model had the largest reductions in gross spending for their beneficiaries, an average of 8% (\$900.3 PBPY, p<0.01).

- Providers who joined after their NGACO's first year reduced gross spending for their beneficiaries by 3% (\$361 PBPY, $p < 0.01$).
- Providers who left the model did not reduce gross spending for their beneficiaries (+0.2%, \$24 PBPY, $p > 0.05$).
- NGACOs engaged providers using a variety of financial and nonfinancial incentives, including shared savings and risk, and sharing performance and cost data. They also provided resources and supports to increase engagement through infrastructure buildout, workflow improvements, and face-to-face meetings.
- NGACOs described financial and nonfinancial incentives as important aspects of provider management; however, there was no clear relationship between incentives and cost and quality outcomes.

Beneficiaries Served by NGACOs and Their Spending Patterns

We investigated how beneficiaries' sociodemographic and clinical characteristics, degree of engagement with the model, and involvement in selected other Innovation Center models affected outcomes.

- NGACOs saw substantial beneficiary turnover, with 39.5% of beneficiaries staying in the model since their NGACO joined the model and 60.5% of beneficiaries joining during later years of participation.
- Gross spending reductions were greater over time for NGACO beneficiaries who remained in the model continuously, from 1.8% (\$142.2 PBPY, $p < 0.05$) in PY 2 to 4.1% (\$420.2 PBPY, $p < 0.01$) in PY 6.
- Majority of the NGACO model's aggregate gross spending reductions were not from overlapping Innovation Center episodic initiatives. Spending for NGACO beneficiaries with Bundled Payment for Care Improvement (BPCI) Initiative episodes was not different from non-NGACO beneficiaries with BPCI episodes. However, NGACO beneficiaries with Oncology Care Model (OCM) episodes averaged 5.8% (\$3,868 PBPY, $p < 0.01$) lower spending than non-NGACO beneficiaries with OCM episodes. Variation in these results may reflect timing of overlap, complexity of episodes, or providers initiating them.

Addressing Health Equity

Improving health equity was not an explicit goal of the NGACO Model. However, given the increasing emphasis on improving health equity throughout the health care system and within CMS over the course of the model, we did assess the extent to which NGACOs addressed beneficiaries' social determinants of health (SDOH).

- Around 34% of NGACO leaders stated that addressing social needs, such as food security and housing, was a high priority for their NGACO.

- Almost three-quarters of NGACOs (71.4%) stated that they had either fully implemented or were implementing initiatives to address social needs, with almost all reporting making referrals for social services.
- Other interventions included documenting SDOH needs in electronic health records (EHRs), using standardized screening for SDOH, and establishing partnerships with social service or community-based organizations.

We observed mixed results with respect to reducing disparities in Medicare spending, utilization, and the risk of avoidable hospitalizations or readmissions).

- The model disproportionately served beneficiaries who were non-Hispanic White and not dually eligible for Medicare and Medicaid, which may limit the generalizability of the evaluation's results.
- Black beneficiaries had higher spending levels than non-Hispanic White beneficiaries. NGACOs only reduced gross Medicare spending for beneficiaries identified as non-Hispanic Black in the final year of the model, while the NGACO model reduced spending for White beneficiaries in all six PYs.
- In PY 6, NGACOs reduced ACSC hospitalizations for Black beneficiaries by 6.5% (2.6 per 1,000 BPY, $p < 0.01$), but did not do so for beneficiaries who were White or of another race.
- NGACOs saw greater spending reductions for beneficiaries who were dually eligible for Medicare and Medicaid, compared with beneficiaries with Medicare only, but only in the final two years of the model.

Selection of NGACO Model Features

We explored the effects of risk selection and payment mechanism selection in spending outcomes and described the use of benefit enhancements in the model.

- Financial risk level selection varied over the course of the model, with less than half (43%) selecting 100% risk in PY 6. Risk caps increased over time, with most NGACOs selecting risk caps higher than 5% in PY 6.
- NGACOs choosing 100% risk and caps greater than 5% were associated with larger average spending reductions of 2.9% (\$392.2 PBPY, $p < 0.01$) versus 1.4% (\$194.8 PBPY, $p < 0.01$) for NGACOs that selected 80% risk and risk caps of 5% or less.
- While most NGACOs opted for FFS-based payment mechanisms, the percentage of NGACOs electing population-based payment mechanisms increased over the course of the model.
- NGACOs electing population-based payment (PBP) mechanisms had larger spending reductions of 3% (\$409.1 PBPY, $p < 0.01$), compared with 1.3% (\$172.9 PBPY, $p < 0.01$) for NGACOs that chose FFS-based payment.
- The SNF three-day rule waiver and telehealth waivers were the most consistently and frequently implemented waivers.

Population Health Strategies and Pathways to Reduced Spending

NGACOs recognized that reducing Medicare spending and successfully managing illness and acute events would require addressing beneficiary needs across the care continuum. To do so, and with prospective alignment defining each NGACO's patient population, participants in the model applied data analytics and care coordination to expand the use of population health management for Medicare FFS beneficiaries.

- By the end of the model, over two-thirds of NGACOs described gains in data analytic capacity as the most significant change they had undergone over the course of the model.
- NGACOs “fully implemented” initiatives in priority areas, including closing gaps in preventive care (89%), preventing readmissions (80%), and reducing avoidable ED visits (77%) and inpatient admissions (71%).
- Most NGACOs (88%) reported highly standardized care management processes and staff.
- About two-thirds of NGACOs (66%) reported fully implementing initiatives to increase the number of aligned beneficiaries receiving AWVs.
- Over half of NGACOs (60%) reported fully implementing initiatives to manage PAC spending and quality. As of PY 6, 66% of NGACOs felt they had gotten “a lot better” over the course of the model at coordinating and managing the care of beneficiaries admitted to PAC.

Selected NGACO population health strategies were associated with spending reductions and improved quality of care.

- Spending reductions were greatest for especially complex beneficiaries with 8 or more chronic conditions (2.4%), followed closely by those with 3 to 7 chronic conditions (2.1%).
- There was a significant 20% cumulative increase in AWV utilization.
- NGACOs that prioritized PAC spending and quality, shared performance data with SNFs, and had fully standardized care management processes and staff had larger reductions in SNF days than did NGACOs that did not report conducting these activities.

No single factor alone can fully explain performance in the NGACO Model. For this reason, our analyses looked at combinations of factors or pathways associated with total spending reductions. We found four pathways that accounted for the performance of over half of the NGACOs that achieved reductions in total spending while maintaining or improving measured quality of care. The four pathways were as follows:

- Physician practice NGACOs that embedded care managers in inpatient hospital settings (5.5% or \$792.37 PBPY, $p < 0.05$)
- Hospital-affiliated NGACOs that identified gaps in care and fostered shared decision-making (4.2% or \$551.85 PBPY, $p < 0.05$)

- Smaller NGACOs that tracked beneficiaries at risk for readmission and identified gaps in care (5% or \$730.89 PBPY, $p < 0.01$)
- Larger NGACOs less likely to prioritize strategies that provided primary care teams with real-time data on hospitalizations (nonsignificant decline of 3.9% or \$504.87 PBPY)

Contextual and Structural Factors Associated with Lack of Spending Reductions for NGACOs

Similar to our analysis of pathways associated with spending reductions, we also explored pathways associated with *failure to achieve total spending reductions* for all NGACO-PYs with a lack of spending declines. There were six pathways comprising different combinations of contextual, structural, provider, and beneficiary characteristics that accounted for almost half of NGACO-PYs that were not associated with spending reductions. The pathways were as follows:

- Larger hospital-affiliated NGACOs in more concentrated hospital markets with higher baseline Medicare spending
- Larger hospital-affiliated NGACOs in markets with higher Medicare Advantage (MA) penetration and lower baseline Medicare spending; their provider networks comprised mostly employed primary care providers and few specialists
- Smaller hospital-affiliated NGACOs in more concentrated hospital markets with lower baseline Medicare market spending and lower MA penetration; their provider networks comprised mostly employed PCPs and few specialists
- Larger physician practice NGACOs in more concentrated hospital markets; their provider networks comprised mostly contracted PCPs and more specialists
- NGACOs (multiple types and sizes) in more concentrated hospital markets with lower MA penetration; their provider networks comprised mostly contracted PCPs and few specialists
- NGACOs (multiple types and sizes) in more concentrated hospital markets with higher MA penetration and lower baseline Medicare spending; their provider networks comprised mostly contracted PCPs and more specialists

For NGACO-PYs that did not reduce spending, two common features in the pathways were: 1) operating in more concentrated hospital markets, where there may be less incentive to decrease hospital spending (the largest contributor to total spending); and 2) operating in less expensive markets, indicating market efficiency and fewer opportunities to leverage population health approaches. In particular, the combination of operating in less expensive markets and markets with higher MA penetration presented barriers to reduced spending. However, NGACO-PYs that failed to reduce spending did show improvements in unplanned 30-day readmission rates. There were no differences between NGACO-PYs that failed to reduce spending and NGACO-PYs that did not in the characteristics of aligned beneficiaries or in the percent of care provided by Participant versus Preferred Providers. Importantly, no single factor was itself sufficient for failing to achieve spending

reductions, suggesting that organizations with less favorable factors may be able to compensate in other ways to succeed in ACO models.

Discussion

When the NGACO Model concluded in December 2021, NGACOs had consistently demonstrated success in lowering gross expenditures for their aligned beneficiaries without adversely affecting quality of care (that is, no increase in ACSC hospitalizations, unplanned 30-day hospital readmissions, or hospital readmissions from SNFs). NGACOs also reduced utilization in the most intensive care settings, including hospitals and PAC institutions. Further, NGACOs increased the use of preventive care, tapping the model's resources and features. At the same time, the model had no effect on net spending: overall, NGACOs earned more shared savings than shared losses relative to their benchmarks.

NGACOs achieved their most pronounced impacts on spending and utilization, and progress on quality of care during the final two model years, during the COVID-19 pandemic. Impacts seen during the model's final three years also suggest that time is needed to implement and see results from complex population health initiatives such as the NGACO model.

Importantly, the NGACO Model stimulated growth in organizational capacity and a focus on building relationships with providers across the continuum of care, enabled by prospectively aligned patient panels. During the PHE, NGACOs leveraged robust infrastructure resources to support beneficiaries and providers. Over the course of the model, NGACOs faced challenges, including the lag in CMS claims data, variations in EHRs across health systems and lack of interoperability, lack of beneficiaries' awareness of the benefits of staying within their NGACO network, and a lack of financial predictability in the model.

Several combinations of factors, or pathways, were associated with NGACO-level spending reductions. The pathways included large and small NGACOs and those affiliated with either physician practices or hospitals and a range of specific NGACO approaches to population health management to facilitate the prevention of acute events. Our findings on pathways—both those associated with spending reductions and those not associated with such reductions—point to the critical role and interplay of myriad contextual, organizational, provider, and beneficiary dynamics for organizations participating in models designed to test new approaches to care delivery and payment within the Medicare program.

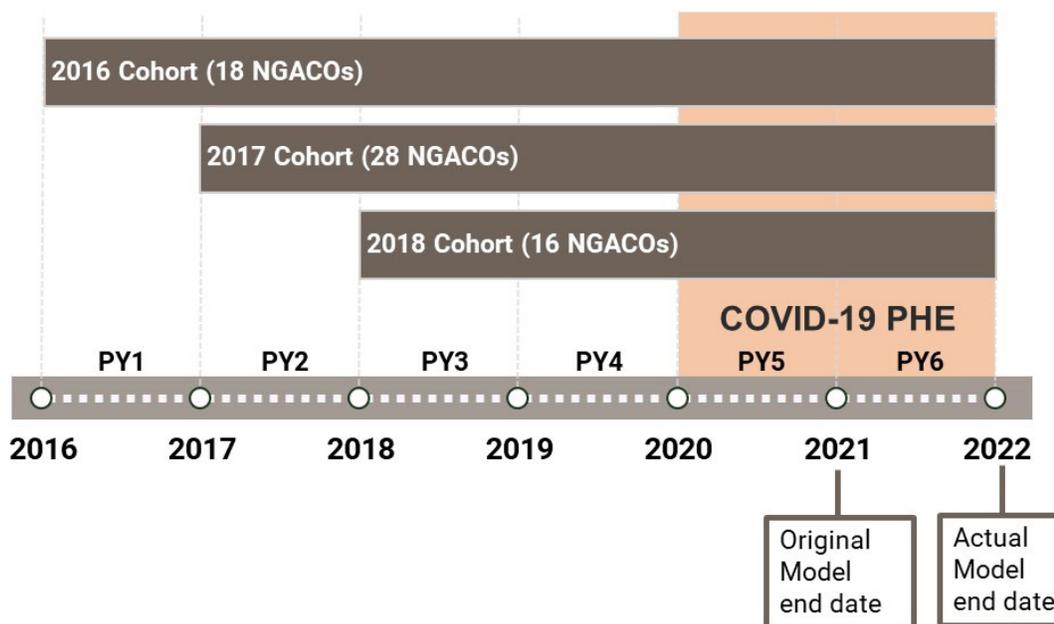
Chapter 1: Overview of NGACO Model and Evaluation

Launched in 2016, the Next Generation Accountable Care Organization (NGACO) Model was an advanced alternative payment model (AAPM) that built on CMS’ previous ACO initiatives by offering greater risk-sharing opportunities, flexible payment arrangements, and benefit enhancements to promote value over volume in health care delivery. The model included three cohorts of participants, one starting in each of the first three performance years of the model—2016 (PY 1), 2017 (PY 2), and 2018 (PY 3), as shown in **Exhibit 1.1**. CMS originally planned to conclude the NGACO Model in December 2020 (through PY 5) but extended the model through December 2021 (PY 6) in response to the COVID-19 public health emergency (PHE).

A primary goal of the NGACO Model was to test whether strong financial incentives, along with tools to support patient engagement and care management, could improve the value of health services and reduce spending for Medicare fee-for-service (FFS) beneficiaries.¹ The Innovation Center selected NORC at the University of Chicago (NORC) to conduct an independent evaluation of the NGACO Model and its impact on cost, utilization, and quality of care.

This report is the sixth and final evaluation report to emerge from the evaluation. As such, it summarizes and synthesizes findings across all six PYs to provide a comprehensive story of how the participating entities responded to the model and how they achieved or did not achieve the model’s goals.

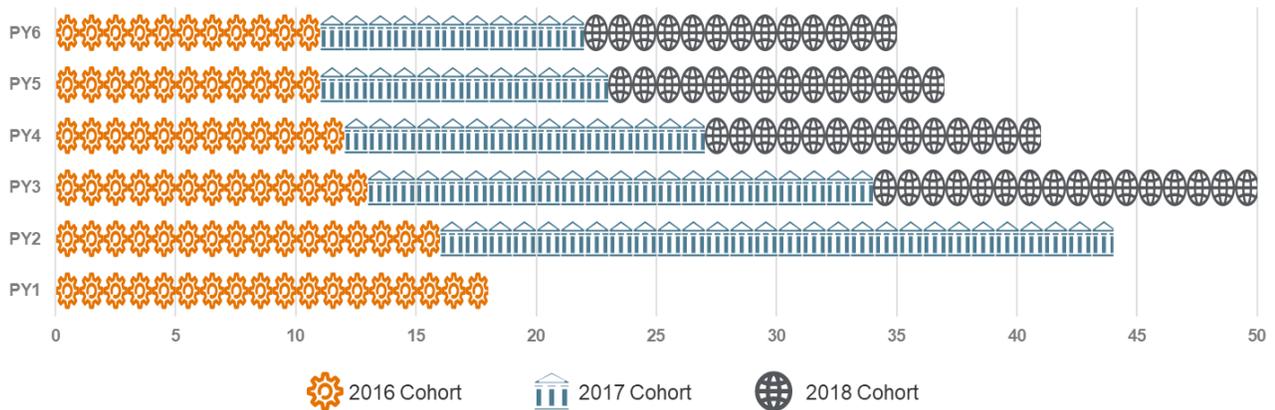
Exhibit 1.1. NGACO Model Timeline



Model Participation

Sixty-two Next Generation ACOs (NGACOs) participated over the course of the model. At the conclusion of the model (PY 6), 35 NGACOs remained: 11 from the 2016 cohort (out of 18), 11 from the 2017 cohort (out of 28), and 13 from the 2018 cohort (out of 16). Just over half of all NGACOs (56%) participated from their year of entry through to the end of the model. Two NGACOs withdrew between PY 5 and PY 6. NGACOs from the 2018 cohort were most likely to remain in the model (81%), as compared to NGACOs from the 2016 and 2017 cohorts (61% and 39% respectively). **Exhibit 1.2** reflects the entry and withdrawals of NGACOs during the model. For a full list of NGACOs by name and market served, see **Appendix A, Exhibit A.6**. For an illustration of ACO participation over time, see **Appendix C, Exhibit C.1**.

Exhibit 1.2. Number of Participating NGACOs by Year and Cohort



In PY 6 (2021), NGACO included beneficiaries across 28 states and 90 hospital referral regions (HRRs), a decline from a maximum of 127 in PY 3 because of the ongoing withdrawal of NGACOs. NGACO markets tended to have more FFS Medicare beneficiaries, fewer beneficiaries residing in rural areas, a higher rate of Medicare ACO penetration, and lower physician practice concentration compared to non-NGACO markets. **Appendix C, Exhibit C.2** provides a detailed comparison of NGACO markets and non-NGACO markets in 2021.

Model Features

ACOs are groups of health care providers who voluntarily partner to provide coordinated care at lower costs.² NGACOs were a type of ACO that had near complete risk-sharing and requirements to take on downside financial risk (risk for losses); NGACOs earned shared savings if Medicare spending for their aligned FFS beneficiaries was lower than a benchmark set by CMS and shared losses if their costs exceeded the benchmark. In addition, unlike other ACO models, there were no minimum savings or loss requirements. To make this level of risk attractive to prospective NGACOs, the model offered participating NGACOs a prospectively determined population of beneficiaries and more predictable

financial targets that incorporated both attainment and improvements in quality. **Exhibit 1.3** provides an overview of key model features. The [NGACO Model website](#) includes a more comprehensive description.

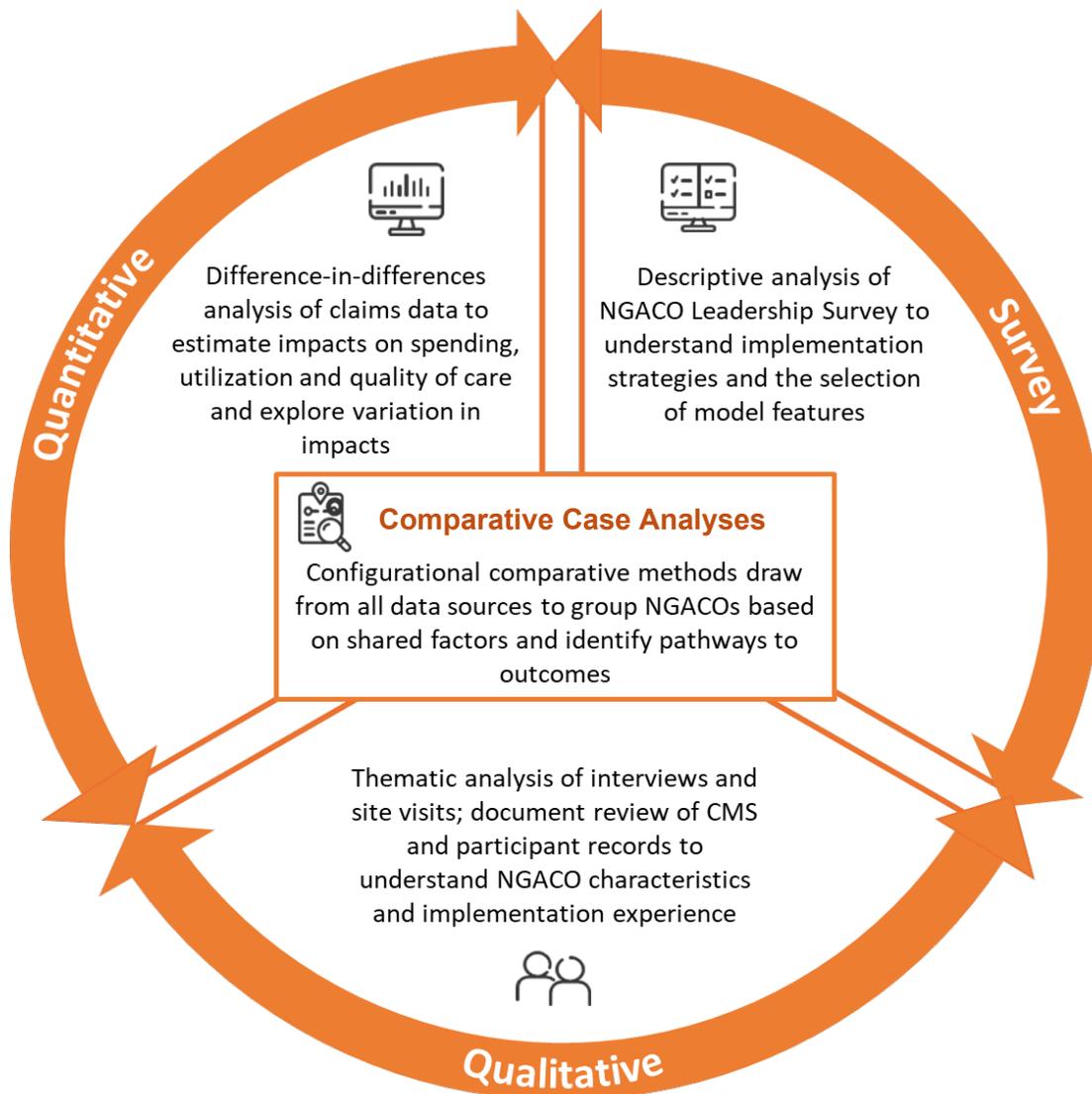
Exhibit 1.3. Key Features of the NGACO Model

<p>Providers</p>	<ul style="list-style-type: none"> Participant Providers were used to designate NGACOs' prospectively aligned beneficiary populations and were responsible for quality of care and all Medicare Parts A and B expenditures for their aligned beneficiaries. Preferred Providers were not used for prospective alignment or quality calculations, but were eligible to share in ACO savings.
<p>Benchmarks</p>	<ul style="list-style-type: none"> Each NGACO's benchmark was calculated by CMS, based on the NGACO's historical expenditures, expenditures in its region, and projected spending in the PY.
<p>Risk Sharing</p>	<ul style="list-style-type: none"> The NGACOs chose between: 1) 80% (partial) or 100% (full) risk for shared savings below benchmark spending levels or shared losses above benchmark spending levels; and 2) risk caps of shared savings or losses between 5% and 15% of benchmark expenditures. In PY5 and PY6, NGACOs had the option of signing an amendment to avoid liability for shared losses during the PHE in exchange for a cap on shared savings of 5 percent of the benchmark.
<p>Alignment</p>	<ul style="list-style-type: none"> Eligible beneficiaries were prospectively aligned by CMS to an NGACO if the NGACO's Participant Providers accounted for the plurality of a beneficiary's qualified evaluation and management (QEM) visits (referred to as "claims-based alignment"). Beneficiaries could also voluntarily align to Participant Providers.
<p>Payment Mechanisms</p>	<ul style="list-style-type: none"> Four available payment mechanisms were available: 1) traditional FFS; 2) FFS with a fixed per beneficiary per month (PBPM) infrastructure payment (ISP); 3) population-based payments (PBPs) that gave NGACOs a fixed percentage of expected FFS claims reductions in prospective monthly payments; or 4) all-inclusive population-based payments (AIPBP), in which the NGACO received expected FFS claim reductions in prospective monthly payments.
<p>Benefit Enhancements</p>	<ul style="list-style-type: none"> Six benefit enhancements granted NGACOs greater flexibility in the delivery of care: 1) a waiver of the three-day hospital stay rule for skilled nursing facility (SNF) admission; 2) the expansion of covered locations for telehealth; 3) post-discharge home visits; 4) cost-sharing support for Medicare Part B services; 5) a chronic disease management reward; and 6) care management home visits.

Evaluation Approach

As illustrated in **Exhibit 1.4**, the evaluation has used a mixed methods design that integrates multiple quantitative and qualitative data sources and methodological tools to shed light on the research questions at hand from diverse perspectives. This design allows for an iterative approach to the exploration of existing hypotheses and the identification of new ones.

Exhibit 1.4. Overview of Mixed Methods Evaluation Approach



Research Questions

Over the six years of the NGACO Model, we addressed several research questions about whether, how, and for whom the NCACO Model achieved its goals. In this final report, we bring together data collected across the PYs to address the following broad questions:

- What is the impact of the NGACO Model on Medicare spending, utilization, and quality of care?
- What factors at the organization, provider, beneficiary, model feature, and implementation level are associated with Medicare spending reductions?
- How did NGACOs implement the model?
- Which combinations of factors are associated with reductions in Medicare spending?
- Which combinations of factors are associated with a lack of Medicare spending reductions?

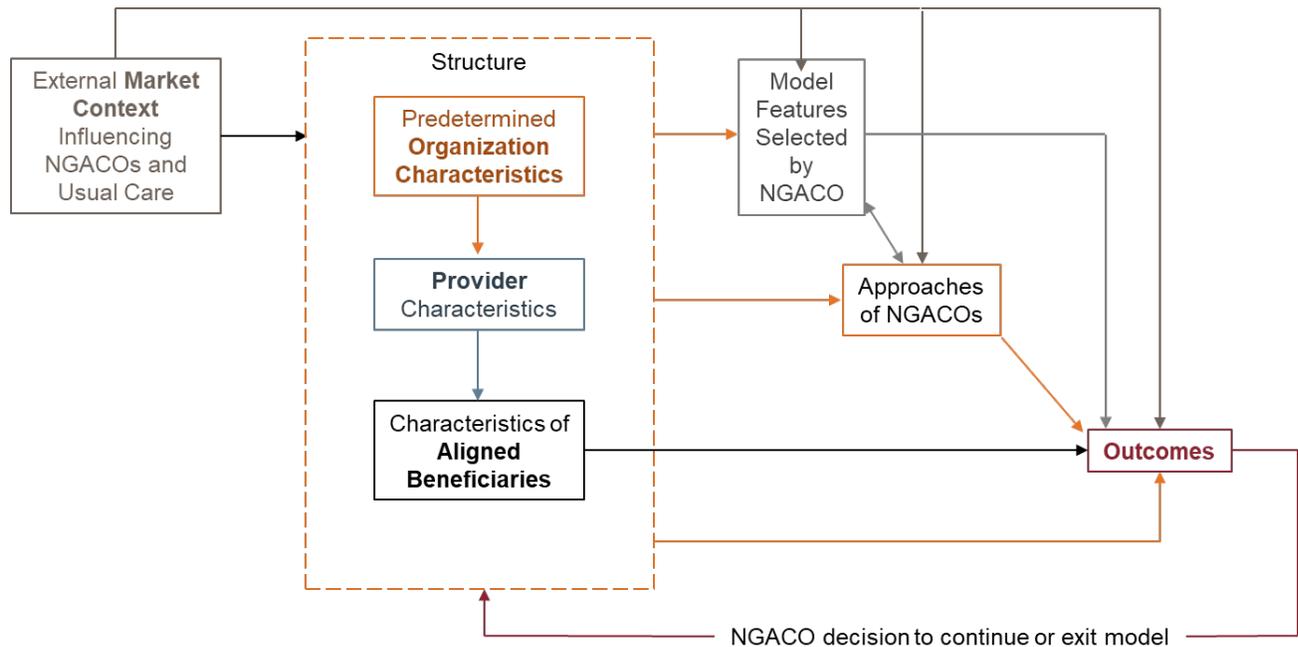
The subsequent sections explain how we conceptualized these research questions and the methods we used to address them.

The Evaluation's Theory of Action

We explored multiple hypotheses to answer the evaluation's research questions, many of which emerged from our examination of interim findings. Our starting hypotheses focused on how the domains in our original conceptual model—including dynamics at the market and structural levels and selection of model features—affect Medicare spending.³ We developed a theory of action as to how these factors would influence one another as well as the observed outcomes. **Exhibit 1.5** illustrates our theory of action, which reflects the range of factors that may, either individually or in combination, drive the model's outcomes. As the evaluation progressed, we refined and adapted the research questions and hypotheses based on our findings as well as new developments such as the COVID-19 PHE. For a full list of evaluation hypotheses, see **Appendix C, Exhibit C.3**.

The theory of action depicts how external market conditions may influence NGACOs' model feature selections as well as their performance within the model. These external factors may affect NGACOs in different ways based upon their structural characteristics, which include organizational, provider, and aligned beneficiary characteristics. These characteristics, along with the external factors, in turn influence NGACO Model feature selections (for example, risk selection) and implementation approaches. These decisions may then affect outcomes of interest related to beneficiary utilization, quality of care, and spending. These outcomes ultimately influence NGACOs' decisions as to whether to continue in the model or withdraw.

Exhibit 1.5. Hypothesized Theory of Action



While any individual factor in our theory of action may be associated with performance in the model, we hypothesized that different combinations of factors would have an equal, if not more influential, relationship to outcomes. In the [Fourth Evaluation Report](#), which focused on PY 4, we investigated the relationships among market context, structure, and model features to determine pathways to outcomes, including spending and quality. This report expands on the PY 4 evaluation pathways analysis, with two additional years of data as well as consideration of implementation strategies.

Data Sources and Methods

The findings in this report reflect analyses of multiple primary and secondary data sources and analyses:

- Quantitative Data and Analysis.** Looking at Medicare claims data, we applied a difference-in-differences (DID) framework to estimate differential changes in spending, utilization, and quality of care outcomes between the baseline period and each PY among NGACO beneficiaries, relative to a matched comparison group.^a
- Survey Data and Analysis.** NORC designed an NGACO Leadership Survey for the evaluation and fielded the last round in 2021. The survey included questions concerning 12 domains related to

^a The NGACO beneficiaries were aligned with NGACO Participant Providers in each PY and in the respective baseline period. Beneficiaries in the comparison group were aligned with providers that were not in NGACOs; data for comparator beneficiaries were weighted to be similar to those of NGACO beneficiaries, using propensity score weighting.

NGACO implementation strategies and selection of model features. We conducted descriptive analyses of survey responses to identify trends across NGACOs.

- Qualitative Data and Analysis.** This report does not include newly collected qualitative data; however, we did use data gathered previously through two rounds of interviews with NGACO leadership and staff and interviews with NGACOs that withdrew from the model.^b The report does reflect further synthesis and analysis of these data to generate more nuanced findings.
- Comparative Case Analysis.** The NGACO Model was complex and would be expected to have impacts reflecting multiple factors, and dynamic interactions among them. For this reason, we applied rigorous empirical techniques to explore multifaceted pathways to spending outcomes. Specifically, we used configurational comparative methods (CCM^{4,5}) to systematically group NGACOs that shared combinations of characteristics—related to their markets, organizational structures, beneficiaries, providers, and implementation approaches—that either reduced spending while maintaining or improving quality or failed to do so.

Overview of the Final Report

We apply our theory of action to the research questions to determine whether, how, and for whom the NCACO Model achieved its goals in this final evaluation report, as summarized in **Exhibit 1.6**.

Exhibit 1.6. Roadmap of Final NGACO Evaluation Report

Chapter	Research Questions Addressed	Data Sources and Methods
2	<ul style="list-style-type: none"> What was the NGACO Model's impact on Medicare spending, utilization, and quality of care? In what care settings did NGACOs affect spending and utilization? 	<ul style="list-style-type: none"> DID analyses of outcomes for NGACO beneficiaries using Medicare claims data, supplemented with: <ul style="list-style-type: none"> Qualitative analyses of interviews with NGACO staff Descriptive analyses of NGACO Leadership Survey data
3	<ul style="list-style-type: none"> Did impacts on spending, utilization, and quality of care vary by organization type? 	<ul style="list-style-type: none"> Descriptive analyses of organizational characteristics Subgroup analyses using DID regression models
4	<ul style="list-style-type: none"> Which types of providers did NGACOs include in their networks? How did NGACOs engage providers in their networks? 	<ul style="list-style-type: none"> Descriptive analyses of provider characteristics Subgroup analyses using DID regression models Interview and survey data to provide context to quantitative findings

^b The last round of qualitative data collection took place in October 2019. For a complete overview of qualitative data collected, see the [Technical Appendix to the Third Evaluation Report](#).

Chapter	Research Questions Addressed	Data Sources and Methods
5	<ul style="list-style-type: none"> • What were the key characteristics of aligned beneficiaries? • Did the NGACO Model’s impacts differ by patient characteristics? 	<ul style="list-style-type: none"> • Descriptive analyses of beneficiary characteristics • Subgroup analyses using DID regression models • Interview and survey data to provide context to quantitative findings
6	<ul style="list-style-type: none"> • Did the model’s impacts on total Medicare spending vary by NGACOs’ selection of model features, including risk selection and provider payment mechanisms? 	<ul style="list-style-type: none"> • Descriptive analysis of NGACO Model feature selection • Subgroup analyses using DID regression models • Interview and survey data to provide context to quantitative findings
7	<ul style="list-style-type: none"> • What strategies did NGACOs implement in response to the model? • What combinations of implementation strategies and other factors were associated with spending reductions? 	<ul style="list-style-type: none"> • Qualitative analyses of interviews with NGACO staff • Descriptive analyses of NGACO Leadership Survey data • Subgroup analyses using DID regression models • Comparative case analysis
8	<ul style="list-style-type: none"> • What combinations of implementation strategies and other factors were associated with lack of spending reductions? 	<ul style="list-style-type: none"> • Comparative case analysis
9	<ul style="list-style-type: none"> • What are the key lessons learned from the NGACO Model? • What are the implications for future models? 	<ul style="list-style-type: none"> • Synthesis of findings from qualitative, quantitative, survey, and comparative case analysis

Chapter 2: NGACO Model Impacts on Spending, Utilization, and Quality of Care

Key Findings

Gross and Net Spending Impacts



- **Gross spending declined overall:** Cumulatively, across all years through PY 6, the NGACO Model significantly reduced Medicare Parts A and B spending by 1.9%, representing a gross reduction of \$270.3 PBPY or \$1.7 B in the aggregate, relative to the comparison group.
- **Net spending did not decline overall but decreased for the first time in PY 6:** Through PY 6, after accounting for shared savings payouts to NGACOs,^c net Medicare spending increased by 0.1%, representing a net increase of \$15.3 PBPY or by \$96.7 M in the aggregate, that was *not statistically significant*.
- In PY 6, after considering shared savings payouts to NGACOs, the model *significantly decreased* net Medicare spending by 2.4%, representing a net reduction of \$333.2 PBPY or \$324.9M in the aggregate.

Spending Impacts Over Time



- **NGACOs that remained in the model showed larger gross spending reductions over time across PYs, with the largest reductions in PY 5-PY 6, during the COVID-19 PHE.** The 35 NGACOs that remained in the model had gross spending reductions of 3.7-4.3% (\$444.9-556.6 PBPY, $p < 0.01$) in PY 5-PY 6, relative to reductions of 0.3-2.5% (\$176.5-332.0 PBPY, $p < 0.10$) in prior PYs.
- **Later spending reductions likely reflect several factors:** In addition to improvements over time, the model saw the withdrawal of NGACOs that incurred shared losses, improvements by NGACOs that remained in the model, and NGACOs' larger impacts relative to the comparison group during the COVID-19 PHE.
- **NGACOs that remained in the model and those that withdrew had divergent impacts:** NGACOs that remained in the model on average earned shared savings (\$333.2 PBPY) and showed significant cumulative gross spending reductions of 2.2% (\$297.4 PBPY). In contrast, NGACOs that withdrew incurred average shared losses (\$104.2 PBPY) and increased gross spending by 0.1% (\$18.5 PBPY) in the year before their withdrawal.

^c This includes the Coordinated Care Rewards (CCRs) in PY 2 and PY 3.

Overview of Methods for Chapter 2

We applied a DID framework to estimate differential changes in spending, utilization, and quality between a baseline period and each PY among NGACO beneficiaries relative to a comparison group.

- The baseline period comprised three years prior to each cohort's start in the model.
- NGACO beneficiaries were those aligned with in-network providers (Participant Providers) in a given PY and in each year of the baseline period. Comparison beneficiaries were aligned with providers located in the same markets as NGACOs but not participating in the model or in other Medicare ACOs.
- Comparators were weighted to be similar to NGACO beneficiaries, using propensity score weighting.
- As COVID-19 might have affected treatment and comparison groups differently, we balanced the NGACO and comparison groups on county-level COVID-19 rates in 2020 and 2021.
- We report spending impact estimates PBPY and in the aggregate as well as percent changes had the model not been implemented for each PY and cumulatively.
- We report utilization and spending results per 1,000 beneficiaries per year (PBY) and as percent changes in each PY and cumulatively.
- We report impacts estimated using multivariable regressions that adjusted for differences between NGACO and similarly weighted comparison groups on their observed beneficiary demographics, health status, and community and market characteristics, to mitigate any confounding in our results.
- We report model-wide impacts for outcomes as beneficiary-weighted averages from either impacts for cohorts' or impacts for NGACOs', with parallel baseline trends, that met our study design's assumption.
- We note all results that are statistically significant at the 0.1 significance level or lower.

Gross Spending Declined Over Time

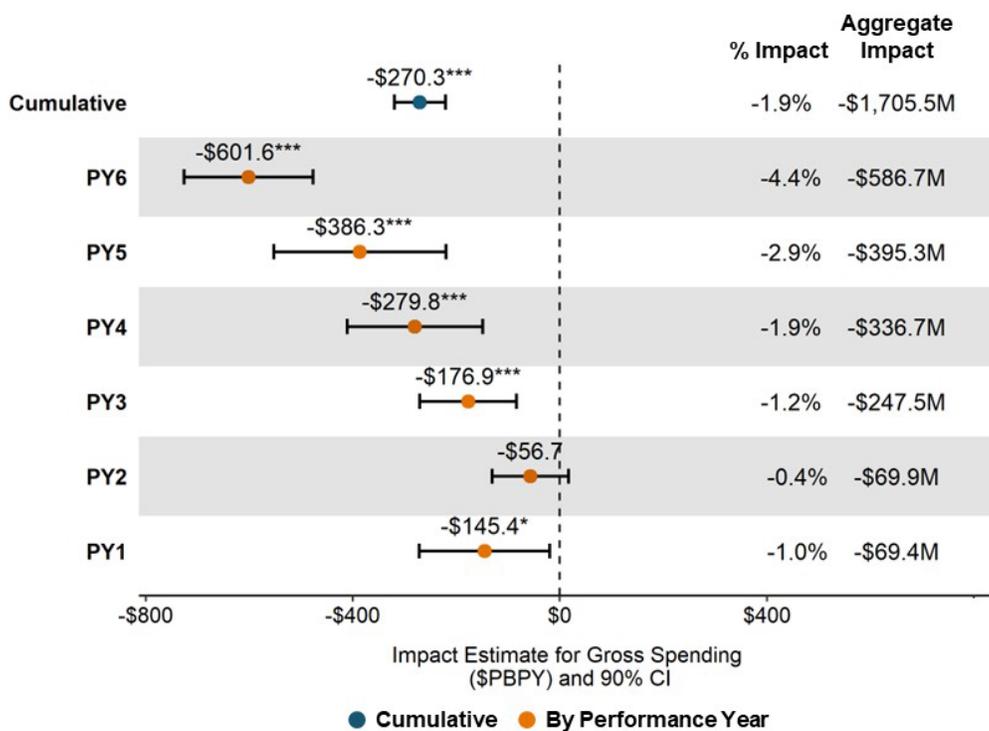
Gross spending impacts represent changes in total Medicare Parts A and B spending. Net spending impact estimates are the sum of the gross spending impact estimates for the NGACO Model and CMS' payouts to NGACOs for shared savings and the Coordinated Care Reward (CCR). In our last three evaluation reports, we observed gross spending reductions in Medicare Parts A and B at the model level for NGACOs relative to the comparison group. In this section, we present findings for PY 6 and cumulatively as of the end of the model.

The NGACO Model reduced gross spending cumulatively, with the largest spending decline in PY 6. Cumulatively (as of PY 6), the model significantly reduced gross Medicare spending for Parts A and B by 1.9% (\$270.3 PBPY or \$1,705.5M in aggregate, $p < 0.01$) for NGACO beneficiaries relative to the comparison group, before considering shared savings payouts (**Exhibit 2.1**). The cumulative and

PY 6 gross spending reductions reflected a larger decline in average spending for NGACO-aligned beneficiaries between the baseline and performance periods than the decline observed for the comparison group during the same time (**Exhibit 2.3**).

The model’s gross spending reductions increased across PYs, contributing to the model’s larger spending reductions over time. As illustrated in **Exhibit 2.1** (and **Appendix D, Exhibit D.4**), the model’s gross spending reductions increased annually from a nonsignificant increase of 0.4% in PY 2 (\$56.7 PBPY) to 4.4% in PY6 (\$601.6 PBPY, $p < 0.01$). Differences in gross spending between the NGACO and comparison groups increased especially after the start of the COVID-19 PHE in PY 5, contributing substantially to increases in the model’s gross spending impacts.

Exhibit 2.1. Gross Spending Declined Cumulatively (62 ACOs) with Larger Declines in Later PYs



NOTES: Gross spending impact estimates are the DID estimates of the NGACO Model on Medicare Parts A and B spending. Confidence intervals at 90% level are displayed as bars around the impact estimates. Percentage impact is the impact relative to expected average spending for NGACO beneficiaries in PY(s) absent the model. Cumulative impact includes 62 NGACOs; impact in each PY includes NGACOs remaining in respective year of the model. All amounts are in 2021 dollars. Estimated impacts PBPY for spending significant at * $p < 0.1$, ** $p < 0.05$, and *** $p < 0.01$.

SOURCE: NORC analysis of NGACO and comparison group enrollment, claims, and model programmatic data.

Net Spending Decreased in the Final Year but Not Overall

The NGACO Model did not reduce net spending cumulatively but did reduce net spending in PY 6. In PY 6, for the first time in any performance year, the model significantly reduced net Medicare spending for Parts A and B; net spending was reduced by 2.4% (\$333.2 PBPY; $p < 0.01$), after

considering shared savings payouts to NGACOs. Cumulatively, net spending did not decline; the estimated increase of 0.1% (\$15.3 PBPY or \$96.7M in aggregate) was not statistically significant. From PY 2 through PY 5, there were yearly increases in net Medicare spending, from 0.1% (\$9.4 PBPY in PY3) to 1.1% (\$147.0 PBPY in PY 5); findings were not statistically significant except for PY 2's increase of 0.8% (\$115.8 PBPY; $p < 0.01$), as noted in **Exhibit 2.2**. The net spending decreases achieved in PY 6 may reflect the improved methodology for setting benchmarks in the context of COVID-19. Specifically, NGACO benchmarks for PY 6 were updated with retrospective adjustments to account for unanticipated reductions in Medicare spending and risk scores due to COVID-19. By contrast, the benchmarks in prior PYs were largely prospective, although PY 5 benchmarks included a retrospective update to account for lower Medicare spending due to COVID-19.

Factors that contributed to an increase in cumulative net spending included:

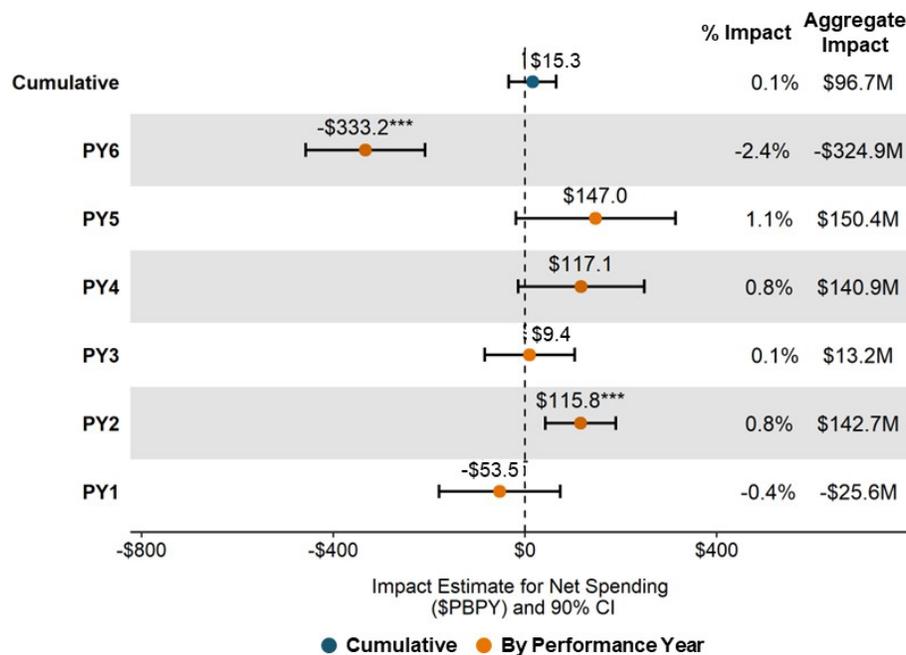
- **Differences between the methodology used to calculate shared savings based on financial benchmarks and the methodology used to calculate the evaluation's impact on gross spending.** As detailed in **Appendix A**, CMS determined NGACOs' shared savings and losses by comparing spending in a given PY with the model's financial benchmark, set to its baseline period spending with trend and regional adjustments. Shared savings allowed NGACOs to fund and sustain their activities, and those that did not earn shared savings likely incurred operational losses. By contrast, our evaluation estimated NGACOs' gross impact on Medicare spending by comparing changes in Medicare spending between PYs and a baseline period for NGACOs, relative to a comparison group of beneficiaries in their markets over the same period. The evaluation's net spending increase shows that the shared savings paid by CMS to NGACOs exceeded their gross spending reductions estimated relative to the comparison group.
- **Discordance between evaluation findings and financial benchmark results for some NGACOs.** Ten NGACOs earned shared savings relative to their financial benchmark, despite having increased gross spending relative to their comparison group in the evaluation, contributing to increased model-wide net spending. **Exhibit 2.6** includes additional details regarding concordance and discordance between the evaluation findings and NGACOs' financial benchmark results.
- **The launch of the Global and Professional Direct Contracting (GPDC) Model in PY 6.** Our comparison group methodology excludes beneficiaries if they are aligned to an ACO in the Pioneer or GPDC Models since they had many of the same features and incentives as the NGACO Model. With GPDC starting in April 2021, some beneficiaries' attributed providers may have joined the model, meaning those beneficiaries would have been removed from the comparison group. Since providers joining ACOs tend to be more efficient and to have experience in value-based care, the comparison group may have been skewed toward beneficiaries with less efficient providers. In PY 6, GPDC Direct Contracting Entities operated in over half of the 90 NGACO HRRs.

Spending Impacts Grew with Each PY

In this section, we discuss gross and net spending impacts for subgroups of NGACOs and highlight factors contributing to increases in model-wide spending impacts over time related to:

- NGACOs that remained in and withdrew from the model in each PY
- Learning over time among NGACOs that remained in the model through PY 6
- NGACOs with concordance or discordance between gross spending impacts and shared savings and losses

Exhibit 2.2. Net Spending Did Not Decline Cumulatively (62 ACOs) but Did So in PY 6 Alone (35 ACOs)



NOTES: Net spending impact estimates are the sum of the gross spending impact estimates for the NGACO Model and CMS’ payouts to NGACOs for shared savings and CCR. Confidence intervals at 90% level are displayed as bars around the impact estimates. Percentage impact is the impact relative to expected average spending for NGACO beneficiaries in PY(s) absent the model. Cumulative impact includes 62 NGACOs; impact in each PY includes NGACOs remaining in respective year of the model. All amounts are in 2021 dollars. Estimated impacts PBPY for spending significant at *p<0.1, **p<0.05, and ***p<0.01.

SOURCE: NORC analysis of NGACO and comparison group enrollment, claims, and model programmatic data.

Key factors that contributed to incrementally larger spending reductions from PY 2 through PY 6 included:

- **Withdrawal from the model by NGACOs that on average were poor-performing, incurring shared losses and not reducing gross spending.** The withdrawals contributed to model-wide improvements in gross spending reductions over time among NGACOs that remained in the model.

- **Improvement (larger average gross spending reductions) over time for NGACOs that remained in the model.** These NGACOs refined their strategies and approaches, and honed their provider networks, generating stability that fostered beneficiary retention.
- **Amplification of the model’s impact on gross spending (reflecting the effects of NGACO withdrawals and retention) during the COVID-19 PHE in PY 5 and PY 6.** NGACOs showed greater spending reductions relative to comparison groups in markets that experienced similar disruptions from COVID-19. As noted in Chapter 3, differences in spending impacts across NGACO organization types were also amplified during the COVID-19 PHE; NGACOs may have been better positioned to manage changes in care delivery during the COVID-19 PHE because of their participation in the model.

Exhibit 2.3. Gross Spending Impacts Reflect Larger Declines in Spending for NGACO Group Relative to Comparison Group

	Cumulative	PY 6	PY 5	PY 4	PY 3	PY 2	PY 1
Number of Beneficiaries							
	6,310,668	975,252	1,023,167	1,203,457	1,399,398	1,232,215	477,179
Mean Adjusted Spending PBPY							
NGACO Group in Baseline Period (\$)	14,544.80	14,006.58	14,003.73	14,681.60	14,939.86	14,911.65	14,354.09
NGACO Group in Performance Period (\$)	14,159.42	13,095.43	12,917.51	14,694.68	14,877.35	14,755.22	14,003.01
Comparison Group in Baseline Period (\$)	14,817.90	14,245.50	14,286.83	14,946.81	15,186.98	15,296.52	14,552.83
Comparison Group in Performance Period (\$)	14,702.78	13,935.93	13,586.94	15,239.64	15,301.37	15,169.82	14,347.19
Gross Impact Estimate							
PBPY (\$)	↓ -270.25 ***	↓ -601.58 ***	↓ -386.32 ***	↓ -279.76 ***	↓ -176.89 ***	-56.73	↓ -145.44 *
(95% CI)	(-329.32, -211.18)	(-750.12, -453.03)	(-584.83, -187.81)	(-436.17, -123.34)	(-288.49, -65.30)	(-144.64, 32.97)	(-295.99, 5.11)
Aggregate (\$Mil)	↓ -1,705.48 ***	↓ -586.67 ***	↓ -395.27 ***	↓ -336.67 ***	↓ -247.55 ***	-69.90	↓ -69.40 *
(95% CI)	(-2,078.25, -1,332.71)	(-731.56, -441.82)	(-598.38, -192.16)	(-524.91, -148.44)	(-403.71, -91.38)	(-178.22, 38.42)	(-141.24, 2.44)
Shared Savings							
PBPY (\$)	285.58	268.38	533.28	396.81	186.33	172.57	91.90
Aggregate (\$Mil)	1,802.18	261.74	545.64	477.55	260.76	212.64	43.85
Net Impact Estimate							
Estimate PBPY (\$)	15.32	↓ -333.19 ***	146.96	117.06	9.44	↑ 115.84 ***	-53.55
(95% CI)	(-43.75, 74.39)	(-481.74, -184.65)	(-51.55, 345.47)	(-39.35, 273.47)	(-102.16, 121.04)	(27.93, 203.75)	(-204.09, 97.00)
Aggregate (\$Mil)	96.70	↓ -324.95 ***	150.36	140.87	13.21	↑ 142.74 ***	-25.55
(95% CI)	(-276.07, 469.47)	(-469.82, -180.08)	(-52.74, 353.48)	(-47.36, 329.11)	(-142.96, 169.38)	(34.42, 251.07)	(-97.39, 46.29)

NOTES: Estimated gross impact is the DID estimate, or the difference between the NGACO and comparison mean adjusted spending in the PYs and BYs, with 95% confidence intervals (CI). Cumulative impact is the summary impact from PY 1 through PY 6 of the model. Mean adjusted spending for the NGACO and comparison groups in the BY(s) and PY(s) are the conditional means from the DID regressions. Estimated net impact is the gross impact less shared savings payments to NGACOs and CCR payouts to aligned beneficiaries in the PY(s). Significant impacts at the p<0.1 level appear in shaded cells. Lower spending impact estimates are shaded in green with a ↓; higher spending estimates are shaded in orange with a ↑. PBPY estimate is the impact estimate PBPY. Aggregate estimate is the impact estimate for all aligned beneficiaries in the PY(s). Estimated impacts PBPY significant at *p<0.1, **p<0.05, and ***p<0.01.

Gross Spending Impacts and Shared Savings/Losses Differed for NGACOs That Withdrew from the Model Compared With Those That Remained

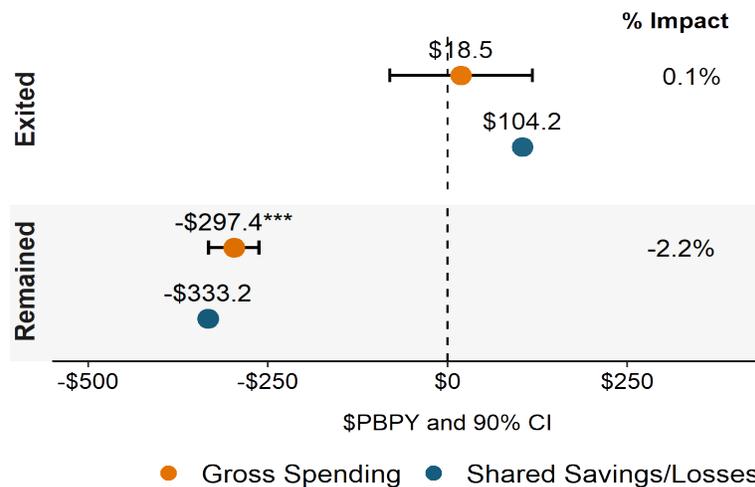
By PY 6, the model saw withdrawal of 27 of the 62 NGACOs that had participated at any point. **Exhibit 2.4** presents average gross spending impacts and shared savings and losses from PY 1 through PY 6 for NGACOs that remained in the model and for those that withdrew. We include estimated impacts for NGACO-years where gross spending impacts could be interpreted (parallel baseline period spending trends between treatment and comparison groups):

- **On average, NGACOs that withdrew from the model did not reduce gross spending, relative to a comparison group in their year of withdrawal and incurred greater shared losses.** Shared loss payments for withdrawing NGACOs were on average larger than NGACO effects on Medicare spending (\$104.2 PBPY vs. \$18.5 PBPY). Eight NGACOs reduced gross spending in the evaluation but exited after incurring shared losses.
- **In contrast, NGACOs that remained in the model significantly reduced gross spending relative to a comparison group and earned greater shared shavings.** This trend contributed differentially to model-wide increases in net spending on average over the course of the model, as the shared savings paid out to the NGACOs were on average larger than their effects on Medicare spending (\$333.2 PBPY vs. \$297.4 PBPY).

NGACO leaders cited several reasons for withdrawing from the model, including financial losses and the perceived financial unpredictability of the model.⁶ In particular, some cited the model's changing benchmarks and risk adjustment policies as factors in their decision-making. In a few cases, external factors such as health system mergers and state-specific payment initiatives reinforced the decisions to withdraw from the model.

NGACOs that withdrew were likely to have fewer than five years of prior experience as Medicare ACOs and were likely to elect lower risk caps in the model. This result suggests the importance of prior Medicare ACO experience in continued NGACO model participation.

Exhibit 2.4. NGACOs Remaining in the Model (35 ACOs) Had Larger Gross Spending Reductions and Shared Savings on Average Than Did the Exiting NGACOs (27 ACOs)



NOTES: Average performance against the benchmark reflects shared savings and losses PBPY from PY 1 through PY 6 for NGACOs that withdrew or remained in the model. Only NGACOs that passed the parallel trends test are included in the analysis. Gross spending impact in a PY is the average DID estimate for Medicare Parts A and B spending for NGACOs that exited from the model after a PY or remained in the model. Confidence intervals for the gross spending impacts are shown for the 90% level and are displayed as bars around the impact estimates. Shared savings and losses are not estimated values; rather, they are the actual payments made and there are no standard errors and, thus, no confidence intervals for these results. Percentage impact is the impact relative to expected average spending for NGACO beneficiaries in PY(s) absent the model. Performance against benchmark in a PY is the average shared savings and losses PBPY for NGACOs that withdrew from the model after a PY or remained in the model. No NGACOs withdrew from the model in PY 6. Gross spending impact PBPY was significant at * $p < 0.1$, ** $p < 0.05$, and *** $p < 0.01$.

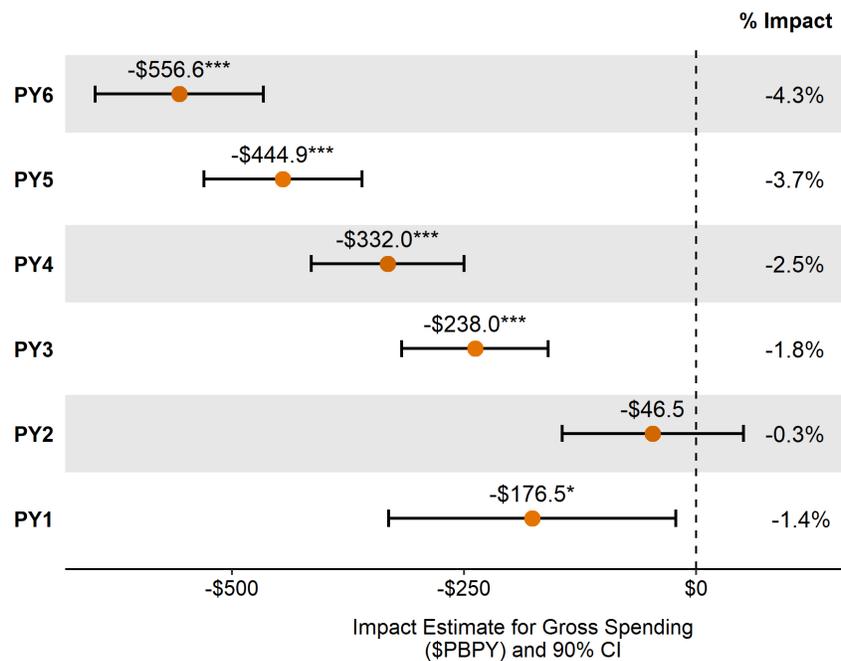
Over time in the model, NGACOs may have improved through learning that included:

- **Learning from direct experience in the model.** The NGACOs engaged their Participant and Preferred Provider networks over time and refined their approaches to population health management of their attributed beneficiaries. The experience and organizational capacity of NGACOs in the model may have enabled them to perform better than other providers delivering care to beneficiaries in the comparison groups of their markets that experienced similar disruptions from COVID-19. NGACOs leveraged the resources and infrastructure developed during their participation in the model to meet their aligned beneficiaries' evolving needs, adapting to the location and types of services they provided. Organizational learning for NGACOs also included learning from its providers and beneficiaries, effects that we explore in Chapters 4 and 5, respectively.
- **Learning from other participants once in the model.** Participating NGACOs also likely learned from one another's experience through learning systems collaboratives that CMS convened for Medicare ACOs.
- **Learning prior to joining the model.** NGACOs joined the model with experience from participating in other Medicare ACO models or risk-sharing initiatives.

Consistent with our hypotheses, we found that **gross spending reductions increased over time for NGACOs that remained in the model**, with the largest reduction occurring in PY 6 (see **Exhibit 2.5**).

From PY 3 to PY 6, the model’s gross spending reductions for NGACOs that remained in the model increased from 1.8% (\$238.0 PBPY, $p < 0.01$) in PY 3 to 4.3% (\$556.6 PBPY, $p < 0.01$) in PY 6. The larger impacts over time suggest that NGACOs may have been better positioned to manage changes in the delivery of care during the COVID-19 PHE, given their prior experience in the model. However, PY 6 was the first model year in which NGACOs’ gross spending reductions finally exceeded their shared savings payouts, suggesting that it took multiple years for Medicare to realize returns from NGACO investments and initiatives.

Exhibit 2.5. Gross Spending Reductions Increased Over Time for NGACOs Remaining in the Model for All PYs (35 ACOs)



NOTES: Gross spending impact estimates are the average DID estimates for Medicare Parts A and B spending among NGACOs in the model through PY 6. We excluded NGACO-years in which total spending failed the parallel trends assumption. Confidence intervals at 90% level are displayed as bars around the impact estimates. Percentage impact is the impact relative to expected average spending for NGACO beneficiaries in PY(s) absent the model. Estimates include NGACOs that passed the parallel trends test and remained in the model through PY 6. Estimated impacts PBPY for spending significant at * $p < 0.1$, ** $p < 0.05$, and *** $p < 0.01$.

SOURCE: NORC analysis of NGACO and comparison group enrollment, claims, and model programmatic data.

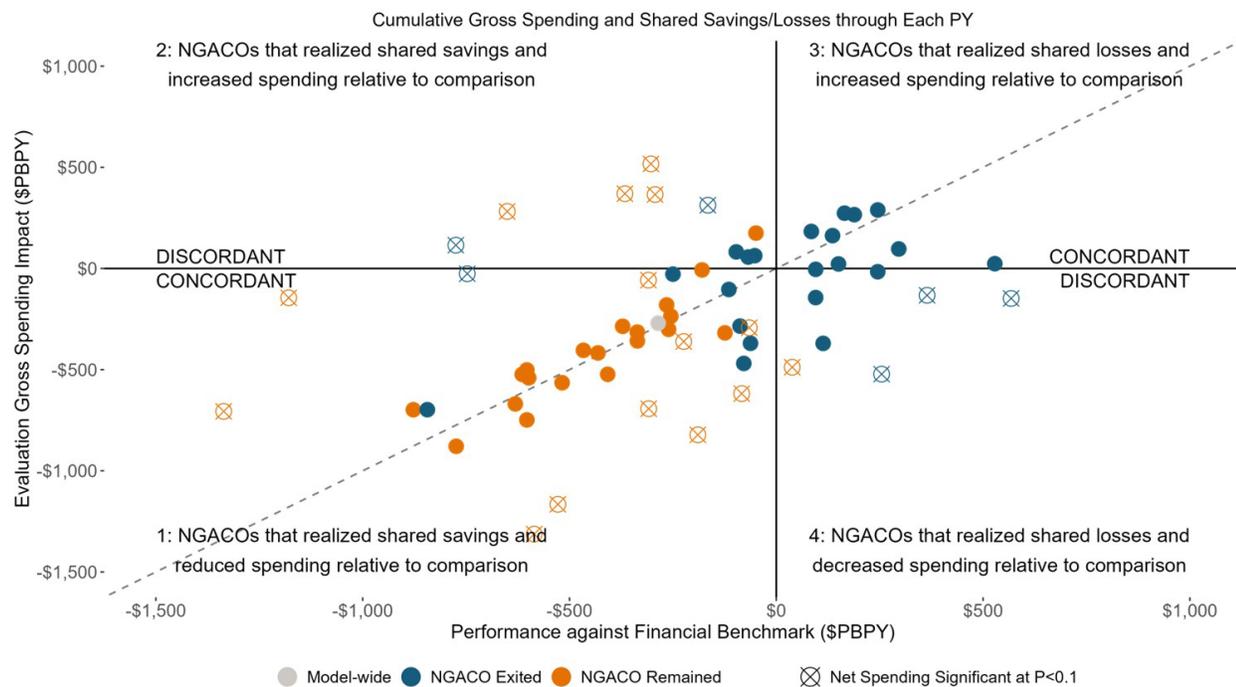
Impacts on Gross Spending and Shared Savings/Losses Were Aligned for Over Two-Thirds of NGACOs

As noted in Chapter 1, our evaluation’s methodology for calculating gross spending impacts differs from the financial methodology that CMS used to calculate shared savings and losses. Ideally, the NGACOs that the evaluation found to have reduced spending would have been rewarded with shared savings—and likewise with shared losses for spending increases. Examination of differences between gross spending impacts and shared savings and losses revealed that, for 18 ACOs, the model rewarded NGACOs more than they saved Medicare. In addition, the model also paid shared savings to 10

NGACOs that increased Medicare spending in the evaluation and recouped shared losses from 8 NGACOs that lowered Medicare spending in the evaluation. Such discrepancies reflect the challenges of establishing financial benchmarks for ACOs and might inform future design changes to secure greater savings for CMS.

As displayed in **Exhibit 2.6**, we saw concordance between the evaluation and financial results for over 70% of NGACOs (44 out of 62), including those that remained in the model and those that withdrew (quadrants 1 and 3, respectively). Fewer than 30% of NGACOs (18 out of 62) showed discordance between the two results (quadrants 2 and 4). Most NGACOs that remained in the model reduced gross Medicare spending and realized shared savings, and most NGACOs that withdrew from the model increased gross Medicare spending and incurred shared losses. See **Appendix A, Exhibit A.18** for an in-depth analysis of the NGACO benchmarks reflected in Exhibit 2.6; **Appendix D, Exhibits D.26-D.27** include corresponding quadrant charts for NGACOs that remained in and withdrew from the model, by cohort.

Exhibit 2.6. Cumulative Gross Spending Impacts and Shared Savings/Losses Aligned for Majority of NGACOs That Remained in or Withdrew from the Model



NOTES: For the 62 NGACOs that participated in the model, NGACOs that withdrew from the model are shown in blue and those that remained in the model are in orange. The cumulative point estimate BPY for gross spending impacts (relative to the comparison group) is shown on the vertical axis, and shared savings and losses (relative to financial benchmark) on the horizontal axis. Each point's distance from the dashed line indicates the magnitude and direction of net Medicare spending. NGACOs above the dashed line increased net spending, while those below it decreased net spending. NGACOs indicated by an open circle with a cross represent those whose cumulative net spending impact in the model was significant at $p < 0.1$.

SOURCE: NORC analysis of NGACO and comparison group enrollment, claims, and model programmatic data

NGACO-Level Impacts on Gross Spending Varied Across Participants

This section details NGACO-level gross spending impacts across six years of the model to highlight variations underlying model-wide reductions in gross spending. In Chapters 3, 6, and 7, we explore how these NGACO-level impacts differed based on organizational characteristics, elected model features, and population health strategies.

About 39% of NGACOs showed significant cumulative spending reductions. See Appendix D, Exhibit D.8 for the estimated cumulative impact on gross Medicare spending (PBPY and as a percentage) for all NGACOs through PY 6. We show results for 53 of 62 NGACOs that had interpretable estimates (meeting the parallel trends assumption for gross spending). Considering change at the NGACO level, cumulative impact on gross spending ranged from a 3.8% increase ($p < 0.05$) to a 7.9% reduction ($p < 0.01$). By PY 6, about 39% of NGACOs (24 of 62) that ever participated in NGACO Model achieved gross spending reductions that were statistically significant (1.7-7.9%); three NGACOs had spending increases that were statistically significant (2.1-3.3%).

About 54% of NGACOs achieved significant spending reductions in PY 6. See Appendix D, Exhibit D.9 for the estimated impacts in PY 6 on gross Medicare spending (PBPY and as a percentage) for NGACOs that remained through the model's final year. We show results for 32 of 35 NGACOs that had interpretable estimates (meeting the parallel trends assumption for gross spending). In PY 6, 54% of the NGACOs (21 of 35) had significant reductions in gross Medicare spending (4.2-10.5%)—a larger proportion than in PY 3 or PY 4. Two NGACOs had significant increases in gross Medicare spending (3.8-5.5%). **Appendix D, Exhibit D.25** includes NGACOs' gross spending impacts in PY 6 and preceding PYs.

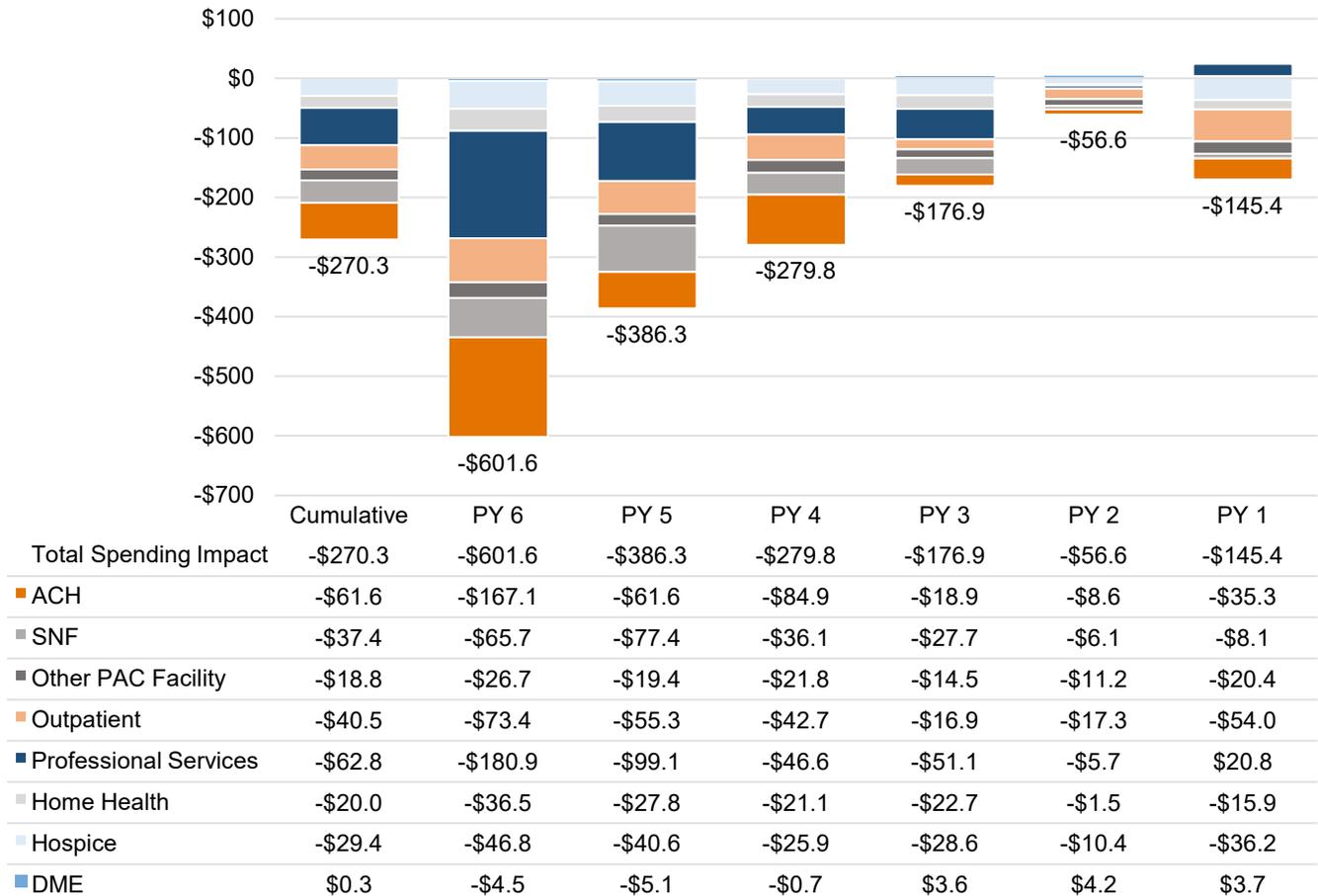
NGACOs Reduced Spending and Utilization Across Care Settings

To better understand the factors contributing to the model's estimated impacts on gross Medicare spending, we estimated cumulative impacts and impacts by PY for eight categories of Medicare spending and utilization by care setting: ACH facilities, SNFs, other PAC facilities, outpatient facilities, professional services, home health, hospice, and durable medical equipment (DME). Cumulatively as of PY 6, the largest contributors to gross Medicare spending reductions were ACH and professional services, followed by outpatient care, SNF, hospice, and home health (**See Exhibit 2.7**):

- Across PYs, reductions in each spending category generally increased, contributing to greater model-wide reductions in Medicare Parts A and B gross spending.
- Cumulatively, the top contributors to overall reductions were decreases in professional services (25%) and ACH (24%) spending. These were followed by reductions in spending for outpatient facilities, SNFs, hospice, home health, and other PAC facilities.

- In PY 6, spending categories by care setting followed a similar pattern in their respective contributions to gross spending reductions.

Exhibit 2.7. Reductions in Professional Services, ACH, Outpatient Facility and SNF Contributed Most to Gross Spending Reductions Cumulatively and in PY 6



NOTES: SNF = skilled nursing facilities. PAC = post-acute care. DME = durable medical equipment. ACH = acute care hospital. This figure is intended to convey the relative proportion of each category to the total. The amounts shown in this exhibit are approximate contributions based on summing the PBPY estimate from the model-estimated distribution across all spending outcomes and calculating the relative contribution of each to that total. The values shown here do not align with spending estimates for each care setting shown in Appendix D. Because we used different statistical models for total spending and spending categories, impacts for spending categories do not sum exactly to the impacts for total spending.

SOURCE: NORC analysis of NGACO and comparison group enrollment, claims, and model programmatic data.

In the remainder of this section, we present detailed results for impacts on Medicare spending in the eight care setting categories and related findings on utilization and quality of care, reflecting prior hypotheses informed by NGACOs’ approaches in the settings (**Exhibit 2.8**).^d

^d For NGACO beneficiaries in PY 6, the greatest contributor to total spending was ACH facility spending (31%), followed by professional services (27%); outpatient facility (18%); SNF (9%); home health (6%); other PAC facilities (3%); hospice (3%); and durable medical equipment (2%). See Appendix D, Exhibit D.19 for more information.

- **For utilization measures**, there were cumulative declines in acute care hospitalizations (0.6%), ED visits and observation stays (1.3%), SNF days (2.4%), home health episodes (4.7%), E&M visits (2.1%), procedures by (1.2%), tests (1.2%), and imaging services (0.8%). SNF stays increased by 0.9% and the number of beneficiaries with AWWs increased by 21.6%.
 - **Impacts increased over time.** PY 6 saw the largest model-wide reductions in most utilization measures, including acute care hospitalizations (2.1%), SNF stays (3.1%), home health episodes (11.2%), E&M visits (5.5%), procedures (3.4%), tests (2.3%), and imaging services (1.2%). Findings are in line with those reported above, with the overall magnitude of the spending impacts growing with each subsequent PY.
- **Quality measures** saw neither significant cumulative improvements nor declines. In PY 6, unplanned 30-day readmissions for NGACO beneficiaries declined by 1.9%, and 30-day post-SNF hospitalizations declined by 4.1%.

Some model-wide impact estimates should be interpreted with caution; we did not assume parallel trends for the NGACO and comparison groups, given observed non-parallel trends for their outcomes in the baseline period for one or more cohorts' PYs. The validity of the impact estimates from our DID design requires assuming parallel trends, that is, that absent the NGACO Model, differences in outcomes between the NGACO and comparison groups measured before the beginning of NGACO remained constant over time. Where outcomes did not meet this key assumption of our study design (as determined by baseline parallel trend tests), we labeled the finding with a § symbol.^e For outcomes with the § symbol in **Exhibit 2.8**, we report model-wide estimates calculated as beneficiary-weighted averages from NGACOs that passed the baseline parallel trends test, to meet our study design assumption. **Appendix A** includes more information about the parallel trends assumption and tests. **Appendix D, Exhibits D.10–D.17** detail the model's impacts on spending and utilization by care setting, and **Appendix D, Exhibit D.18** addresses the model's impacts on quality measures.

^e Differences in adjusted baseline trends between the NGACO and comparison groups may reflect baseline period participation of over half of NGACO providers in the Shared Savings Program or Pioneer ACO Model. Participation would mean NGACO providers were subject to NGACO-like incentives before the start of the model.

Exhibit 2.8. Model Cumulatively Reduced Spending and Utilization in Most Care Settings Related to NGACOs' Population Health Strategies, Reflecting Larger Reductions in Later PYs, with Neutral Impacts on Quality

	Cumulative	PY 6	PY 5	PY 4	PY 3	PY 2	PY 1
ACH Spending and Utilization							
ACH Spending	↑ -1.5 ***	↑ -4.4 ***	↑ -1.6 **	↑ -2.3 ***	-0.3	-0.3	-0.7
ACH Stays	↑ -0.6 ***	↑ -2.1 ***	↑ -1.4 **	↑ -0.8 *	0.0	+0.3	+0.2
PAC Facility Spending and Utilization							
SNF Spending § ²	↑ -3.7 ***	↑ -7.1 ***	↑ -8.8 ***	↑ -3.1 ***	↑ -2.3 ***	↑ -1.3 *	+1.2
Other PAC Facility Spending	↑ -5.3 ***	↑ -7.6 ***	↑ -5.8 ***	↑ -6.4 ***	↑ -4.1 ***	↑ -4.6 ***	-2.4
SNF Days § ¹	↑ -2.4 ***	↑ -5.4 ***	↑ -6.7 ***	↑ -1.9 **	-0.9	+1.3	-0.9
SNF Stays § ¹	↓ +0.9 ***	↑ -3.1 ***	↑ -2.8 ***	↓ +2.3 ***	↓ +3.2 ***	↓ +2.2 ***	↓ +2.3 **
Outpatient Facility Spending and Utilization							
Outpatient Facility Spending § ¹	↑ -0.9 ***	↑ -1.7 ***	↑ -1.2 *	↑ -1.1 **	0.0	↑ -1.0 **	-1.5
ED Visits & Obs. Stays § ³	↑ -1.3 ***	↑ -2.1 ***	↑ -2.8 ***	↑ -1.5 ***	↑ -1.8 ***	0.0	+0.8
Professional Services Spending and Utilization							
Professional Services Spending	↑ -1.9 ***	↑ -5.2 ***	↑ -3.2 ***	↑ -1.5 **	↑ -1.2 **	-0.2	+0.5
E&M Visits § ⁶	↑ -2.1 ***	↑ -5.5 ***	↑ -4.7 ***	↑ -2.0 ***	↑ -1.4 ***	↑ -0.9 ***	↑ -0.9 ***
AWVs § ¹	↑ 21.6 ***	↑ 28.6 ***	↑ 36.9 ***	↑ 20.6 ***	↑ 15.2 ***	↑ 16.6 ***	2.4
Imaging § ²	↑ -0.8 ***	↑ -1.8 ***	↑ -1.3 ***	↑ -0.4 *	↑ -0.6 ***	↑ -0.6 ***	↓ +1.1 ***
Procedures § ³	↑ -1.2 ***	↑ -3.4 ***	↑ -2.9 ***	-0.4	-0.2	+0.1	↑ -1.2 **
Tests § ⁶	↑ -1.2 ***	↑ -2.3 ***	↑ -1.7 ***	↓ -0.5 ***	↑ -1.5 ***	↑ -1.0 ***	↓ +0.5 *
Home Health Spending and Utilization							
Home Health Spending § ⁶	↑ -2.9 ***	↑ -6.6 ***	↑ -5.2 ***	↑ -3.2 ***	↑ -2.5 ***	-0.2	-0.8
Home Health Episodes § ³	↑ -4.7 ***	↑ -11.2 ***	↑ -8.6 ***	↑ -2.0 ***	-0.5	+0.5	-0.9

	Cumulative	PY 6	PY 5	PY 4	PY 3	PY 2	PY 1
Hospice Spending							
Hospice Spending § ¹	↑ -7.7 ***	↑ -11.5 ***	↑ -9.5 ***	↑ -6.8 ***	↑ -6.2 ***	↑ -4.3 ***	↑ -10.0 ***
Quality of Care							
ACSC Hospitalizations	-0.3	-0.9	-1.3	-0.9	-0.6	+0.4	↓ +2.2 *
Unplanned 30-Day Readmissions	-0.2	↑ -1.9 **	-1.7	+0.5	+0.5	-0.4	+1.6
30-Day Hospital Readmission from SNF § ¹	-0.2	↑ -4.0 *	-1.3	+1.7	+1.0	-1.6	+0.6

NOTES: Favorable and significant impacts highlighted in ↑ green, unfavorable and significant impacts in highlighted in ↓ orange. § denotes that model-level estimates from cohorts need to be interpreted with caution given that baseline parallel trends did not hold for cohort(s) in one or more PYs; we report weighted average model-level estimates from NGACOs meeting the assumption of parallel trends for outcomes. Superscript on § indicates the number of PYs in which the baseline parallel trends did not hold for model-level estimates from cohorts. Percentage impact is the DID impact relative to expected level of the outcome measure for NGACO beneficiaries in PY(s) absent the model. Estimated percentage impacts for utilization or quality of care outcome measure significant at *p<0.1, **p<0.05, ***p<0.01. ACH=Acute care hospital; PAC=Post-acute care; SNF=Skilled nursing facility; Other PAC Facility includes inpatient rehabilitation facility and long-term care hospital; ED=Emergency department; E&M= Evaluation & management; ACSC= Ambulatory care-sensitive conditions.

SOURCE: NORC analysis of NGACO and comparison group enrollment, claims, and model programmatic data.

Impacts on ACH Spending and Stays

Exhibit 2.8 and **Appendix D, Exhibit D.10** present the estimated impacts on ACH spending and stays, cumulatively and by PY, which include:

- **A cumulative \$65 decline in acute hospital spending and in acute hospital stays cumulatively and from PY 4-PY 6.**

- As of PY 6, the model cumulatively reduced ACH spending by 1.5% (\$65.1 PBPY; $p < 0.01$). Starting in PY 4, there were significant reductions in ACH spending, ranging from a 1.6% reduction in PY 5 (\$66.0 PBPY) to 4.4% in PY 6 (\$174.3 PBPY).

- Cumulatively, the model reduced ACH stays by 0.6% (1.6 stays per 1,000 BPY; $p < 0.01$). We hypothesized that the model might yield more substantial reductions in ACH stays in later years from different mechanisms as NGACOs honed their strategies and in the context of the COVID-19 pandemic. From PY 4 through PY 6, the NGACO Model achieved significant reductions in ACH stays. Reductions increased over time: the largest reduction in ACH stays was in PY 6, with a 2.1% reduction in stays (5.3 stays per 1,000 PBY; $p < 0.01$).

NGACOs aimed to reduce ACH spending and hospital stays using multiple strategies. They employed data analytics to identify beneficiaries at risk of hospitalization, used care management to reduce the risk of hospitalizations for at-risk beneficiaries, and managed care transitions for those hospitalized to prevent readmissions. Some NGACOs also used the SNF three-day rule waiver to place beneficiaries directly in SNFs, to avoid unnecessary hospitalizations. During the COVID-19 pandemic, some NGACOs also initiated or expanded hospital at home programs.

The model was successful in reducing ACH spending and utilization, both cumulatively and by year as of PY 4.

Impacts on PAC Spending and Utilization

Exhibit 2.8 and **Appendix D, Exhibit D.11-D12** present the estimated impacts on PAC spending and stays, cumulatively and by PY, which include:

- **Significant cumulative reductions in SNF spending, with larger reductions in PY 5-PY 6.**

Starting in PY 2, there were significant reductions in SNF spending—1.3% in PY 2 (\$13.7 PBPY; $p < 0.1$)—that increased over the course of the model to 8.8% in PY 5 (\$75.3 PBPY $p < 0.01$) during the first year of the COVID-19 PHE. In PY 6, SNF spending decreased by 7.1% (\$56.6 PBPY; $p < 0.01$). As of PY 6, there were model-wide reductions in SNF spending of 3.7% (\$36.0 PBPY; $p < 0.01$).

- **Significant cumulative reduction of 37 SNF days PBPY, from PY 1 through PY 6.** Overall, SNF days significantly declined by 2.4% (37.3 days per 1,000 BPY; $p < 0.01$), reflecting significant declines in SNF days from PY 4 onwards, after NGACOs were able to fully establish relationships with their partner SNFs and focused on decreasing length of stay. NGACOs embedded staff in SNFs to manage the care of their beneficiaries and supported broader quality improvement initiatives to decrease lengths of SNF stays. Some SNFs leveraged their related work as part of other CMS and Innovation Center initiatives.

- **Modest cumulative increase of almost 1 SNF stay PBPY, albeit with reductions in stays in PY 5-PY 6 due to COVID-19.** Cumulatively, SNF stays increased by 0.9% (0.6 stays per 1,000 BPY, $p < 0.01$), reflecting significant increases of 2.2 to 3.2% (1.3 to 2.4 stays per 1,000 BPY) in the first four PYs, as NGACOs preferred placing their beneficiaries in SNFs for PAC. However, in PY 5 and PY 6, there were significant decreases of 2.8 to 3.1% in SNF stays (1.7 to 1.8 stays per 1,000 BPY), as NGACOs reduced SNF placements for their beneficiaries during the COVID-19 PHE.
- **Significant reductions in other PAC facility spending cumulatively, with larger reductions in PY 4-PY 6.** As of PY 6, we observed model-wide, cumulative reductions in other PAC facility spending of 4.5% (\$19.9 PBPY; $p < 0.01$). Significant reductions in other PAC facility spending were observed starting in PY 2; spending reductions ranged from 2.6% (\$11.7 PBPY; $p < 0.1$) in PY 3 to 6.8% (\$27.9 PBPY; $p < 0.01$) in PY 6.

Impacts on Outpatient Facility Spending and ED Utilization

Exhibit 2.8 and **Appendix D, Exhibit D.13** show the estimated impacts on outpatient spending and ED visits and observation stays cumulatively and by PY, which include:

- **Cumulative decline in outpatient facility spending of \$26 PBPY, with growing reductions in later PYs.** Cumulatively, outpatient spending decreased significantly by 0.9% (\$26.0 PBPY, $p < 0.05$). Starting in PY 4, outpatient spending reductions in each PY increased over time from 1.1% in PY 4 to 1.7% in PY 6 (\$30.8 to \$45.9 PBPY).
- **Significant decline in ED visits and observation stays cumulatively and in later PYs.** Cumulatively, ED visits and observation stays declined significantly by 1.3% (7 per 1,000 PBPY, $p < 0.01$). There were significant reductions in ED visits and observation stays from PY 3 through PY 6, ranging from 1.5% to 2.8% (8.1 to 12 per 1,000 BPY) with the largest reductions in the model's last two performance years.

Recognizing the importance of PAC as an influence on cost, **NGACOs invested in building relationships with SNF networks and coordinating care across settings.** Strategies included regular forums or meetings with a subset of participating SNFs to focus on performance and quality improvement and embedding NGACO staff in SNFs to manage and coordinate care.

The model significantly reduced SNF spending and other PAC facility spending, with larger reductions in later PYs.

While SNF days decreased, SNF stays increased overall, with larger decreases in days and stays in PY 5-PY 6 in the context of COVID-19, when NGACOs reduced SNF placement for their beneficiaries.

NGACOs prioritized reducing avoidable ED visits. For example, one NGACO worked with physicians to expand office hours, add telephone triage protocols, distribute fliers direct beneficiaries to settings for different concerns (office, urgent care, ED), and identify and follow up with beneficiaries with frequent ED visits. The NGACO also used the New York University (NYU) emergency room algorithm to identify preventable ED visits and worked with physicians to identify opportunities to help these beneficiaries better manage their conditions.

The model significantly reduced ED utilization and outpatient facility spending, with larger reductions in later PYs. See Chapter 3 for differences in impacts by NGACOs' organization type.

Impacts on Professional Services Spending and Utilization

Exhibit 2.8 and **Appendix D, Exhibit D.14** present the estimated impacts on professional services⁹ spending and utilization of E&M visits, cumulatively and by PY, which include:

- Significant cumulative reductions in professional spending, with larger reductions in later PYs related to COVID-19.** We observed significant cumulative reductions in professional services spending of 2.1% (\$66.4 PBPY; $p < 0.01$). Starting in PY 3, professional services spending decreased even more with each PY, from 1.1% in PY 3 (\$41.4 PBPY) to 5.7% in PY 6 (188.7 PBPY in PY 6).
- Significant cumulative decreases in E&M visits, with larger reductions in PYs during the COVID-19 PHE.** Cumulatively, E&M visits—the largest contributor to professional spending—significantly decreased by 2.1% (287.7 visits per 1,000 BPY, $p < 0.01$), with significant decreases seen in all PYs. The size of reductions in E&M visits increased across PYs, from 0.9% in PY 1-PY 2 (116.9 to 133.3 visits per 1,000 BPY, $p < 0.01$), to 4.7-5.5% reductions in PY 5-PY 6 (531.3 to 700.9 visits per 1,000 BPY, $p < 0.01$).
- Significant cumulative increases in AWWs, with increases even in PYs during the COVID-19 PHE.** Cumulatively, the number of beneficiaries receiving AWWs increased significantly by 21.6% (89.2 beneficiaries with AWW per 1,000 BPY). Even in the context of the COVID-19 pandemic in PYs 5-6, AWW rates for NGACO beneficiaries increased by 28.6-36.9% (150.7 to 152.9 beneficiaries with AWW per 1,000 BPY), relative to the comparison group. The AWWs were part of E&M visits and were also a chance for NGACOs to assess and address their beneficiaries' care needs; see Chapter 7 for more information.

NGACOs engaged providers and beneficiaries to reduce unnecessary services. NGACOs' patient-focused activities, including care management and encouraging the use of AWWs, may have improved adherence to care and reduced the need for certain types of professional services such as follow-up E&M visits.

As **NGACOs improved the tracking and care management of beneficiaries**, there were opportunities to reduce duplicative imaging services, procedures, and tests, less of a focus than reducing hospital utilization. By PY 6, 31% of NGACOs reported that fully implementing initiatives to reduce repeated or unnecessary imaging and/or testing, and an additional 11% were in the process of implementing such initiatives. One such program is **Choosing Wisely®**, the campaign to promote conversations between clinicians and beneficiaries to help beneficiaries choose evidence-based care, which 43% of NGACOs reported as a priority.

The model significantly reduced professional services and E&M visits, as well imaging services, procedures, and tests. Reductions were larger in PY 5-PY 6, during the COVID-19 PHE.

⁹ Medicare spending for professional services included physician and non-physician professional services and ancillary services—including ambulance, anesthesia, labs, imaging, and drugs administered in physician offices.

Impacts on Imaging Services, Procedures, and Tests

Exhibit 2.8 and **Appendix D, Exhibit D.15** present the estimated impacts on imaging services, procedures, and tests, cumulatively and by PY, which included:

- Significant cumulative model-wide reductions in imaging services, procedures, and tests, with larger reductions in PY 5-PY 6.** Cumulatively, there were significant decreases in the use of imaging services (0.8% or 36.8 imaging services per 1,000 BPY, $p < 0.01$), procedures (1.2% or 121.1 procedures per 1,000 BPY, $p < 0.01$), and tests (1.2% or 289.3 tests per 1,000 BPY, $p < 0.01$). In the context of the COVID PHE during PY 5-PY 6, decreases for all three categories of professional services utilization were significant and larger in magnitude relative to prior PYs. Decreases in utilization were especially notable for procedures (2.9-3.4% or 256.2-370.2 procedures per 1,000 BPY), the second largest contributor to professional services spending after E&M visits.

Impacts on Home Health Spending and Use

Exhibit 2.8 and **Appendix D, Exhibit D.16** present the estimated impacts on home health spending and episodes, cumulatively and by PY, which included:

- Significant model-wide reductions in home health spending, with larger reductions in PY 5-PY 6.** Cumulatively, home health spending significantly reduced by 2.9% (\$19.1 PBPY, $p < 0.01$). Reductions in home health spending increased over time, reaching significance in PY 3-PY 4 (2.5-3.2% or \$18.3-\$21.2 PBPY), with larger reductions in PY 5-PY 6 during the COVID-19 PHE (5.2-6.6% or \$29.5-37.6 PBPY).
- Corresponding significant model-wide reduction in home health episodes, with larger reductions in PY 5-PY 6.** Cumulatively, home health episodes significantly decreased by 4.7% (7.4 episodes per 1,000 BPY, $p < 0.05$). The model saw significant decreases in home health episodes from PY 4 onwards (2% or 2.7 episodes per 1,000 BPY), with larger reductions in PY 5-PY 6 during the COVID-19 PHE (8.6-11.2% or 16.2-22.4 episodes per 1,000 BPY).

NGACOs in high-cost areas reported targeting home health care utilization and spending for aligned beneficiaries, through fostering timely care delivery and identifying potential fraud, waste, and abuse.

Model significantly reduced home health spending and episodes, with larger reductions in PY 5-PY 6.

Impacts on Hospice Spending

Earlier in our evaluation, we found model-wide differential reductions in hospice spending that reflected lower increases in hospice spending over time among NGACO beneficiaries in relation to the comparison group. In contrast, over the course of the model, the Medicare program had higher hospice spending annually from increases in use of hospice care, a higher hospice base payment rate, and an increase in the average length of stay.⁷ **Exhibit 2.8** and **Appendix D, Exhibit D.17** present the estimated impacts on hospice spending cumulatively and by PY, which included:

- **Significant reductions in hospice spending cumulatively and for all PYs.** As of PY 6, we observed model-wide, cumulative reductions in hospice spending of 7.7% (\$33.4 PBPY; $p < 0.01$). Hospice spending reductions were significant in all PYs and ranged from 4.3% (\$16.9 PBPY) in PY 2 to 11.5% (\$51.3 PBPY) in PY 6. Starting in PY 2, hospice spending reductions in each PY increased over time, reflecting lower increases in hospice spending for NGACO beneficiaries relative to those in the comparison group.

NGACOs did not prioritize strategies focused on hospice and palliative care as highly as other efforts. In PY 6, only 34% of NGACOs reported that they had fully implemented an initiative focused on the use and delivery of palliative care and hospice services; another 31% reported that they were in the process of implementing an initiative.

Larger increases in hospice spending for the comparison group relative to the NGACO group contributed to an apparent model-wide decline in hospice spending.

Measured Effects on Quality Were Neutral

The evaluation used three measures of quality of care: 1) hospitalizations for ACSCs; 2) unplanned 30-day hospital readmissions; and 3) hospital readmissions from SNFs. All three hospital-based measures were expected to decline under the NGACO Model as NGACOs bolstered primary care delivery and prevention, strengthened processes for coordinating care and transitions across settings, and improved their infrastructure and networks. In interviews, NGACO leaders noted that investments in care coordination and care management efforts for their populations might reduce preventable hospitalization and readmissions in the long term. Additional quality measures reported as part of NGACOs' participation in the model could affect shared savings, but these measures could not be formally evaluated against trends in quality measure performance in the Medicare program.

Previously, we found no evidence of model-wide impact on hospitalizations for ACSCs, unplanned 30-day readmissions, or hospital readmissions from SNFs.

Exhibit 2.8 and **Appendix D, Exhibit D.18** present the estimated impacts on the three quality measures, cumulatively and by PY, which included:

- No significant impact on ACSC hospitalizations.** There were small reductions in ACSC hospitalizations in PY 6 of 0.9% (0.2 per 1,000 BPY) and cumulatively of 0.3% (0.1 per 1,000 BPY) that were not statistically significant.
- Significant reductions in unplanned 30-day hospital readmissions in PY 6.** In the context of COVID-19 in PY 6, the model significantly reduced unplanned 30-day hospital readmissions by 1.9% (2.7 per 1,000 BPY, $p < 0.05$), after a nonsignificant reduction in PY 5 (1.7% or 2.4 per 1,000 BPY). Cumulatively, the model did not significantly reduce unplanned readmissions.
- Significant reductions in hospital readmissions from SNFs in PY 6.** In the COVID-19 context in PY 6, the model significantly reduced hospital admissions from SNF by 4% (7.2 per 1,000 BPY, $p < 0.1$), after a nonsignificant reduction in PY 5 (1.3% or 2.4 per 1,000 BPY). Cumulatively, the model did not significantly reduce hospital admissions from SNFs.

NGACOs prioritized preventing readmissions and avoidable inpatient admissions.

In interviews, NGACO leaders explained how their investments in care coordination and care management efforts for their populations might reduce preventable hospitalization and readmissions in the longer term.

The model's final year saw some improvements in hospital-based quality of care measures, while overall the effect of the model on quality of care was neutral.

Over time, NGACOs—particularly the 35 that remained through PY 6—**improved model-reported quality of care measures for prevention, screening, and chronic disease management.** These model-reported quality of care measures were tracked as part of NGACOs' financial incentives and varied over time.

NGACOs, particularly the 35 that remained through PY 6, showed improvements in model-reported quality measures over time for prevention and screening and for chronic disease management.

Our evaluation could not evaluate impacts for these measures relative to the comparison group; for this reason, we are unsure whether these quality improvements were solely in response to the model or part of larger trends.

- NGACOs improved trends in reported screenings for future fall risk, clinical depression, colorectal cancer, and breast cancer, as well as follow-up visits with tobacco users.
- For their populations, NGACOs improved trends in reported control of diabetes and hypertension, depression remission, and prevention and treatment of cardiovascular disease with statin therapy.
- Beneficiaries' ratings of their NGACO providers were similar over time, while access to specialists and timeliness of care declined in the latter PYs, during the COVID-19 PHE.

Conclusion

In this chapter, we addressed research questions about whether the NGACO Model affected Medicare spending, utilization, and quality of care. We found that the model reduced gross spending overall and reduced spending and utilization in acute care, professional, outpatient facility, and SNF settings, particularly during the COVID-19 PHE, while effects on quality of care were not detected. There was wide variation in spending impacts across NGACOs (**Appendix D, Exhibits D.8-D.9**), which is key to understanding how and for whom the model worked. The following chapters explore reasons for this variation by analyzing differences in spending impacts at the organization, provider, patient, and model feature levels and by identifying combinations of factors or pathways associated with reduced total Medicare spending.

Chapter 3: Variations in NGACO Model Outcomes by Organization Characteristics

Key Findings

Differences in Total Spending by Organizational Characteristics



- NGACOs affiliated with physician practices had larger average total spending reductions of 2.4% (\$366.5 PBPY, $p < 0.01$) through PY 6, compared with NGACOs affiliated with integrated delivery systems (IDS) or hospital systems (1.9% or \$244.8 PBPY, $p < 0.01$) and NGACOs affiliated with physician practice/hospital partnerships (1.3% or \$166.3 PBPY, $p < 0.01$). Findings reflected a substantial reduction of 6.8% (\$918.2 PBPY, $p < 0.01$) during the COVID-19 PHE (PY 5-PY 6).

Differences in Spending and Utilization Categories by Organization Type



- Physician practice-affiliated NGACOs had larger reductions in acute hospital spending (2.1% or \$93.6 PBPY, $p < 0.01$) and stays (1.5% or 4.3 per 1,000 BPY, $p < 0.01$) compared with IDS/hospital system-affiliated NGACOs (1.2% or \$49.0 PBPY, $p < 0.01$ for spending and 0.9% or 2.6 per 1,000 BPY, $p < 0.01$ for stays). NGACOs affiliated with physician-hospital partnerships did not show significant impacts on acute hospital spending and days.
- NGACOs affiliated with physician-hospital partnerships had the largest reductions in professional services spending of 3.5% (\$106.7 PBPY, $p < 0.01$) compared with 1.3% (\$42.6 PBPY, $p < 0.01$) for IDS/hospital system-affiliated and 1.3% (\$50.4 PBPY, $p < 0.01$) for physician practice-affiliated NGACOs.
- IDS/hospital system-affiliated NGACOs had larger reductions in other PAC facility spending of 7% (\$28.4 PBPY, $p < 0.01$) compared with 3.9% (\$15.2 PBPY, $p < 0.05$) for hospital-physician partnerships and 2.5% (\$11.6 PBPY, $p < 0.05$) for physician practice-affiliated NGACOs.

Differences in Quality of Care by Organization Type



- Physician practice-affiliated NGACOs had the largest reduction in ACSC hospitalizations of 1.1% (0.4 per 1,000 BPY, $p < 0.05$)—reflecting a PY 5 reduction of 6.4% (1.7 per 1,000 BPY, $p < 0.01$) during the COVID-19 PHE.

Chapter 2 highlighted several findings about the NGACO model's impacts on spending, utilization, and quality. In this chapter, we begin exploring reasons for observed variations in these impacts, focusing on the influence of an NGACO's organizational type. Specifically, we address the following research question:

- **Did impacts on spending, utilization, and quality of care vary by organization type?**

We present impacts of the NGACO Model by organization type across six PYs on total Medicare spending (Parts A and B), individual spending and utilization categories, and quality of care.

Initially, we hypothesized that factors such as organization type may influence spending, utilization, and quality outcomes in the NGACO Model, as reflected in our theory of action and in the literature. For instance, McWilliams and colleagues found that independent primary care ACOs had greater spending reductions than did hospital-integrated ACOs in the Medicare Shared Savings Program (SSP).⁸ Organizational resources, scale, and culture may affect decisions about whether to participate in the model, the choice of providers to recruit into the NGACOs' networks, the model features to select, and how to approach implementation. In previous evaluation reports, we did not observe large differences between organization types in overall Medicare Parts A and B spending, but we did find differences in relative spending reductions by category. Reductions in hospital spending accounted for over half of spending reductions for physician practice-affiliated NGACOs. By comparison, PAC settings contributed to much of the spending decline in IDS/hospital-affiliated NGACOs. The IDS/hospital-affiliated NGACOs also exhibited a greater percentage of spending reductions in professional services, compared with physician practice-affiliated NGACOs.

The analyses presented in this chapter draw primarily from quantitative analyses using Medicare claims data. Qualitative and survey findings enhanced our understanding of the trends observed. Comparative case analyses in Chapters 7 and 8 will provide more insight into the relationships among organizational characteristics, market environments, population health management strategies, and NGACO outcomes.

Overview of Methods for Chapter 3

- We conducted subgroup analyses by organization type, using results from NGACO-level DID regression models that estimated differential changes in spending, utilization, and quality between a baseline period and each PY among NGACO beneficiaries relative to a comparison group, as described in Chapter 2.

NGACOs Included Three Types of Organizations

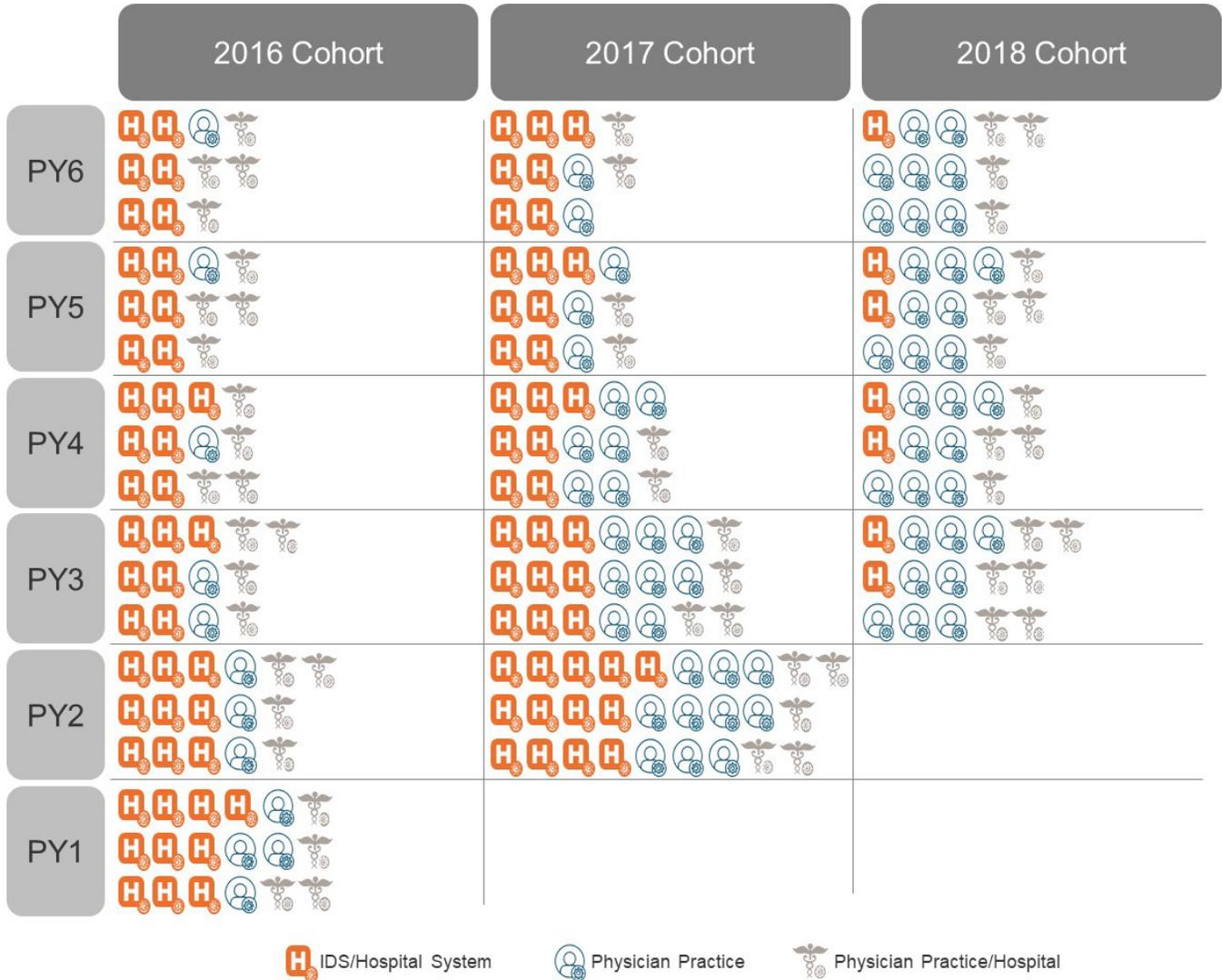
In our [Third Evaluation Report](#), we described three types of NGACOs:

- **IDS or hospital system-affiliated organizations**
- **Physician practice-hospital partnerships**, in which the hospital was usually the dominant partner
- **Physician practice-affiliated organizations**, such as a medical group or network of individual practices not affiliated with a hospital system

Each NGACO type differed with respect to its contractual relationships with providers and the range of services offered, which may have affected NGACOs' ability to control spending. The composition of NGACO cohorts by organization type changed over the course of the model (PY 1-PY 6), as shown in

Exhibit 3.1. In 2016, NGACOs were mostly IDS/hospital system-affiliated (56%); however, when the third cohort entered in 2018, physician practice-affiliated organizations accounted for half of the group. In PY 6, NGACOs in the model comprised 14 IDS or hospital system affiliated (40%), 10 physician-hospital partnerships (29%), and 11 physician practices (31%).

Exhibit 3.1. Most 2016 Cohort NGACOs Were IDS/Hospital-Affiliated, While Most 2018 Cohort Were Physician Practice-Affiliated



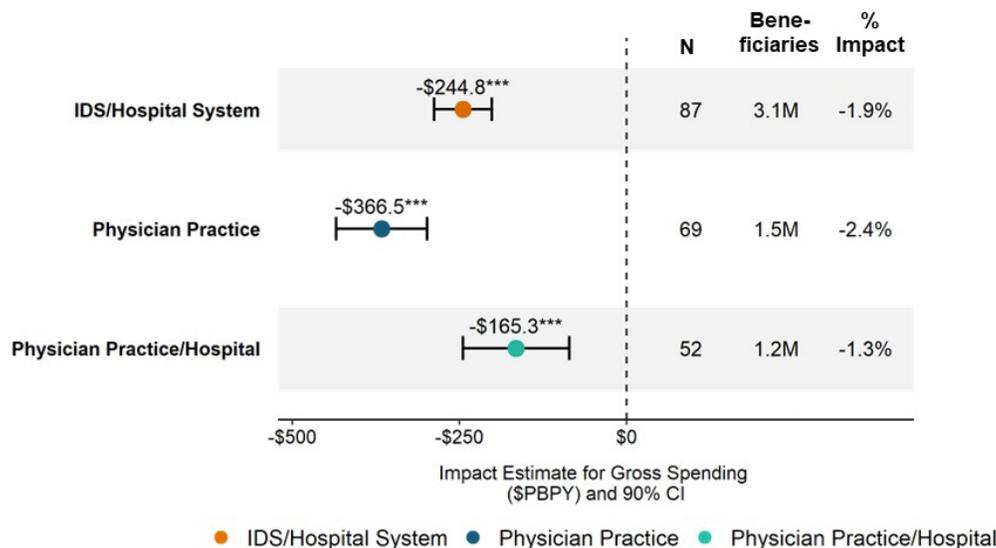
NOTE: Each symbol represents one NGACO.

SOURCE: NORC analysis of NGACO evaluation's qualitative data and CMS' NGACO programmatic data.

Impacts on Medicare Gross Spending Differed by Organization Type

We examined average gross spending impacts for NGACOs by their organization type as of PY 6. In our [Fourth Evaluation Report](#), we noted that NGACOs reduced Medicare spending, and by similar amounts, regardless of their organization type. In the final two years of the NGACO Model, however, physician practice-affiliated NGACOs diverged from IDS/hospital system-affiliated and physician practice/hospital partnerships in their impacts on spending, utilization, and quality of care. **As of PY 6, physician practice-affiliated NGACOs had the largest average reductions in gross Medicare spending among the three organization types.** As shown in **Exhibit 3.2**, the differences were modest, with physician practice-affiliated NGACOs having lowered Medicare spending by 2% (\$366.5 PBPY, $p < 0.01$), compared with a 1.9% reduction (\$244.8 PBPY, $p < 0.01$) for IDS/hospital system-affiliated NGACOs and a 1.3% reduction (\$165.3 PBPY, $p < 0.01$) for physician-hospital partnerships. The larger impact for physician practice-affiliated NGACOs likely related to greater impacts in ACH spending and utilization, compared with other organization types, as discussed in the next section.

Exhibit 3.2. Physician Practice-Affiliated NGACOs had the Largest Gross Spending Reductions as of PY 6



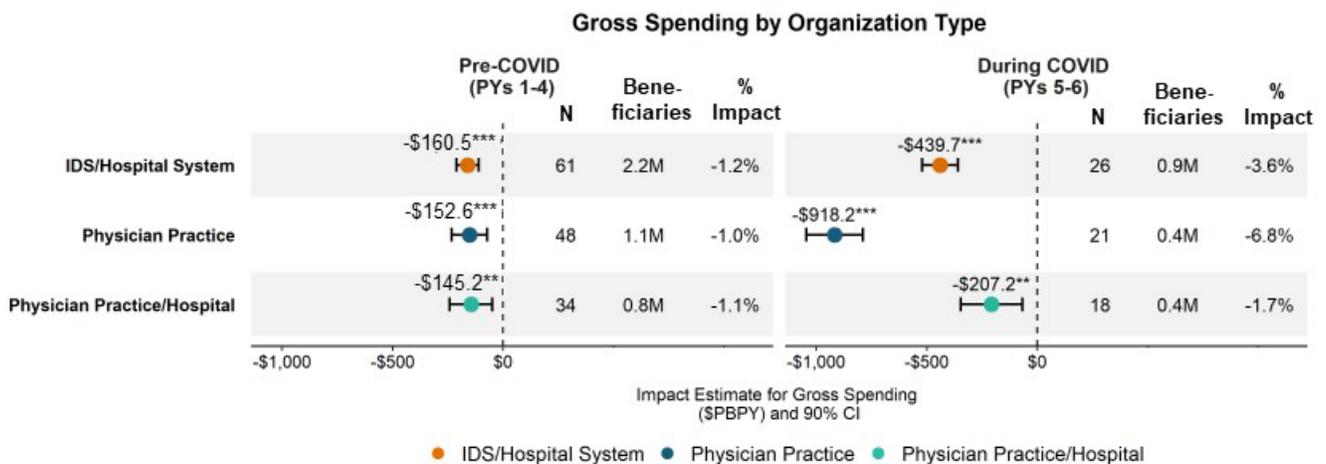
NOTES: Impact estimates for gross Medicare spending PBPY and 90% confidence intervals are displayed. Impact estimates are weighted averages of the gross Medicare spending DID estimates for the NGACO-years in each subgroup of organization type. For each subgroup, the impact estimate is displayed as a percentage (% impact). We considered gross Medicare spending impacts for 208 out of 225 NGACO-years as of PY 6, excluding 17 NGACO-years due to failure of baseline parallel trends. N indicates number of NGACO-years. Approach to estimating impacts for the subgroups is explained in Appendix A. Impact estimates significant at * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

SOURCE: NORC analysis of NGACO and comparison group enrollment and claims data.

For physician practice-affiliated NGACOs, the larger cumulative gross spending reductions reflected a dramatic spending decline during PY 5 and PY 6, the height of the COVID-19 PHE. **During the COVID-19 PHE, physician practice-affiliated NGACOs saw their greatest spending reductions, which exceeded the cumulative reductions achieved by other NGACO organization types.**

As shown in **Exhibit 3.3**, physician practice-affiliated NGACOs had spending reductions of 6.8% (\$918.2 PBPY, $p < 0.05$) during the COVID-19 PHE, followed by IDS/hospital system-affiliated NGACOs at 3.6% (\$439.7 PBPY, $p < 0.01$) and physician-hospital partnerships at 1.7% (\$207.2 PBPY, $p < 0.05$). The spending reductions by setting were similar to pre-COVID patterns for IDS/hospital-affiliated and physician practice/hospital partnerships in PY 5-PY 6. Physician practice-affiliated NGACOs reduced spending across the care continuum during the height of the COVID-19 PHE, including a substantial reduction in professional services (**See Appendix E, Exhibit E.1**).

Exhibit 3.3. Physician Practice-Affiliated NGACOs Had Substantially Higher Spending Reductions During the COVID-19 Pandemic, Compared With Other Organization Types



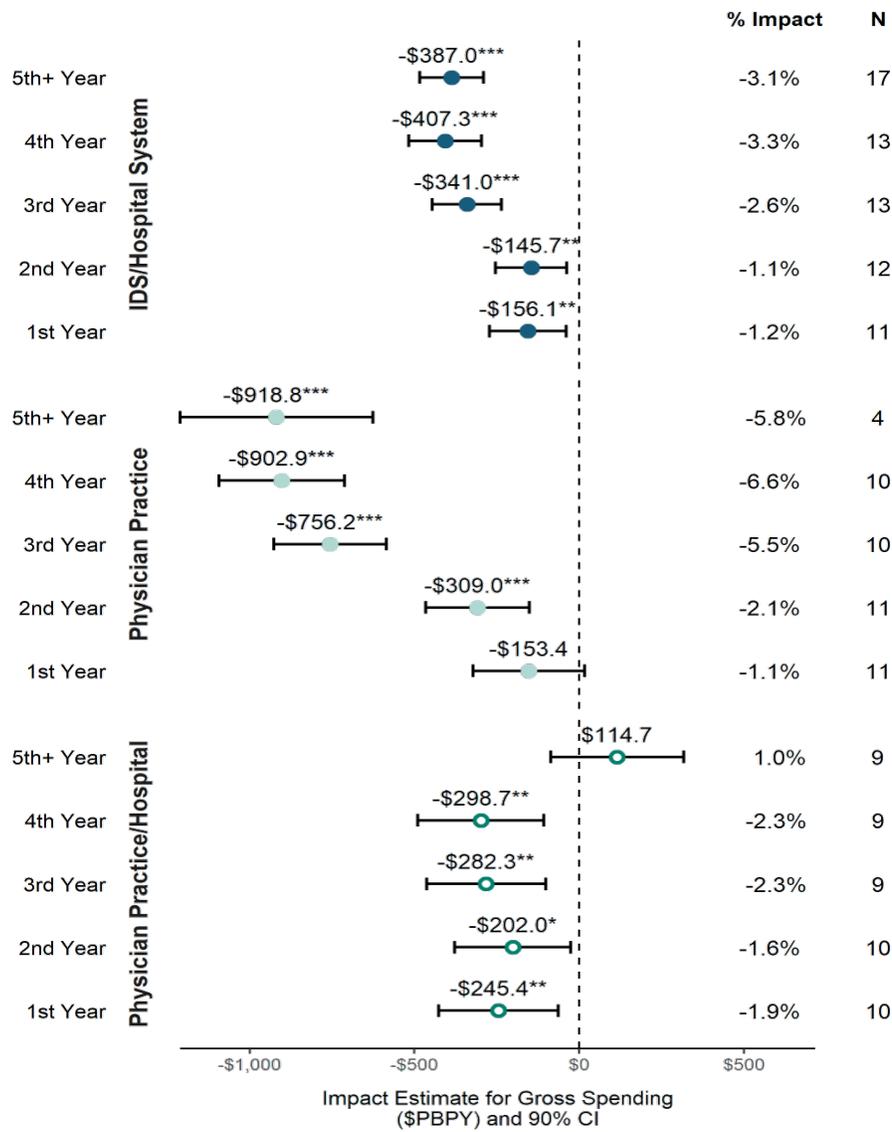
NOTES: Impact estimates for gross Medicare spending PBPY and 90% CIs displayed. Impact estimates are weighted averages of the gross Medicare spending DID estimates for the NGACO-years in each subgroup of organization type. For each subgroup, the impact estimate is displayed as a percentage (% impact). We considered gross Medicare spending impacts for 143 out of 153 NGACO-years from PY 1-PY 4 (pre-COVID), and 65 out of 72 NGACO-years from PY 5-PY 6 (during COVID), excluding 17 NGACO-years due to failure of baseline parallel trends. N indicates number of NGACO-years. Approach to estimating impacts for the subgroups is explained in Appendix A. Impact estimates significant at * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

SOURCE: NORC analysis of NGACO and comparison group enrollment and claims data.

Spending Impacts by Organization Type Varied Over Time

As noted in Chapter 2, there is evidence of learning over time among NGACOs that remained in the model, as well as possible selection bias that kept successful NGACOs in the model while lower-performing NGACOs withdrew. Physician practice-affiliated NGACOs and IDS/hospital-affiliated NGACOs had larger spending reductions in the later years of the model, as depicted in **Exhibit 3.4**; this trend may reflect the effect of the COVID-19 PHE or of improved NGACO population health management approaches and services for aligned beneficiaries. Impacts for hospital/physician partnership-affiliated NGACOs were similar over the course of the model. For NGACOs that remained in the model, there was no meaningful difference in these trends (**Appendix E, Exhibits E.12-E.14**).

Exhibit 3.4. Average Impacts on Gross Spending for NGACOs Remaining in the Model Were Largest Among Physician Practice-Affiliated NGACOs.



● IDS/Hospital System ● Physician Practice ○ Physician Practice/Hospital

NOTES: Impact estimates are the DID estimates for gross Medicare spending. CIs at 90% level are displayed as bars around the impact estimates. Percentage impact is the impact relative to the expected utilization for NGACO beneficiaries in PY(s) absent the model. Impacts shown for NGACO organization types based on their number of years in the model, dropping NGACO-years that did not meet the assumption of parallel trends in the baseline. NGACOs with 5+ years in the model are from 2016 and 2017 cohorts. Analysis limited to 35 NGACOs that remained in the model as of PY 6. Estimated impacts for spending per PBPY significant at *p<0.1, **p<0.05, ***p<0.01.

SOURCE: NORC analysis of NGACO and comparison group enrollment, claims, and model programmatic data.

Impacts on Spending and Utilization Categories Differed by Organization Type

Consistent with our hypothesis, physician practice-affiliated NGACOs had larger reductions in acute hospital spending of 2.1% (\$93.6 PBPY, $p < 0.01$) and stays of 1.5% (4.3 per 1,000 BPY, $p < 0.01$), compared with IDS/hospital system-affiliated NGACOs (1.2% or \$49.0 PBPY, $p < 0.01$ for spending and 0.9% or 2.6 per 1,000 BPY, $p < 0.01$ for stays), as seen in **Exhibit 3.5**. NGACOs affiliated with physician-hospital partnerships did not have significant impacts on acute hospital spending and days. By contrast, NGACOs that were physician-hospital partnerships had the highest reductions in professional services spending of 3.5% (\$106.7 PBPY, $p < 0.01$), compared with 1.3% (\$42.6 PBPY, $p < 0.01$) for IDS/hospital system-affiliated and 1.3% (\$50.4 PBPY, $p < 0.01$) for physician practice-affiliated NGACOs. Our qualitative and survey data yielded no direct insights into the reasons for the differences in acute care spending and utilization by organization type. However, physician practice-affiliated NGACOs may have had greater incentive to lower spending and utilization in settings that would not affect their revenue.

For NGACOs affiliated with IDS/hospital systems, there were larger reductions in other PAC facility spending of 7% (\$28.4 PBPY, $p < 0.01$), compared with 3.9% (\$15.2 PBPY, $p < 0.05$) for hospital-physician partnerships and 2.5% (\$11.6 PBPY, $p < 0.05$) for physician practice-affiliated NGACOs. While our qualitative and survey data do not provide clear insights on the difference in other PAC spending by organization type, hospitals likely had more control over the discharge process than physician practices and for this reason, greater opportunity to leverage improved coordination with PAC settings or to divert beneficiaries away from intensive PAC settings as appropriate.

Impacts on Quality of Care Differed by Organization Type

There were differences in impact on quality-of-care measures by organization type, similar to trends in overall spending and in spending and utilization by setting.

ACSC Hospitalizations. Cumulatively, we observed a larger reduction in ACSC hospitalizations for physician practice-affiliated NGACOs of 1.2% (0.4 per 1,000 BPY, $p < 0.05$), compared with IDS/hospital system-affiliated and hospital-physician partnership NGACOs, reflecting a 6.4% reduction (1.7 per 1,000 BPY, $p < 0.01$) in PY 5 during the COVID-19 PHE (**Exhibit 3.4, Appendix E, Exhibit E.2**). In contrast, IDS/hospital system-affiliated NGACOs saw modest increases in ACSC hospitalizations of 0.7% (0.3 per 1,000 BPY, $p < 0.10$), while physician practice/hospital partnerships had a nonsignificant decrease of 0.9% (0.3 per 1,000 BPY). The findings are consistent with our finding that physician practice-affiliated NGACOs had a greater impact on acute care in general, with more incentive than IDS/hospital system-affiliated NGACOs to reduce acute care visits.

Unplanned Readmissions. We observed no cumulative impact on unplanned hospital readmissions or readmissions from SNFs. However, in PY 5 and PY 6, IDS/hospital system-

Exhibit 3.5. Impacts on Spending and Utilization Categories Differed by Organization Type, Particularly for ACH, Professional Services, and Other PAC Settings

Outcome	AVERAGE IMPACT FROM PY 1-PY 6								
	IDS/ Hospital System-Affiliated NGACOs			Hospital-Physician Partnership NGACOs			Physician Practice-Affiliated NGACOs		
	NGACO-PY	Impact Estimate (95% CI)	% Impact	NGACO-PY	Impact Estimate (95% CI)	% Impact	NGACO-PY	Impact Estimate (95% CI)	% Impact
Spending (\$ Per Beneficiary Per Year)									
ACH facility	87	-49.0 *** (-69.9, -28.2)	-1.24	52	-25.9 (-64.6, 12.9)	-0.66	69	-93.6 *** (-125.8, -61.5)	-2.06
SNF	87	-35.9 *** (-44.0, -27.8)	-3.84	52	-37.1 *** (-52.5, -21.7)	-4.04	69	-36.1 *** (-48.8, -23.4)	-3.24
Other PAC facility	87	-28.4 *** (-35.4, -21.4)	-7.00	52	-15.2 ** (-27.3, -3.0)	-3.94	69	-11.6 ** (-21.7, -1.5)	-2.46
Outpatient facility	87	-43.9 *** (-59.4, -28.4)	-1.56	52	30.2 * (-1.8, 62.2)	1.08	69	-49.9 *** (-70.7, -29.1)	-1.96
Professional services	87	-42.6 *** (-55.1, -30.2)	-1.32	52	-106.7 *** (-125.4, -88.0)	-3.47	69	-50.4 *** (-68.5, -32.4)	-1.27
Home health	87	-21.7 *** (-25.4, -18.1)	-3.37	52	-14.7 *** (-21.5, -7.9)	-2.37	69	-35.2 *** (-41.0, -29.4)	-3.85
Hospice	87	-35.0 *** (-41.0, -29.0)	-8.36	52	-37.6 *** (-49.1, -26.1)	-8.62	69	-31.5 *** (-40.5, -22.5)	-6.68
DME	87	1.3 (-3.0, 5.6)	0.41	52	-2.4 (-9.1, 4.4)	-0.79	69	-4.5 * (-9.7, 0.6)	-1.61
Utilization (Per 1,000 Beneficiaries Per Year)									
Acute care stays	86	-2.6 *** (-3.8, -1.5)	-0.91	49	0.9 (-1.4, 3.1)	0.31	64	-4.3 *** (-5.8, -2.7)	-1.48
SNF stays	82	1.2 *** (0.6, 1.7)	1.73	51	0.6 (-0.4, 1.6)	1.01	61	-0.7 * (-1.4, 0.1)	-1.00
SNF days	92	-34.8 *** (-48.8, -20.7)	-2.21	49	-22.4 (-50.5, 5.7)	-1.48	62	-55.7 *** (-76.5, -35.0)	-3.38
ED visits & observation stays	73	-10.2 *** (-12.4, -7.9)	-1.84	46	3.3 (-1.2, 7.8)	0.60	56	-8.8 *** (-11.7, -6.0)	-1.85

AVERAGE IMPACT FROM PY 1-PY 6

Outcome	IDS/ Hospital System-Affiliated NGACOs			Hospital-Physician Partnership NGACOs			Physician Practice-Affiliated NGACOs		
	NGACO-PY	Impact Estimate (95% CI)	% Impact	NGACO-PY	Impact Estimate (95% CI)	% Impact	NGACO-PY	Impact Estimate (95% CI)	% Impact
E&M visits	38	-311.0 *** (-342.8, -279.3)	-2.26	22	-159.4 *** (-206.7, -112.0)	-1.31	39	-322.6 *** (-355.3, -289.9)	-2.33
Procedures	78	-121.4 *** (-152.8, -90.0)	-1.25	49	-199.7 *** (-259.6, -139.9)	-1.99	61	-57.5 ** (-109.8, -5.2)	-0.50
Tests	54	-376.4 *** (-438.4, -314.3)	-1.59	45	-290.5 *** (-376.0, -205.1)	-1.24	47	-153.7 *** (-225.2, -82.2)	-0.59
Imaging services	70	-25.1 *** (-37.1, -13.1)	-0.52	38	-21.4 (-48.1, 5.3)	-0.46	61	-71.3 *** (-87.4, -55.3)	-1.38
Beneficiaries with AWW	15	95.2 *** (92.6, 97.8)	20.67	17	82.7 *** (80.0, 85.4)	23.38	13	89.7 *** (87.2, 92.2)	20.93
Home health episodes	80	-7.4 *** (-8.3, -6.5)	-5.11	50	-5.5 *** (-7.2, -3.9)	-3.62	62	-8.8 *** (-10.1, -7.5)	-4.60
Home health visits	75	-86.8 *** (-107.5, -66.1)	-3.21	49	-79.0 *** (-114.4, -43.6)	-2.86	60	-205.0 *** (-239.9, -170.1)	-4.89
Quality of Care (Beneficiaries with Outcome, Per 1,000 Beneficiaries Per Year)									
ACSC hospitalizations	83	0.3 * (0.0, 0.6)	0.75	54	-0.3 (-0.9, 0.3)	-0.90	62	-0.4 ** (-0.8, 0.0)	-1.15
Unplanned 30-day readmissions	91	-0.6 (-2.1, 0.8)	-0.42	54	0.8 (-2.1, 3.6)	0.51	69	-1.3 (-3.3, 0.7)	-0.84
Hospital readmissions from SNF	79	-2.1 (-5.2, 1.0)	-1.17	55	3.6 (-2.2, 9.4)	2.00	70	-0.1 (-4.2, 4.0)	-0.06

NOTES: Estimated impacts for spending per PBPY significant at *p<0.1, **p<0.05, ***p<0.01. Impact estimates are the DID estimates for gross Medicare spending. CIs at 90% level are displayed as bars around the impact estimates. Percentage impact is the impact relative to expected utilization for NGACO beneficiaries in PY(s) absent the model. Impacts shown for NGACO organization types based on their number of years in the model, dropping NGACO-years that did not meet the assumption of parallel trends in the baseline. Analysis limited to 35 NGACOs that remained in the model as of PY 6. Estimated impacts for spending per PBPY significant at *p<0.1, **p<0.05, ***p<0.01.

SOURCE: NORC analysis of NGACO and comparison group enrollment, claims, and model programmatic data.

affiliated NGACOs had declines 2.9% (4 per 1,000 BPY (2.9%, $p < 0.01$) in hospital readmissions and a reduction in readmissions from SNFs of 3.75% (6.7 per 1,000 PBY, $p < 0.10$) (**Appendix E, Exhibit E.2**); these findings may reflect efforts to keep beneficiaries out of acute care settings during of the COVID-19 PHE. Those NGACOs affiliated with IDS/hospital systems also faced penalties for readmissions and may have had better communication systems in place to manage transitions in care compared with physician practices, consistent with greater reductions by IDS/hospital-affiliated NGACOs in other PAC spending.

Conclusion

Organization type for the NGACOs influenced gross spending, spending and utilization in individual care settings, and quality. However, as our theory of change and prior evaluation reports demonstrate, organization type is just one of several factors that, in combination with other factors, drive spending. The following chapter explores the influence of provider-level factors, while combinations of factors are explored in Chapters 7 and 8.

Chapter 4: NGACO Provider Networks

Key Findings

Provider Characteristics



- Over the course of the model, Participant Providers were more likely to be primary care providers, while Preferred Providers were increasingly likely to be specialists.

Provider Engagement Strategies



- NGACOs used a variety of financial and nonfinancial incentives to engage providers. Approaches included shared savings and risk, as well as sharing performance and cost data. Model participants also provided resources and supports to their providers to increase engagement through infrastructure buildout, workflow improvements, and face-to-face meetings.
- NGACOs described financial and nonfinancial incentives as important aspects of provider management, but the relationship between incentives and cost and quality outcomes was not clear.

Provider Turnover



- Non-physician primary care providers were most likely to join, specialists were most likely to leave, and primary care physicians were most likely to remain as Participant Providers. NGACOs tended to select primary care practitioners as Participant Providers and physician specialists as Preferred Providers.
- The extent to which the NGACO Model reduced beneficiary gross spending varied for providers who joined the model after their NGACO's first year, those who left the model, and those who remained in the model for at least three years.
- Providers who remained in the model for at least three years saw the strongest spending reductions for their beneficiaries. For providers who recently joined, the model was associated with more modest spending reductions for their beneficiaries. For providers who were in their last year of model participation, the model had no association with gross spending for their beneficiaries.

Just as factors at the organization level were important to NGACOs' performance, providers had the potential to shape model implementation and outcomes. In this chapter, we delve further into understanding how the NGACO Model worked by exploring the composition of provider networks, changes in networks over time, associations between provider participation and spending, and the relationships between strategies to engage providers (both financial and nonfinancial) and cost and quality outcomes.

This chapter addresses four specific research questions:

- Which types of providers did NGACOs include in their networks?
- How did NGACOs engage providers in their networks?
- What engagement strategies were associated with observed outcomes?
- What was the role of provider turnover in the NGACO Model’s impact on gross spending?

Overview of Methods for Chapter 4

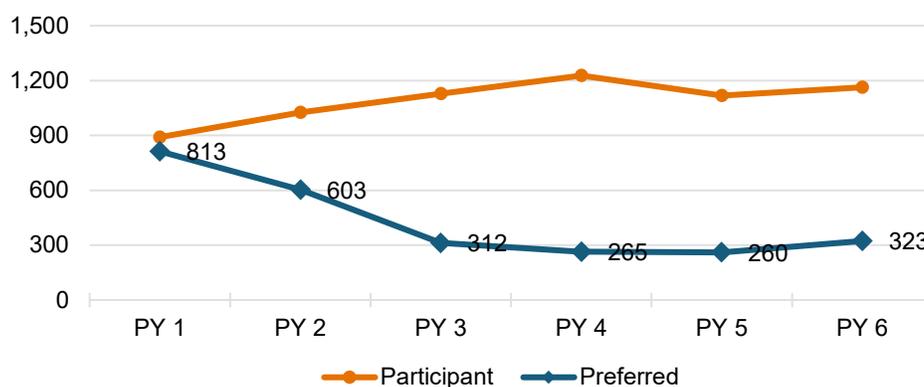
- We describe provider characteristics and trends in participation over time and present findings from our NGACO Leadership Survey.
- We include results from qualitative analyses of prior interviews with NGACO staff.
- We ran DID models allowing the impact of the NGACO Model to vary by provider turnover status.

NGACOs Expanded Their Provider Networks Over Time

Over the course of the model, NGACOs built and then developed provider networks with Participant Providers (through whom beneficiaries were aligned to their organization) and with Preferred Providers, who expanded NGACOs’ capacity to deliver and coordinate accountable care for aligned beneficiaries. Both types of providers included individual providers as well as organizations and facilities.

Most NGACOs built their provider networks from existing organizational or ACO provider networks, including employed and independent providers. In the earlier phases of the evaluation, we found that NGACOs added more Participant Providers over time while decreasing the number of Preferred Providers.⁹ In doing so, NGACOs grew the number of their aligned beneficiaries—that is, their managed populations, along with the potential to earn shared savings. As depicted in **Exhibit 4.1**, this trend leveled off after PY 4.

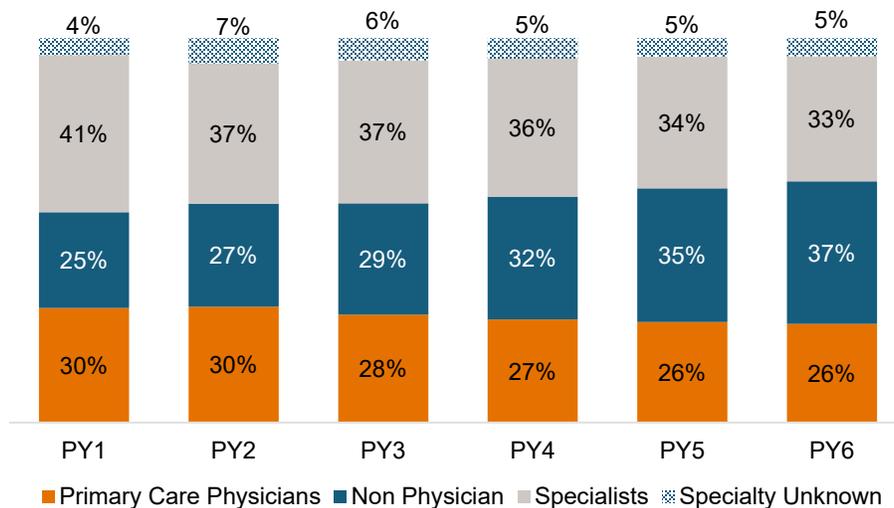
Exhibit 4.1. Average Number of Providers per NGACO



SOURCE: NORC analysis of NGACO provider data.

In previous years, we also found that NGACOs favored primary care providers over specialty providers as Participant Providers, and that the proportion of non-physician Participant Providers, such as nurse practitioners (NPs) and physician assistants increased over the course of the model.¹⁰ Concurrently, the proportion of specialist Participant Providers decreased over time, while primary care physicians were more likely to remain. This trend continued through the final year of the model, as shown in **Exhibit 4.2**. In interviews in earlier years of the model, leaders from the majority of NGACOs explained that primary care providers were best able to provide the preventive and coordinated care that aligned with NGACO Model goals. The leaders noted they were cautious about including specialists in their alignment-determining network because for many specialists, compensation was tied primarily to the delivery of procedures, which could make them less attuned to the mission of cost containment.¹¹ Eventually, NGACOs did recruit more specialists as Preferred Providers; across PYs, the largest percentage of Preferred Providers across PYs were specialists, and approximately one-third were non-physician providers (**Appendix F, Exhibit F.1**).

Exhibit 4.2. The Percentage of Specialist Participant Providers Decreased Over Time



NOTES: Specialists included medical/surgical specialty, obstetrics/gynecology, hospital-based specialty, and psychiatry. Unknown denotes provider specialty unidentified. Non-physician providers included nurse practitioners and physician assistants.
SOURCE: NORC analysis of NGACO provider data linked to CMS provider files. Medicare Data on Physician and Physician Specialties (MD-PPAS) categories were used to group the taxonomy code for individual providers reported on the National Plan and Provider Enumeration System into the broad specialty classification provided in [CMS MD-PPAS documentation](#). See Appendix A for more information.

Strategies to Engage Physicians Were Associated with Quality and Cost

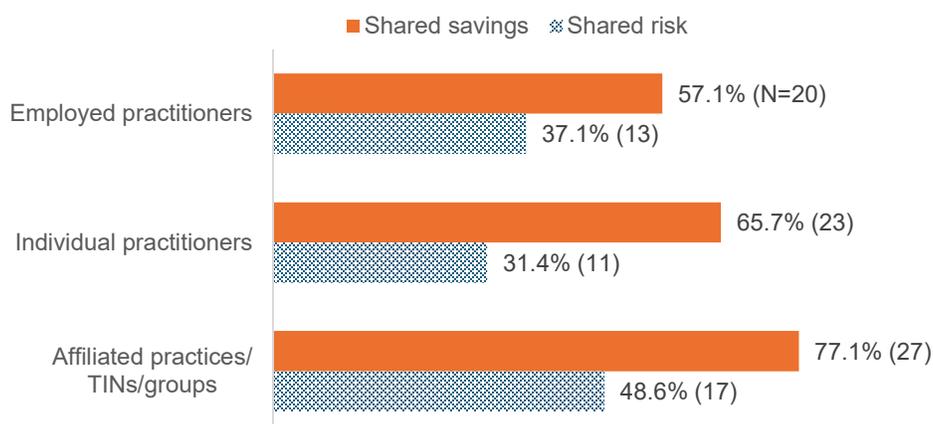
As NGACOs worked to build and refine their provider networks over the course of the model, they leveraged financial and nonfinancial incentives to engage providers. We explored whether specific approaches to physician engagement were associated with outcomes. **Appendix M2** provides more information about this analysis and results of significance test.

NGACOs That Shared Savings with Providers and Practices Reduced ACO ACSC Hospitalizations and 30-Day Unplanned Readmissions

In PY 6, most NGACOs shared savings with Participant Providers. Only one-third reported sharing downside risk with providers (**Exhibit 4.3**). Almost two-thirds of NGACOs (60%, or 21 of 35) described financial incentives as very important for provider management; respondents with a lower proportion of employed providers were especially likely to describe such incentives in this way. NGACOs that endorsed financial incentives as very important saw significant reductions of 6.6 percentage points ($p<0.05$) in ACSC hospitalizations and 3.2 percentage points ($p<0.05$) in 30-day unplanned hospital readmissions over the course of the model, a trend reflected among NGACOs that shared savings with providers:

- Sharing savings with providers appeared to impact quality outcomes; sharing both downside and upside risk produced significant reductions in ACO inpatient spending.** NGACOs that shared upside and downside risk with independent providers significantly reduced inpatient spending by 2.4 percentage points ($p<0.10$). Sharing risk with employed providers was associated with nonsignificant reductions of 1.7 percentage points in inpatient spending.
- NGACOs that shared savings with independent or sole providers or with employed providers saw significantly reduced ACSC hospitalizations.** Percentage point reductions were 4.9 ($p<0.01$) for sharing savings with employed practitioners and 7.0 ($p<0.01$) for individual practitioners. Sharing risk as well as savings produced somewhat lower reductions in ACSC hospitalizations, but those that did so with independent providers still showed significant reductions of 4.8 percentage points ($p<0.01$). NGACOs that shared savings with independent and employed providers also showed reductions in 30-day unplanned hospital readmissions, but the reductions were not statistically significant.
- Those that shared savings with affiliated practices (together with TINs and groups) significantly reduced 30-day unplanned readmissions.** The percentage point reduction among these NGACOs was 3.8 ($p<0.01$).

Exhibit 4.3. Most NGACOs Shared Savings with Participant Providers and Practices



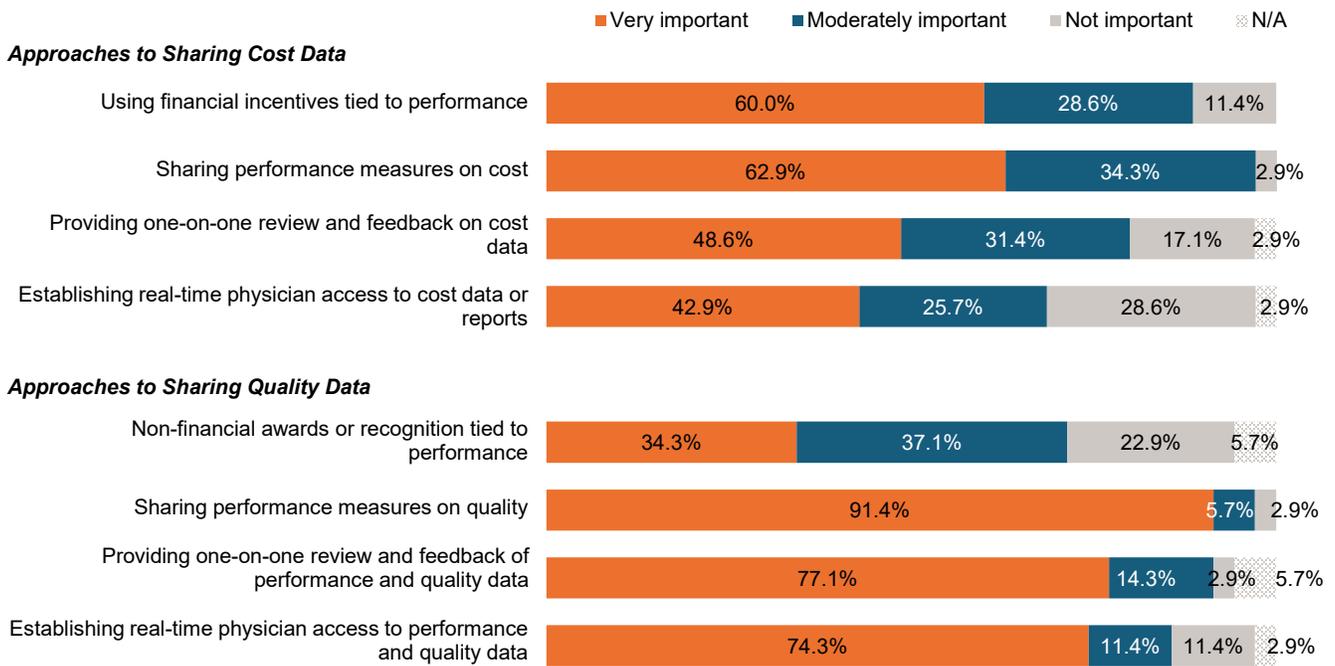
SOURCE: 2021 NGACO Leadership Survey

Sharing Cost Data with Participant Providers was Associated with Favorable Outcomes on Certain Cost and Quality Measures

In past evaluation reports, NGACO leaders noted that sharing data with providers was the most effective strategy for motivating behavior change and that almost all NGACOs shared performance information with providers. Over the course of the model, NGACOs’ capacity to share data evolved further: in our 2021 NGACO Leadership Survey, 60% of NGACOs (21 of 35) reported that their organization’s ability to share performance, quality, and cost data with individual providers was “a lot better” than before they entered the model.

Sharing cost data was associated with lower rates of ACSC hospitalizations of 1.7 percentage points (p<0.10). For the NGACOs endorsing at least one approach to sharing cost data as very important (from the list in **Exhibit 4.4**), 69% demonstrated significantly lower rates of ACSC hospitalization over the course of the model. Among this group, rates of 30-day all-cause readmissions trended somewhat lower and the share of beneficiaries with AWWs was somewhat higher (although not statistically significantly so) relative to NGACOs that did not endorse these strategies. The number of endorsed strategies to share cost data was associated with increases in the number of beneficiaries receiving AWWs of 5.6 percentage points (p<0.10) and with decreases in Part B spending of 1.4 percentage points (p<0.05); sharing cost data may drive increases in physician services to prevent hospitalizations and readmissions.

Exhibit 4.4. NGACOs Described Numerous Approaches to Managing Individual Provider Performance as Important



SOURCE: 2021 NGACO Leadership Survey

As noted in our [Third Evaluation Report](#), the types of performance data shared with providers varied across NGACOs. Most NGACOs shared quality metrics (for example, related to depression screening, medication reconciliation, breast or colon cancer screening, and AWWs), while about half of the shared measures related to patient satisfaction or utilization (for example, related to inpatient utilization, ED utilization, and preventable readmissions). NGACO leaders were more likely to describe approaches involving sharing data on quality with providers as very important to provider management more than they were to describe sharing data on cost as such, as shown in **Exhibit 4.4**. However, sharing quality-related data was not significantly associated with outcomes.

NGACOs that described the use of nonfinancial incentives as very important to provider management did not produce any significant improvements in quality or spending outcomes, compared with other NGACOs. In the 2021 survey, 34% of NGACOs (12 of 35) said nonfinancial incentives had been very important to provider management. Leaders from physician practice NGACOs were somewhat less likely to see nonfinancial incentives as very important, although this difference was not statistically significant. Less than half of NGACOs saw nonfinancial incentives as very important to managing provider performance, yet they still implemented an array of engagement strategies:

- **NGACOs used regular meetings and ongoing communication to engage, educate, and build trust between the ACO and its physicians.** In the 2021 NGACO Leadership Survey, 77% of NGACOs (27 of 35) said conducting regular meetings with participating physician practices was very important to the management of provider performance. As noted in the [Third Evaluation Report](#), other strategies that NGACOs used to engage physicians directly included convening them in person or in virtual forums.
- **NGACOs supported providers with tools and resources that improved their ability to do their job and advance model goals.** Almost all 97% NGACOs (34 of 35) prioritized developing workflows informed by data analytics and clinical staff input among their performance improvement strategies. In previous surveys, most NGACOs also reported providing resources to support care management, such as tools and infrastructure to support care coordination. Data from a clinician survey conducted in PY 2 suggested that these resources were likely helpful, with 63% of providers agreeing that additional resources to support practice changes made their day-to-day work easier.¹² As noted in the [First Evaluation Report](#), NGACOs also provided support for CMS reporting requirements relevant to AAPMs, distinct from the Merit-Based Incentive Payment System (MIPS).
- **During the COVID-19 PHE, NGACOs were able to act as information hubs for emerging COVID guidance.** They facilitated access to personal protective equipment and vaccinations and created platforms and systems to support implementation of telehealth. Detailed findings and discussion of these functions were included in our [Fifth Evaluation Report](#).

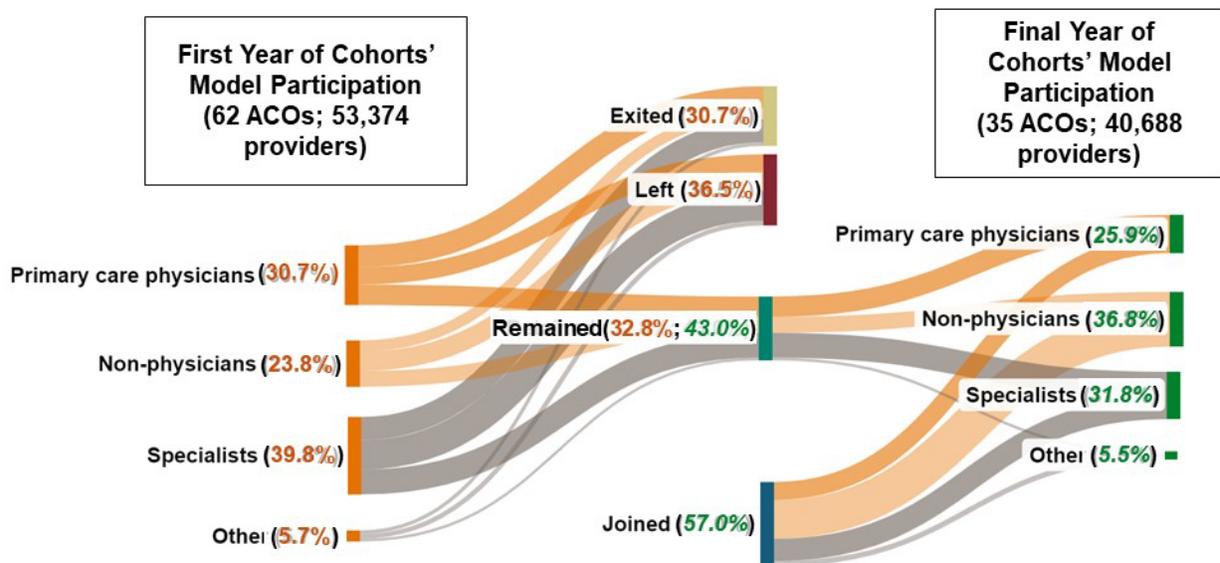
Participant Providers Turned Over During the Model

As the NGACO Model progressed, and providers joined or left the NGACO networks, the composition of Participant Providers changed. Two studies of the Medicare SSP found that provider turnover played

a key role in overall observed effects. One reported that the exit of high-cost providers contributed to the observed benefit of SSP models,¹³ while another found that accounting for provider selection reduced the estimated cost reductions attributable to SSP.¹⁴ **Exhibit 4.5** summarizes turnover in NGACO Participant Providers between PY 1 and PY 6. About 43% of Participant Providers remained in the NGACO Model until its conclusion, while 57% of providers in PY 6 joined at some point after a given NGACO’s first year in the model.

Providers left the model when their affiliated NGACO withdrew (affecting 30.7% of providers in their NGACO’s first year) or when they were dropped by or left the NGACO (affecting 36.5% of providers in the first year). As noted in our Third Evaluation Report, for NGACOs affiliated with an IDS, hospital, or physician practice, providers employed by these entities served as the base of the Participant Provider network. The providers who left were primarily independent providers or associated with independent practices, and the decision was made at the practice, TIN, or individual provider level. In interviews, NGACO leaders suggested that potential reasons for providers to leave an NGACO included joining another Medicare ACO (in some cases, following a practice’s merger or acquisition), leaving a participating practice (in some cases, upon completing training), or retirement. Only rarely did NGACO leaders suggest they asked individual Participant Providers to leave because of lack of engagement or for other reasons.

Exhibit 4.5. Participant Providers Turned Over Between the First and Final Years of Each Cohort



NOTES: The first year of cohorts’ model participation includes providers who began participating in 2016 for the 2016 cohort, 2017 for the 2017 cohort, and 2018 for the 2018 cohort. Retained providers include those who participated in their cohort’s first year through PY 6. Providers who were added after their cohort’s first year and dropped before PY 6 are not included in this figure. Percentages in **orange** present the percentage of providers relative to their cohort’s first year in the model, and percentages in **green** italicized present the percentage of providers relative to their cohort’s final year in the model.

SOURCE: NORC analysis of NGACO provider and beneficiary data.

As shown in **Exhibit 4.1**, between PY 1 and PY 4, NGACOs expanded their Participant Provider networks. NGACOs added providers to expand their geographic reach and as part of mergers and acquisitions. In interviews, NGACO leaders reported taking a holistic approach when recruiting independent practices by accounting for quality, experience with value-based contracts, and EHR capacity. Many NGACO leaders indicated that they recruited independent practices with experience under Medicare Advantage (MA), Pioneer, SSP, or commercial ACOs. As seen at the organizational level, NGACO providers on average started with Medicare ACO experience when they joined the model (**Appendix F, Exhibit F.2**). NGACO leaders believed that experience with such value-based contracts indicated providers' readiness to participate (for example, from their familiarity with CMS quality reporting) and to assume financial risk under the NGACO Model. Independent providers may have chosen to join an NGACO because participation would relieve them of direct reporting requirements under MIPS, which is particularly burdensome for small practices that often have limited administrative resources for quality reporting.

Just as spending outcomes varied between NGACOs that remained in or exited the model (as discussed in Chapter 2), varied impacts on spending may be seen related to provider entry into an NGACO, retention, and exit from an NGACO. Information on provider turnover can tell us whether the increased spending reductions over time in the NGACO Model related to selection effects. We examined the role of provider turnover in the NGACO Model's impact on gross spending by addressing the following research questions:

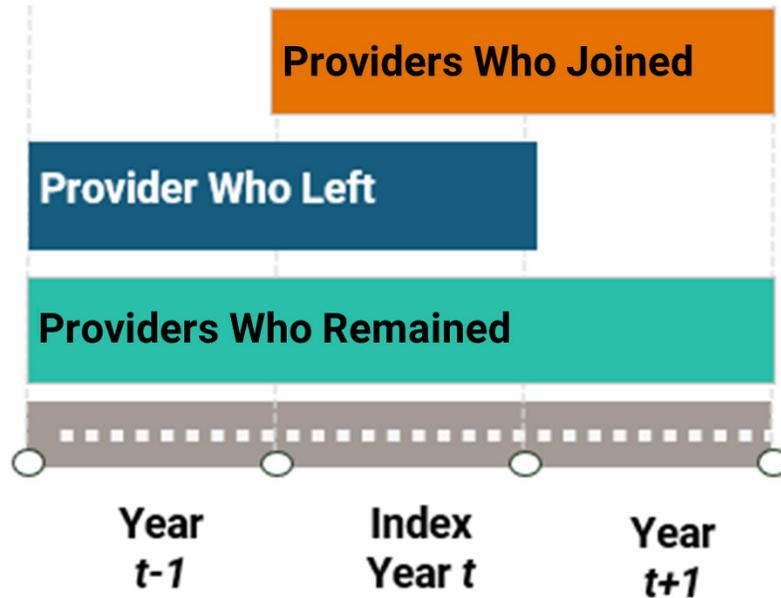
1. **How did the impact of the NGACO Model on beneficiaries' gross spending vary by their main provider's^h participation status?** We hypothesized that spending reductions would be greater for beneficiaries of providers who remained in the model or who joined after their NGACO's first year. Conversely, reductions would be smaller for beneficiaries of providers who left the model. We also assessed whether variations in spending by providers' turnover category were consistent across cohorts and/or performance years.
2. **Were the providers who joined more inherently efficient than providers in the comparison group (who were not recruited to join the model)?** We looked at the baseline spending of beneficiaries of providers who were about to join (in the PY) versus those in the comparison group.
3. **Did providers who left the model have higher PBPY total gross spending than did providers who continued their participation?** We compared total PY spending for beneficiaries whose main providers remained in the NGACO versus spending for those whose main providers were about to leave.

^h We defined a beneficiary's main provider as the one responsible for the plurality of their total gross spending (Part A and Part B) within a year.

Overview of Methods for Turnover Analysis

- We assigned NGACO and comparison group beneficiaries to the provider (physician or other individual provider) from whom they received the plurality of the total cost of their care (Medicare Parts A and B) in the performance year.
- We assigned each NGACO provider to a turnover category based on whether they joined, left, or remained in the model over a three-year period (**Exhibit 4.6**).
- We applied the provider’s participation status in the PY to the respective BYs to create consistent provider participation categories for analysis purposes.
- We estimated the impacts of the NGACO Model on PBPY total gross spending using DID models that allowed the impact of the NGACO Model to vary by provider turnover status.
- We estimated regression-adjusted cross-sectional associations to address: 1) whether providers who joined in the performance year started with lower PBPY total gross spending in the BYs than did comparison group providers; and 2) whether providers who left had higher PBPY spending in the performance year than did providers who remained.

Exhibit 4.6. NGACO Participant Providers, by Turnover Category



NOTES: Providers who joined NGACO in PY t , were absent as Participant Providers in the preceding PY $t-1$. Providers who left NGACO after PY t were absent as Participant Providers in the subsequent PY $t+1$. Providers who remained in the model in PY t , were present as Participant Providers in preceding PY $t-1$ and subsequent PY $t+1$. The categories of providers who joined and exited do not include ACO entrances and exits. For entering NGACOs (in their first year in the model), providers present in PY t and the subsequent PY $t + 1$ are categorized as “remained,” those present in PY t and absent from PY $t + 1$ are categorized as “left,” and no providers were categorized as “joined.” Data for beneficiaries who received care from providers of exiting NGACOs (in their final year of the model) were excluded.

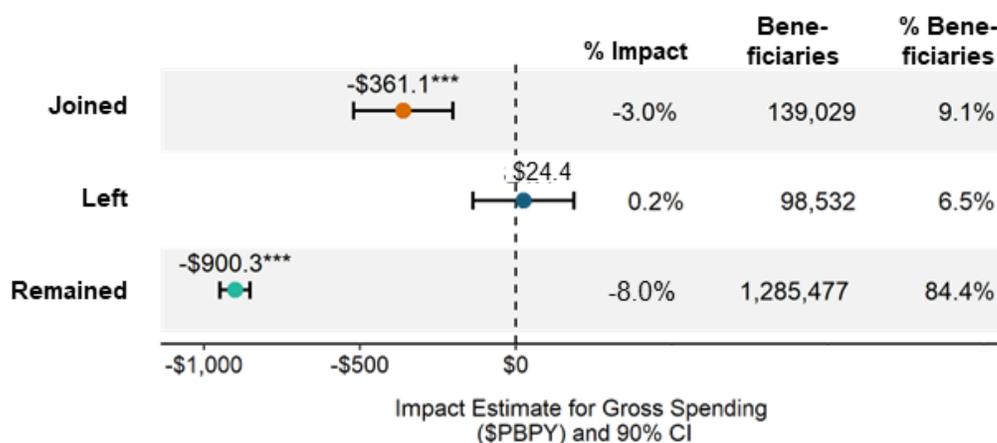
NGACO Model Saw the Largest Reductions in Gross Spending for Beneficiaries of Providers Who Remained in the Model

Exhibit 4.7 shows the estimated impacts of the model on PBPY total gross spending, disaggregated by participation status, across all years and cohorts. Estimates for DID models with subgroup interactions indicate that:

- **Providers who remained in the model for at least three years had the largest reductions in gross spending for their beneficiaries**, an average of 8% (\$900.3 PBPY, $p < 0.01$). This is consistent with findings presented in Chapter 2 and Chapter 5 indicating that spending decreases grew over time for NGACOs and beneficiaries who continuously remained in the model.
- **Providers who joined after their NGACO’s first year reduced gross spending** for their beneficiaries by 3% (\$361 PBPY, $p < 0.01$).
- **Providers who left the model did not reduce gross spending for their beneficiaries** (+0.2%, \$24 PBPY, $p > 0.05$).

Some results were consistent across cohorts and PYs. The pattern of NGACO impacts on gross spending differed by participation status across the three cohorts, pointing to variation in how NGACOs may have added providers (**Appendix F, Exhibit F.4**). There was variation by cohort in trends across performance years in the impacts of the NGACO model on gross spending for providers that joined, left, or remained (**Appendix F, Exhibits F.5-F.7**), pointing to variation in how NGACOs engaged providers. For additional context, Appendix F, Exhibit F.3 presents unadjusted mean spending levels for providers who joined, entered, or left; retained providers had lower spending levels than other groups.

Exhibit 4.7. Providers Who Remained in the Model or Joined After an NGACO’s First Year Reduced Gross Spending for Their Beneficiaries.



NOTES: Impact estimates are cumulative gross Medicare spending impacts from DID analysis for subgroups of NGACO providers’ beneficiaries. NGACOs that withdrew were excluded in their PY of withdrawal. Cumulative estimates for categories of providers are as of PY 5 because the provider categories for “remained” and “left” are undefined in PY 6. For each subgroup, we display the impact estimate as percentage relative to what was expected absent the model. Approach to estimating impacts for the subgroups is detailed in Appendix A. Impact estimates for gross Medicare spending PBPY and 90% confidence intervals significant at * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

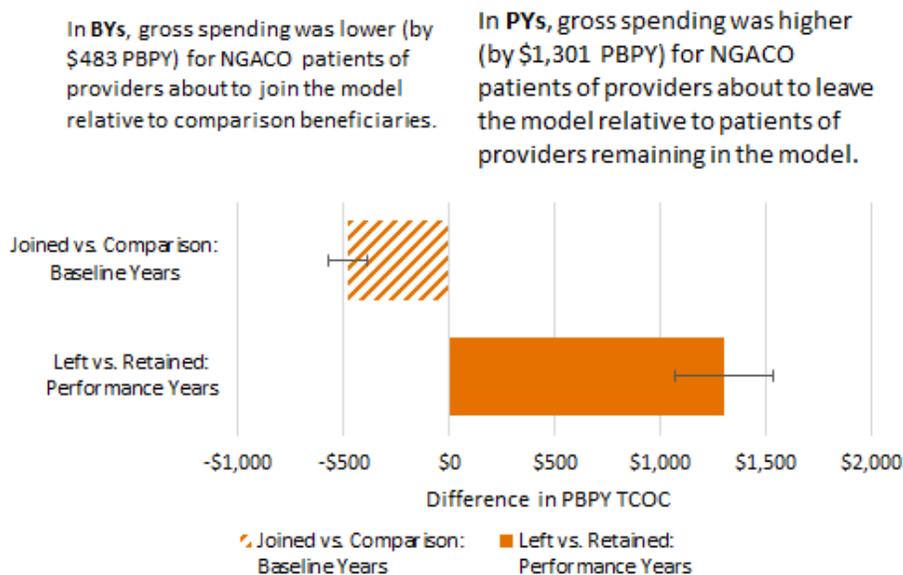
SOURCE: NORC analysis of NGACO and comparison group enrollment, claims, and model programmatic data.

Providers Who Joined an NGACO Had Low Baseline Spending, While Those Who Left Had High Performance Year Spending

We assessed whether providers who joined were inherently more efficient than were providers who did not join the model. In the base years beneficiaries of providers who joined during the PY had gross spending that was \$483 PBPY lower on average than comparison group beneficiaries who did not see NGACO providers (**Exhibit 4.8**); the difference largely reflected the experience of the 2017 cohort. Lower spending among providers who joined aligns with evidence from our interviews with NGACO leadership suggesting that NGACOs aimed to recruit providers who had prior Medicare ACO experience.

In addition, we explored whether beneficiaries of providers about to leave the NGACO Model had high performance year spending, compared with beneficiaries of providers who remained in the model. Cross-sectional results for providers who left the model are consistent with the associations found in the DID models described earlier. In the performance years, beneficiaries of providers who left had gross spending that was \$1,301 PBPY higher on average than beneficiaries of providers who remained in the model overall, and this finding was consistent across cohorts. We also found no statistically significant difference between spending for beneficiaries of providers who left and that of comparison group beneficiaries who did not see NGACO providers. The findings support the hypothesis that less efficient providers leave NGACOs; however, we lack data on whether it was the NGACOs or the providers that initiated the process of leaving. In addition, specialists were more likely to leave while non-physicians were more likely to join as Participant Providers.

Exhibit 4.8. Beneficiaries' Average Spending Varied by Whether Their Providers Joined, Left, or Remained in the Model



NOTES: Difference in average adjusted PBPY gross spending and 95% confidence interval show for beneficiaries of key provider subgroups in BYs and PYs. In BYs, difference shown for NGACO beneficiaries of providers about to join the model relative to comparison beneficiaries. In PYs, difference shown for NGACO beneficiaries of providers about to leave the model relative to those of providers remaining in the model. Adjusted gross spending differences for subgroups in BYs and PYs estimated from cross-sectional analyses; see Appendix A for methods.

SOURCE: NORC analysis of NGACO and comparison group enrollment, claims, and model programmatic data.

Conclusion

Providers who remained in the NGACO Model saw the largest reductions in spending, followed by providers who joined after their NGACO's first year. In addition, providers who joined after the model's first year had lower spending in the baseline, relative to comparison providers. Providers who left had higher spending in a performance year, relative to providers who remained. Our findings may reflect the changing composition of NGACO provider networks, with specialists leaving, non-physicians joining, and primary care providers remaining over time. We also found that certain financial and nonfinancial incentives—specifically sharing savings and cost data—were important tools affecting NGACO performance.

Chapter 5: Beneficiaries Served by NGACOs and Their Spending Patterns

Key Findings

Beneficiary Turnover in the Model



- On average, the number of beneficiaries per NGACO (approximately 28,000) was consistent across PYs. However, NGACOs saw substantial beneficiary turnover, with 39.5% of beneficiaries staying in the model since their NGACO began participating and 60.5% of beneficiaries joining later in the model.
- Beneficiaries who remained in the model realized greater gross spending reductions over time—from a reduction of 1.8% in PY 2 (\$142.2 PBPY) to 4.1% in PY6 (\$420.2 PBPY).

Strategies to Address Social Drivers of Health and Health Equity



- The model disproportionately served beneficiaries who were White (85%) and not dually eligible for Medicare and Medicaid (14%). By comparison, in NGACO markets, 78% of FFS Medicare beneficiaries were White and 24% were dually eligible for Medicare and Medicaid.
- There were limited effects on health equity. PY declines in gross Medicare spending were larger for non-Hispanic White beneficiaries than for Black beneficiaries, and gross Medicare spending reductions were greater for dually eligible beneficiaries than for beneficiaries eligible only for Medicare.
- In PY 6, Black beneficiaries saw greater reductions in hospitalizations for ACSCs, as compared with White beneficiaries.

Model Overlap with Episodic Initiatives



- Overlapping episodic initiatives such as the Bundled Payments for Care Initiative (BPCI) and Oncology Care Model (OCM) did not contribute to much of the NGACO model's estimated spending reductions.
- The NGACO Model did not reduce spending among beneficiaries with BPCI episodes from PY 1 to PY 3, above and beyond spending reductions induced by BPCI in the comparison group.
- By contrast, the NGACO Model significantly reduced spending—by 5.8% from PY 3 to PY 6—for beneficiaries who also had episodes in OCM, above and beyond spending reductions induced by OCM in the comparison group.

In this chapter, we shift our focus from the provider to the beneficiary level to investigate how beneficiaries' sociodemographic and clinical characteristics, as well as level of engagement with the model, affected outcomes. The chapter addresses two specific research questions:

- **What were the key characteristics of the aligned beneficiary population?**
- **Did the NGACO Model's impacts differ by beneficiary characteristics?**

Overview of Methods for Chapter 5

- We conducted descriptive analyses of beneficiary characteristics and trends in participation over time and analyzed data from our NGACO Leadership Survey.
- We included results from qualitative analyses of prior interviews with NGACO staff.
- We ran DID models to analyze beneficiary subgroups.

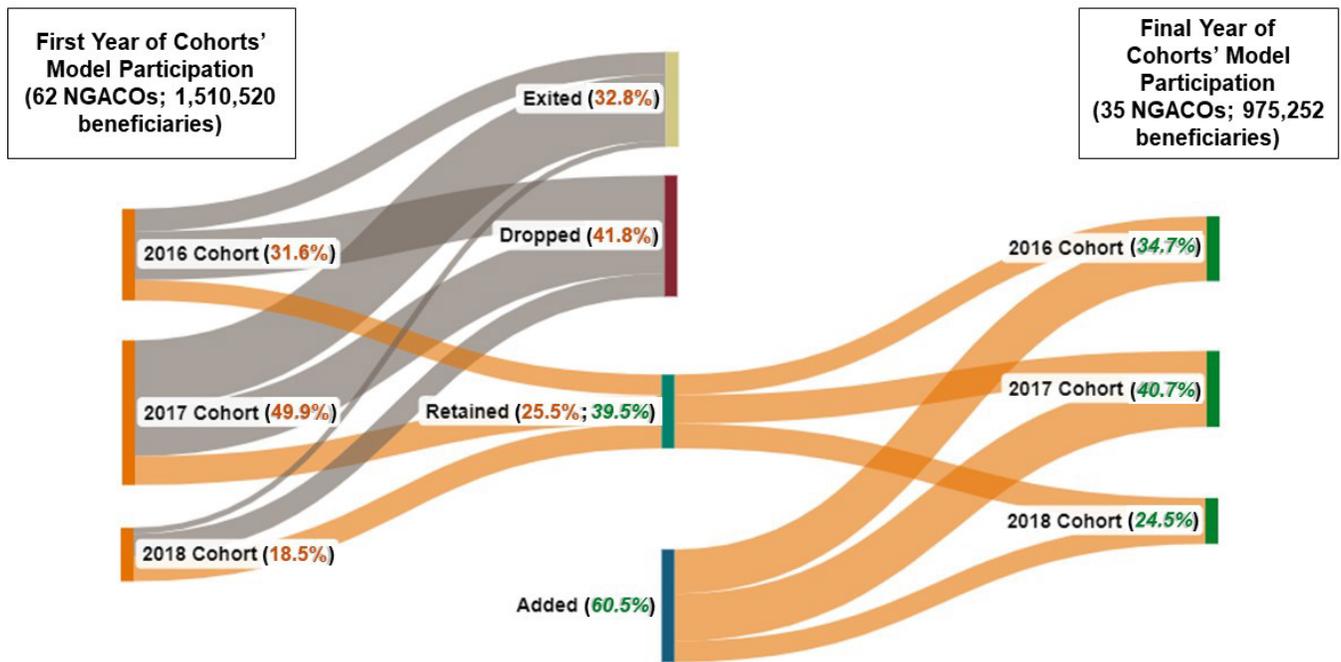
Beneficiary characteristics may influence NGACOs' ability to achieve cost savings by influencing the effectiveness of interventions and population health management strategies and by introducing variations in care-seeking behavior. In this chapter, we describe the aligned beneficiaries and their turnover during the model, as well as beneficiaries' overlapping enrollment in other episodic payment models. In addition, we discuss NGACOs' strategies to address SDOH and health equity and differences in spending and quality of care measures based on beneficiaries' race and ethnicity.

Spending Reductions Grew Over Time for Beneficiaries Who Remained in the Model

On average, there were approximately 28,000 beneficiaries in each NGACO in PY 1, PY 2, PY 3, PY 5, and PY 6, with an increase in PY 4 alone. While the average number of beneficiaries per NGACO was relatively stable year-over-year, the composition of the enrolled beneficiary population changed in each PY, reflecting turnover in the Medicare subpopulations served (**See Exhibit 5.2**).

Beneficiary Continuity. There was substantial turnover among aligned beneficiaries in the NGACO Model (**Exhibit 5.1**). Specifically, three-quarters of the 1.5 million beneficiaries in the first year of their respective cohorts' model participation dropped or exited the model before PY 6. The beneficiaries who were retained from the start made up almost 40% of the 975,252 aligned beneficiaries in PY 6, with the remaining 60% of beneficiaries having joined at some point after their NGACO's first year in the model. For model outcomes, it is important to note that the beneficiaries receiving care from NGACO providers were not the same from year to year. With NGACOs and their providers entering and withdrawing from the model, there was significant turnover in the Medicare population served, as beneficiaries were re-aligned or lost their alignment to a given provider or lost their eligibility for the model altogether (for example, due to death, relocation, change in provider, enrollment in MA). For a complete illustration of beneficiary turnover across each PY (**Appendix G, Exhibit G.1**).

Exhibit 5.1. As of PY 6, NGACO Model Saw Substantial Turnover in Aligned Beneficiaries

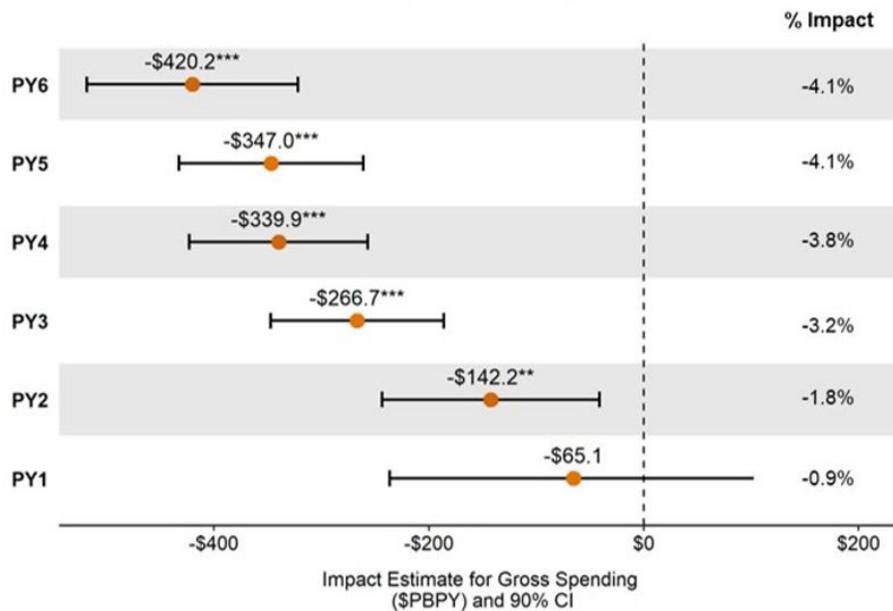


NOTES: The first year of each cohort's model participation includes beneficiaries who began their attribution with an NGACO in 2016 for the 2016 cohort, 2017 for the 2017 cohort, and 2018 for the 2018 cohort. Retained beneficiaries include those who were attributed to their NGACO in their cohort's first year through PY 6. Beneficiaries who were attributed to a NGACO after their cohort's first year and subsequently dropped before PY 6 are not included in this figure. Percentages in **orange** represent the percentage of beneficiaries relative to their NGACO cohort's first year in the model, and percentages in **green** italics represent the percentage of beneficiaries relative to their cohort's final year in the model.

SOURCE: NORC analysis of NGACO provider and beneficiary data.

Gross Spending Reductions Were Greater Over Time for Beneficiaries Who Were Retained in the Model. Gross spending reductions grew over time for NGACO beneficiaries who remained in the model continuously, relative to comparison beneficiaries with continuous years of observation, across all PYs (**Exhibit 5.2**). The magnitude of significant spending reductions increased from 1.8% (\$142.2 PBPY, $p < 0.05$) in PY 2 to 4.1% (\$420.2 PBPY, $p < 0.01$) in PY 6, suggesting that both Medicare and NGACOs may benefit from continuous beneficiary engagement over time, or that beneficiaries who have been continuously aligned maybe healthier. This finding is consistent with findings presented in Chapter 2 and Chapter 5 indicating that spending decreases were greater over time for NGACOs and for providers who remained in the model continuously.

Exhibit 5.2. Gross Spending Reductions Were Greater Over Time for Beneficiaries Retained in the Model



NOTES: Impact estimates are gross Medicare spending impacts from longitudinal analysis for continuously retained NGACO beneficiaries in each cohort, relative to comparison beneficiaries with continuous years of observation across PYs. Propensity score matching was used to adjust for imbalances between the NGACO and comparison group. A total of 272,012 beneficiaries continued in the model as of PY 6, including 65,497 for six years from 2016 cohort, 105,914 for five years from 2017 cohort, and 100,601 for four years from 2018 cohort. Our approach to estimating impacts and matching beneficiaries for longitudinal analyses is detailed in Appendix A. See Appendix G, Exhibit G.6 for impacts by cohorts. Impact estimates for gross Medicare spending PBPY and 90% confidence intervals significant at *p<0.1, **p<0.05, ***p<0.01.

SOURCE: NORC analysis of NGACO and comparison group enrollment, claims, and model programmatic data.

NGACOs Had Limited Impact on Addressing Health Care Disparities

In the last two years of the NGACO Model, addressing social drivers of health in the interest of achieving health equity became a key priority for CMS and HHS broadly. Although addressing or improving health equity was not among the NGACO Model’s explicit goals or incentives, the population health strategies described in previous sections of this report may improve care and outcomes in ways that promote health equity by addressing one or more SDOH. For instance, AWWs enabled NGACOs to connect with beneficiaries who may otherwise have had only limited engagement with the health care system and may thus help identify gaps in care. Further, an earlier report from this evaluation found that NGACOs did not reduce disparities in Medicare spending between Black and White beneficiaries, or between those dually eligible for Medicare and Medicaid and those eligible only for Medicare.¹⁵ In the final year of the NGACO Model, we explored NGACOs’ efforts to address health equity and SDOH,



34% of NGACO

leaders stated that addressing social needs, such as food security and housing, was a high priority for their NGACO.

gathering data through our NGACO Leadership Survey and analyzing the experiences of subgroups of beneficiaries across a range of outcomes.

Approaches to Addressing Health Equity. Early on in the model's implementation, NGACOs reported that selected SDOH presented challenges to improving the health of aligned beneficiaries (see [First Evaluation Report](#)). In a 2016 survey, NGACO leaders most frequently identified transportation and substance abuse as "extremely challenging" in this regard. Most NGACOs addressed social needs through in-house interventions or through partnerships with community-based organizations (CBOs).

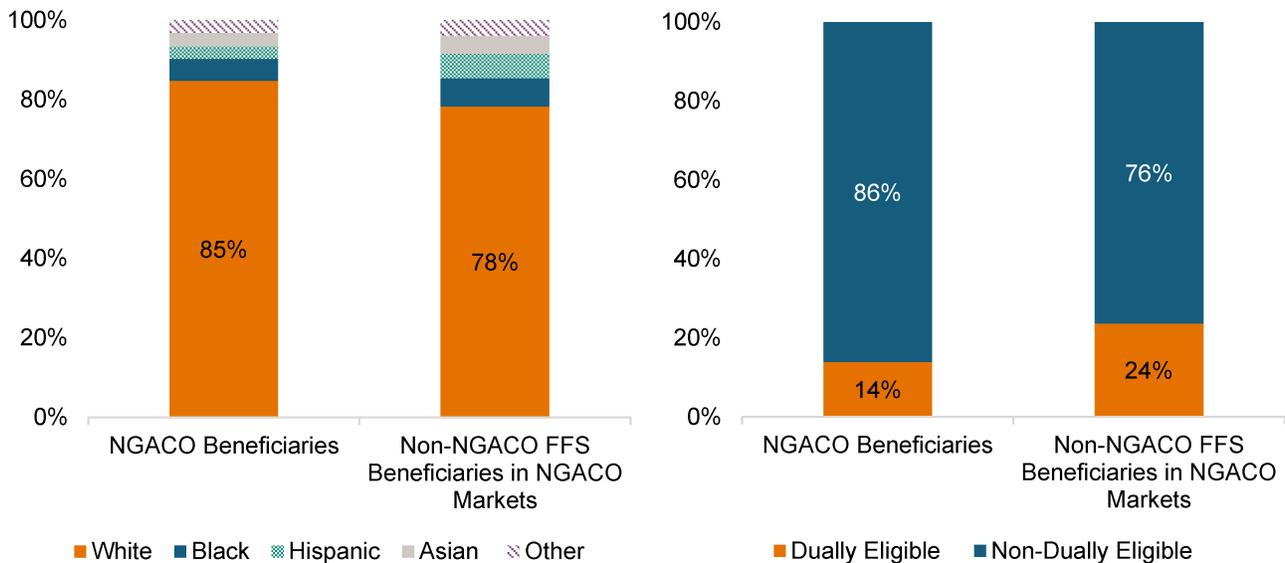
In the 2021 NGACO Leadership Survey, one-third of respondents reported that addressing social needs, such as food security and housing, was a high priority for their NGACO. Fewer than half of NGACOs' provider networks included safety-net provider organizations, with IDS/hospital systems and physician-hospital partnerships more likely to report including a safety-net provider in their provider network than were physician practices. Almost three-quarters of NGACOs (71.4%) stated that they had either fully implemented or were implementing initiatives to address social needs, with almost all reporting making referrals for social services.

- Most NGACOs reported that they documented SDOH needs in the EHR (77.1%) and used standardized screening for SDOH (71.4%).
- More than half (54.3%) of NGACOs reported that they had established partnerships with social service or CBOs.
- Fewer NGACOs used data-driven strategies, such as analyzing beneficiary data stratified by SDOH (53.4%) and evaluating returns on investment to determine which SDOH-related strategies to pursue (34.3%).

When asked to reflect on the challenges NGACOs faced during the COVID-19 PHE, several NGACOs emphasized the reduced capacity of social services and CBOs that were so vital for their beneficiaries (**Appendix L**).

Differences in spending and utilization by beneficiary sociodemographic characteristics. To better understand the NGACO Model's influence on health equity, we explored potential differences in cost and utilization impacts by race/ethnicity and Medicaid dual-eligible status. As in prior PYs, beneficiaries aligned with NGACO-affiliated providers in PY 6 were more likely to be White and less likely to be dually eligible for Medicare and Medicaid, relative to the overall Medicare population in NGACO markets (**Exhibit 5.3**).

Exhibit 5.3. NGACO Beneficiaries Were More Likely to Be White and Non-Dually Eligible Compared with Non-NGACO FFS Beneficiaries in the Same Markets (PY 6)

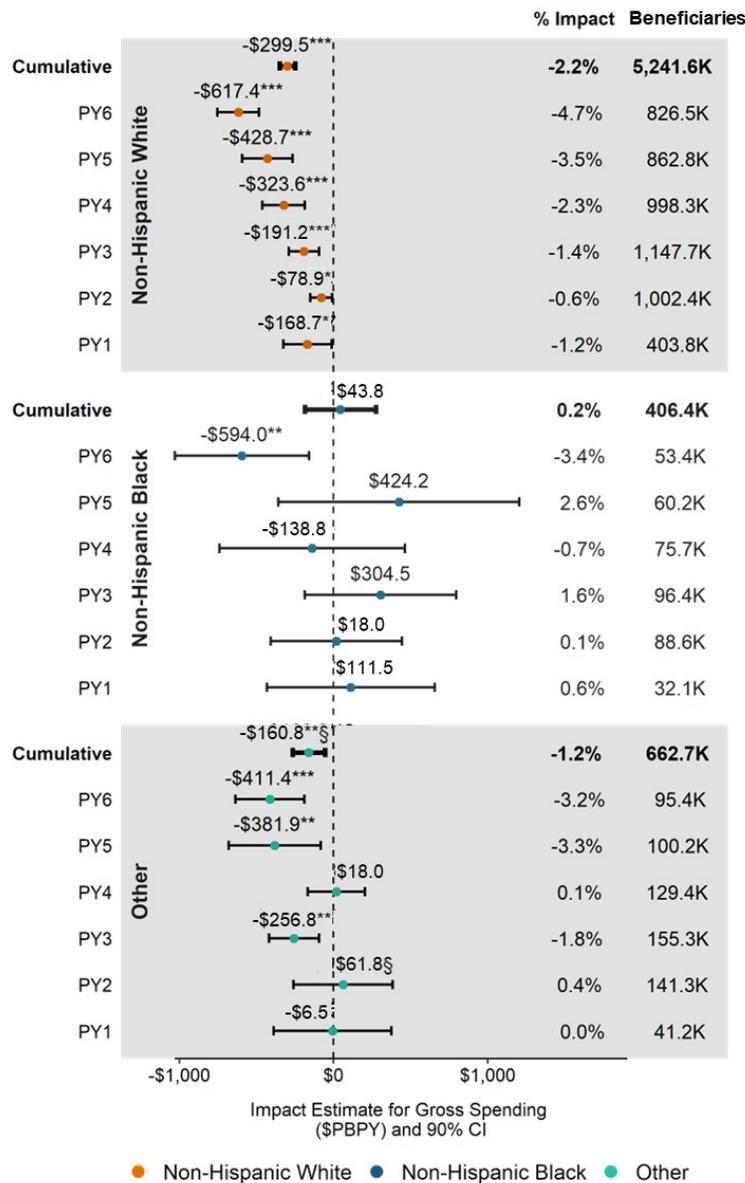


Overall, gross Medicare spending for non-Hispanic White beneficiaries decreased in all PYs but did so for beneficiaries identified as non-Hispanic Black in the final year of the model (**Exhibit 5.4**). Black beneficiaries also had higher baseline spending compared with non-Hispanic White beneficiaries and those in other racial and ethnic minority groups. These disparities in spending for Black beneficiaries likely reflected greater complexity due to higher rates of disability, dual eligibility, end-stage renal disease (ESRD), and chronic conditions, compounded by the interaction of these factors with greater health-related social needs.

Results should be interpreted with caution, as spending is an imperfect measure of health disparities. Higher spending may reflect a higher burden of disease and complex comorbidities; however, beneficiaries traditionally underserved by health care resources may also have worse access to care or may avoid care because of costs, mistrust, or other factors. Therefore, declines in spending may not be the ideal outcome to consider in assessing health equity.

For this reason, we expanded the analysis of PY 6 outcomes to include key utilization and quality of care measures. We did not observe consistent trends in terms of differences in impacts among beneficiaries who were identified as non-Hispanic White versus those who were identified as Black for most outcomes, with the exception of ACSCs (**Appendix G, Exhibit G.3**).

Exhibit 5.4. Overall, NGACOs Reduced Gross Medicare Spending for Non-Hispanic White Beneficiaries, But Only in the Final Year (PY 6) for Non-Hispanic Black Beneficiaries

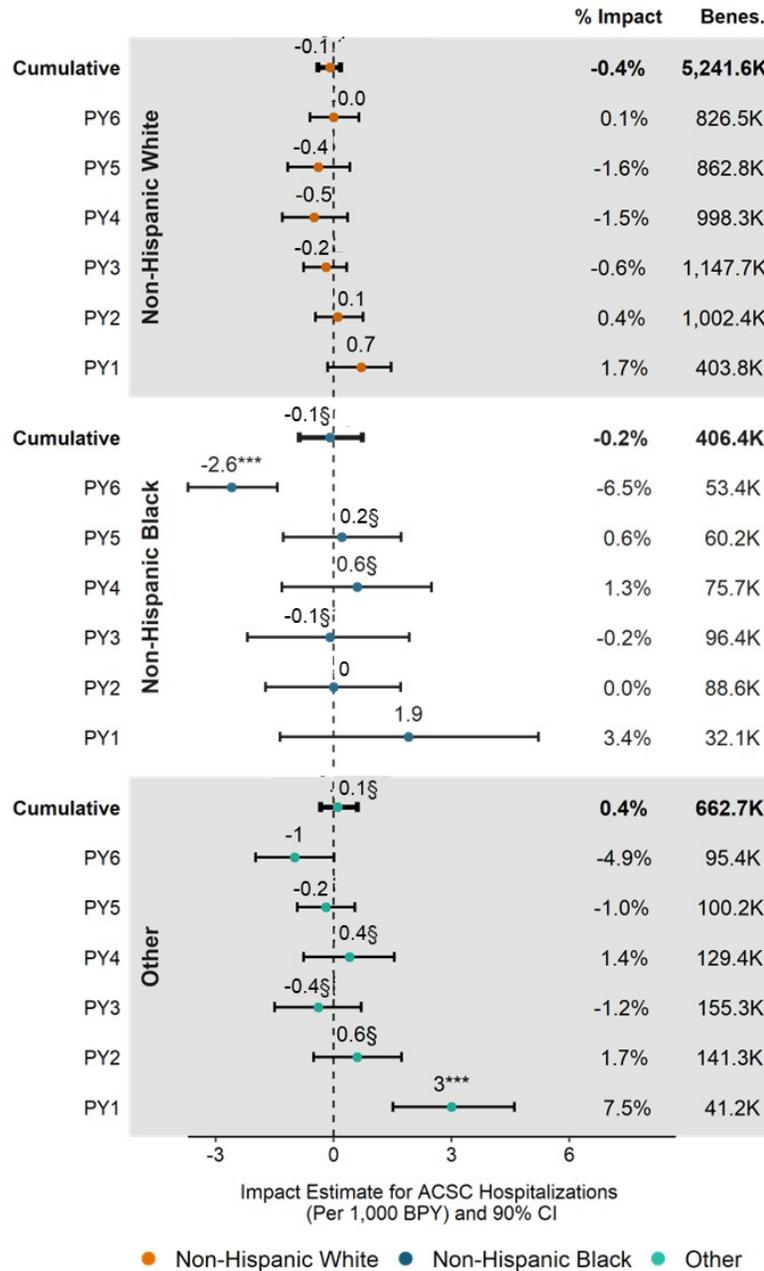


NOTES: Gross spending impact estimates are the DID estimates of the NGACO Model on Medicare Parts A and B spending. Confidence intervals at 90% level are displayed as bars around the impact estimates. Percentage impact is the impact relative to expected average spending for NGACO beneficiaries in PY(s) absent the model. § Denotes failure of parallel trends assumption for outcome across BYs, so that estimated impacts should be interpreted with caution. Estimated impacts PBPY for spending significant at *p<0.1, **p<0.05, and ***p<0.01. **SOURCE:** NORC analysis of NGACO and comparison group enrollment, claims, and model programmatic data.

By PY 6, NGACOs were able to reduce ACSC hospitalizations for beneficiaries who were identified as Black but not for those who were identified as White (**Exhibit 5.5**). However, Black NGACO beneficiaries in PY 6 still had higher rates of ACSC hospitalizations (37 per 1000 BPY) relative to White (24 per 1000 BPY) and other (19 per 1000 BPY) beneficiaries. The PY 6 DID results for Black beneficiaries were driven by a larger decline in ACSCs in the NGACO group relative to the comparison

group from baseline. In prior PYs, Black beneficiaries in the comparison group saw larger declines in ACSCs than the NGACO Black beneficiaries from baseline.

Exhibit 5.5. In PY 6, Hospitalization Rates for ACSCs Were Reduced for Black Beneficiaries Compared with White Beneficiaries

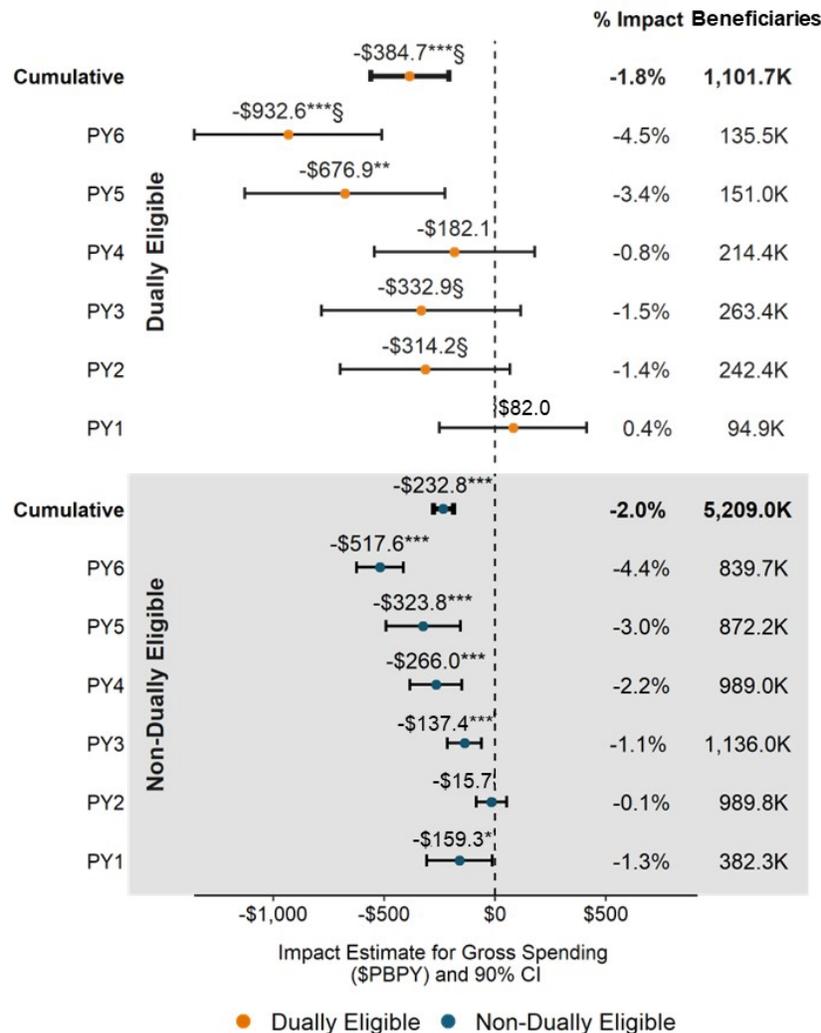


NOTES: Impact estimates are the DID estimates for beneficiaries with hospitalizations for ambulatory care-sensitive conditions (ACSC). Confidence intervals at 90% level are displayed as bars around the impact estimates. Percentage impact is the impact relative to expected utilization for NGACO beneficiaries in PY(s) absent the model. § Denotes failure of parallel trends assumption for outcome across BYs, so that estimated impacts should be interpreted with caution. Estimated impacts for utilization per 1,000 BPY significant at *p<0.1, **p<0.05, and ***p<0.01.

SOURCE: NORC analysis of NGACO and comparison group enrollment, claims, and model programmatic data.

NGACOs also realized spending reductions for beneficiaries who were dually eligible for Medicaid (**Exhibit 5.6**), particularly in the final two years of the model (PY 5 and PY 6), compared with those beneficiaries eligible only for Medicare.

Exhibit 5.6. Gross Medicare Spending Reductions Were Greater for Beneficiaries Dually Eligible for Medicare and Medicaid than for Medicare-Only Beneficiaries



NOTES: Gross spending impact estimates are the DID estimates of the NGACO Model on Medicare Parts A and B spending. Confidence intervals at 90% level are displayed as bars around the impact estimates. Percentage impact is the impact relative to expected average spending for NGACO beneficiaries in PY(s) absent the model. § Denotes failure of parallel trends assumption for outcome across BYs, so that estimated impacts should be interpreted with caution. Estimated impacts PBPY for spending significant at *p<0.1, **p<0.05, and ***p<0.01. **SOURCE:** NORC analysis of NGACO and comparison group enrollment, claims, and model programmatic data.

We found promising evidence that NGACOs improved quality of care and decreased the cost of care for beneficiaries who were Black or dually eligible for Medicaid in the final performance year. Given that NGACOs did not have an explicit incentive toward or focus on improving health equity or addressing SDOH, we are unable to say conclusively why these developments occurred at the end of the model without additional data points. Similar to model-wide spending and utilization improvements over time,

these findings may reflect learning over the course of the model or the selection of better performing NGACOs, all happening in the context of the COVID-19 PHE.

Since the model's conclusion, several NGACOs have since joined the new ACO Realizing Equity, Access, and Community Health (REACH) Model, which does emphasize the mission of reducing disparities and improving outcomes among traditionally underserved beneficiaries. Under REACH, all participating ACOs are required to develop plans to address health equity.

Mixed Evidence of Synergy with Beneficiaries in Overlapping Episodic Initiatives

We investigated how the NGACO Model's impacts on gross spending were influenced by enrollment in some of the Innovation Center's overlapping episodic initiatives. There is the potential for additive benefits across ACO models—which focus on primary care and on coordination across the care continuum—and episodic initiatives, which focus on coordination of more specialized care during episodes of acute and PAC or specialty care.

We studied how overlap between NGACO Model and each of two episodic initiativesⁱ affected total gross Medicare spending (**Appendix A**):

- The Bundled Payments for Care Improvement (PCI) Initiative targeted beneficiaries with any of 48 clinical episode types in hospital and PAC settings. BPCI ran from October 2013 through September 2018, overlapping with the first three years of the NGACO Model (PY 1-PY 3). We evaluated the effect of the overlap between NGACO and BPCI using our DID design for all three cohorts, as the BPCI initiative was present in at least two BYs. Our analysis treated BPCI enrollment as a subgroup and estimated NGACO impact among beneficiaries with BPCI episodes (that is, differential spending for NGACO beneficiaries with BPCI episodes vs. non-NGACO beneficiaries with BPCI episodes from BY to PY) and for beneficiaries without BPCI episodes.
- The Oncology Care Model (OCM) targeted beneficiaries undergoing 6-month episodes of chemotherapy for cancer. OCM ran from July 2016 through June 2022, overlapping with the last four years of the NGACO Model (PY 3-PY 6). We evaluated the effect of the overlap of NGACO and OCM using our DID design for the 2018 cohort, when the initiative was present in two BYs. As with the evaluation of overlap between the NGACO and BPCI Models, we treated OCM enrollment as a subgroup and estimated NGACO impact among beneficiaries with and without OCM episodes.

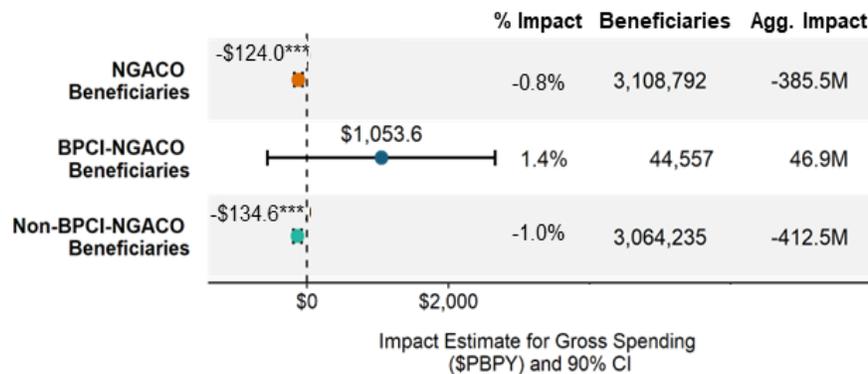
Exhibits 5.7 and 5.8 show the impact of the NGACO Model on gross spending for those beneficiaries also in BPCI and OCM, during their respective overlapping years. The exhibits also show the effects for

ⁱ We were unable to assess the effect of NGACO Model overlap with the Comprehensive Care for Joint Replacement (CJR) Model because of potential selection effects. In the 2018 cohort, the proportion of CJR beneficiaries in the NGACO group systematically decreased in the PYs relative to the BYs, while the comparison group did not see such a drastic decrease. We did not assess the effect of NGACO Model overlap with the BPCI-Advanced Initiative because beneficiaries were not allowed to enroll in both models.

all NGACO beneficiaries and for NGACO beneficiaries not enrolled in the other two initiatives. We found that:

- **Overlap with BPCI and OCM did not contribute much to the NGACO model’s estimated spending reductions.** The majority of the model’s spending reductions in aggregate came from NGACO beneficiaries who were not in overlapping episodic initiatives.
- **There were no gross spending reductions for NGACO beneficiaries with BPCI episodes.** As of PY 3, there were significant gross spending reductions for all NGACO beneficiaries (0.9% or \$124.0 PBPY, $p < 0.01$) and for NGACO beneficiaries without BPCI episodes (1% or \$134.6 PBPY, $p < 0.01$), but there were no reductions for NGACO beneficiaries with BPCI episodes. Over and above the larger gross spending reductions noted for comparison beneficiaries with BPCI episodes, the NGACO model did not reduce gross spending for beneficiaries with BPCI episodes. Our estimates combined BPCI’s effects by different episode types (medical or surgical) and different organizational entities that initiated the episodes.

Exhibit 5.7. No Gross Spending Reductions for NGACO Beneficiaries with BPCI Initiative Episodes (PY 1 to PY 3)



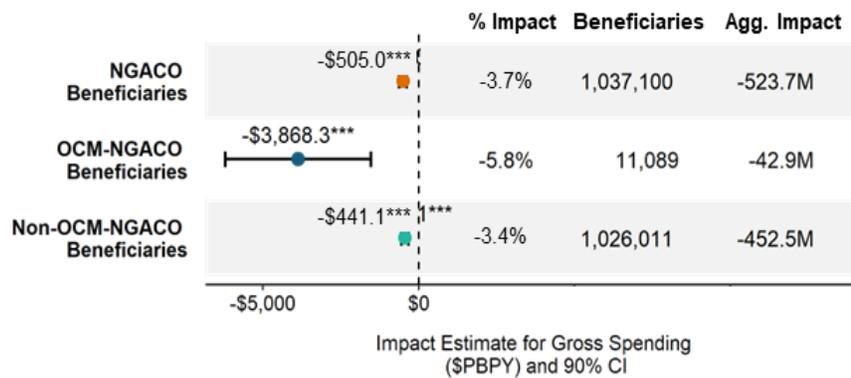
NOTES: Gross spending impact estimates are shown for all NGACO beneficiaries, for NGACO beneficiaries with BPCI episodes, and for NGACO beneficiaries without BPCI episodes, from PY 1 to PY 3. Impact estimates are the DID estimates of the NGACO Model on Medicare Parts A and B spending. Confidence intervals at 90% level are displayed as bars around the impact estimates. Percentage impact is the impact relative to expected average spending for NGACO beneficiaries in PY(s) absent the model. Impact estimates were obtained using 2014-2015 as the BYs. The two-year baseline predated the start of the NGACO Model and after the start of the BCPI. Estimated impacts PBPY for spending significant at * $p < 0.1$, ** $p < 0.05$, and *** $p < 0.01$.

SOURCE: NORC analysis of NGACO and comparison group enrollment, claims, and model programmatic data.

- **There were significant gross spending reductions for NGACO beneficiaries with OCM episodes.** In the 2018 cohort, from PY 3 to PY 6, there were significant gross spending reductions for all NGACO beneficiaries (3.7% or \$505.0 PBPY, $p < 0.01$), NGACO beneficiaries without OCM episodes (3.4% or \$441.1 PBPY, $p < 0.01$), and NGACO beneficiaries with OCM episodes (5.8% or \$3,868.3 PBPY, $p < 0.01$). The reduction for NGACO beneficiaries with OCM episodes was over and above the smaller gross spending reductions noted for comparison beneficiaries with OCM episodes. OCM episodes were for beneficiaries undergoing chemotherapy for specific cancers in oncology practices that participated in OCM. Greater spending reductions for NGACO beneficiaries with OCM episodes points to the potential benefit of embedding this cancer specialty care model

within an accountable care framework. The synergy from this overlap also reflects the later years of both models, where it was likely that both NGACOs and oncology practices had honed their approaches to managing their beneficiaries’ primary and specialty care needs. Results were similar in scale in our sensitivity checks when limiting non-OCM beneficiaries to those with CCW cancer diagnosis^j only, with gross spending reduced by 5.3% (\$2647.9 PBPY) for OCM-NGACO beneficiaries and by 3.2% (\$694.3 PBPY) for non-OCM-NGACO beneficiaries (**Appendix G**). We ran this sensitivity check to verify robustness of results for OCM.

Exhibit 5.8. Reductions in Gross Spending for 2018 Cohort’s Beneficiaries with OCM Episodes (PY 3 to PY 6)



NOTES: Gross spending impact estimates are shown for all NGACO beneficiaries, for NGACO beneficiaries with OCM episodes, and for NGACO beneficiaries without OCM episodes, in the 2018 cohort from PY 3 to PY 6. Impact estimates are the DID estimates of the NGACO Model on Medicare Parts A and B spending. Confidence intervals at 90% level are displayed as bars around the impact estimates. Percentage impact is the impact relative to expected average spending for NGACO beneficiaries in PY(s) absent the model. Impact estimates were obtained using 2016-2017 as the BYs. The two-year baseline predated the start of the 2018 NGACO cohort and was after the start of OCM. Estimated impacts PBPY for spending significant at *p<0.1, **p<0.05, and ***p<0.01.

SOURCE: NORC analysis of NGACO and comparison group enrollment, claims, and model programmatic data.

Conclusion

Several beneficiary characteristics were associated with outcomes in the NGACO Model. NGACOs saw substantial turnover in beneficiaries over the course of the model. The evaluation found greater gross spending reductions over time for those beneficiaries who remained in the model. NGACOs tended to serve beneficiaries who were White and not dually eligible for Medicare and Medicaid. Overall, the model’s impact on health care disparities was inconclusive. With respect to synergy with overlapping episodic initiatives, we found greater spending reductions for NGACO beneficiaries with OCM episodes, pointing to the potential benefit of embedding this cancer specialty care model within an accountable care model framework.

The following chapter explores the influence of model feature selection on spending outcomes.

^j We used concurrent years of the Master Beneficiary Summary File (MBSF) Chronic Conditions Warehouse (CCW)’s Chronic Conditions Segment and Other Chronic or Potentially Disabling Conditions Segment to limit the non-OCM group to beneficiaries diagnosed with any of the following cancers: breast cancer, colorectal cancer, prostate cancer, lung cancer, endometrial cancer, and leukemia/lymphoma. We note that that beneficiary who received OCM episodes may have had other types of cancer.

Chapter 6: Selection of NGACO Model Features

Key Findings

Model Features Selected



- Over time, NGACOs tended to take on higher risk, with risk caps increasing over time; in PY 6, most NGACOs selected risk caps higher than 5%. Risk level selection varied over the course of the model, with almost half of NGACOs (43%) selecting 100% risk in PY 6. Changes to the risk methodology during COVID-19 may have dampened NGACO motivation to select the higher risk level.
- Uptake of benefit enhancement waivers remained low, with the SNF three-day rule waiver and telehealth waivers elected most often.
- NGACOs electing PBP mechanisms had larger spending reductions of 3% (\$409.1 PBPY, $p < 0.01$), compared with 1.3% (\$172.9 PBPY, $p < 0.01$) for NGACOs electing FFS-based payment mechanisms.
- NGACOs choosing 100% risk and caps greater than 5% were associated with larger average spending reductions of 2.9% (\$392.2 PBPY, $p < 0.01$) as of PY 6, compared with 1.4-1.9% (\$191.6-\$247.4 PBPY, $p < 0.01$) for NGACOs choosing lower risk.

The NGACO Model features themselves influenced outcomes, in addition to the influence of structural factors such as organization type and provider and beneficiary characteristics. In this chapter, we explore the effects of risk selection and payment mechanism selection in spending outcomes and describe the use of benefits enhancements in the model. We address the following research question:

- **Did the model's impacts on total Medicare spending vary by NGACOs' selection of model features, including risk selection and provider payment mechanisms?**

Overview of Methods for Chapter 6

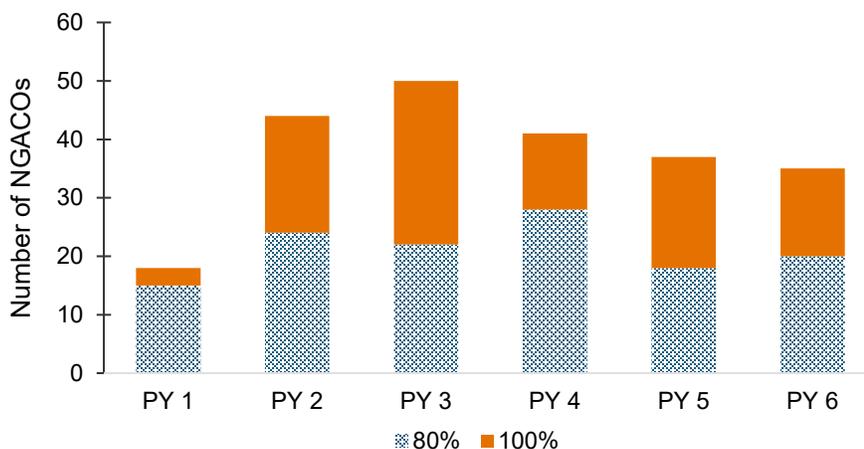
- We conducted a descriptive analysis of NGACO Model feature selection.
- We estimated differential impacts by model feature selection among subgroups from NGACO-level DID regression models for each performance year.
- We analyzed interview and survey findings to understand NGACOs' decisions in selecting model features.
- We used NGACO-level regressions to understand factors associated with election of model features and their association with gross spending reductions. We assessed the extent to which unobserved NGACO-level factors influenced their estimated gross spending reductions.¹⁶

The model’s flexibility gave NGACOs the option to select several model features, including risk levels and caps, payment mechanisms, and benefit enhancement waivers. Our conceptual model and hypotheses suggest that NGACOs that selected higher risk exposure and PBPs^k would likely have greater spending reductions. In prior evaluation reports, we found that NGACOs selecting 100% risk, setting risk caps above five percent, and opting for PBP or AIPBP payment mechanisms were associated with greater differential spending reductions than were NGACOs selecting lower risk levels and FFS-based payment mechanisms.^{17,18} At the same time, changes to the risk methodology during the COVID-19 PHE (in PY 5 and PY 6) may have altered the impact of risk selections on spending outcomes, as NGACOs that signed the COVID amendment to their participation agreements (PAs) were not subject to downside financial risk. For NGACOs that signed the amendment, CMS also removed COVID-19 episodes from spending measures and retrospectively updated the prospective trend with a regional observed trend for the 2020 benchmarks.

Higher Exposure to Financial Risk Was Associated with Larger Differential Reductions in Medicare Parts A & B Spending

The percentage of NGACOs choosing 100% risk varied by year, ranging from 17% of NGACOs in PY 1 to over half of NGACOs in PY 3. By PY 6, the percentage of NGACOs selecting 100% risk had declined to 43% (**Exhibit 6.1**). Two likely reasons for this decline in latter PYs were the rebasing of the benchmark from PY 4 onwards (in contrast, early NGACO-PYs were included as BYs for the benchmark) and general uncertainty stemming from COVID-19 in PY 6.

Exhibit 6.1. Share of NGACOs Selecting 100% Risk Declined Over the Final Three PYs



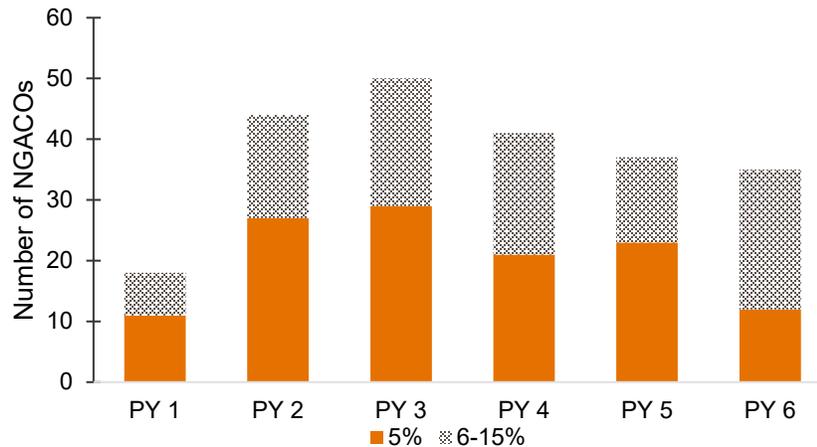
SOURCE: NORC’s analysis of NGACO Model programmatic data.

NOTE: PY 5 and 6 numbers reflect the risk levels selected after NGACOs signed the COVID-19 amendment to their participation agreements (PAs).

^k As described in Chapter 1, NGACOs have four possible payment mechanisms: (1) traditional FFS; (2) FFS with a fixed per beneficiary per month (PBPM) infrastructure payment (ISP); (3) population-based payments (PBPs) that gave NGACOs a fixed percentage of expected FFS claims reductions in prospective monthly payments; or (4) AIPBP, in which the NGACO received expected FFS claim reductions in prospective monthly payments.

More NGACOs elected higher risk caps over time, as illustrated in **Exhibit 6.2**, with one exception being an uptick in NGACOs electing 5% risk caps in PY 5; this exception likely reflected the 5 percent risk limits for those that signed the COVID-19 amendment.

Exhibit 6.2. Share of NGACOs Selecting Risk Caps Over 5% Increased Over Time



SOURCE: NORC's analysis of NGACO Model programmatic data.

NOTE: PY 5 and 6 numbers reflect the risk caps selected after NGACOs signed the COVID-19 amendment to their participation agreements (PAs).

NGACOs tended to choose higher exposure to financial risk, defined by both risk levels (80% or 100%) and risk caps ($\leq 5\%$ or $> 5\%$), based on their perceived ability to earn shared savings by keeping spending for their beneficiary populations below their financial benchmark for the model. As noted in the [Third Evaluation Report](#), NGACOs that selected 100% risk cited several factors as contributing to their decision, these included strong historical performance in the Shared Savings Program or Pioneer models, an organizational commitment to value-based models, results of financial modeling, and their organizational leadership's risk tolerance. Those that selected 80% risk cited their organizational leadership's reluctance to assume full risk based on their financial models, limited experience managing risk, and concerns with the benchmark. Specifically, these concerns included the complexity of the benchmark, changes to the benchmark methodology, and the timing of benchmark data reports that limited their ability to forecast accurately.

The reluctance of some NGACOs to select higher levels of risk may have stemmed from their limited ability to forecast anticipated shared savings and losses; in many cases, the capacity to accurately forecast shared savings and losses remained a challenge throughout the model. In the 2021 NGACO Leadership Survey, almost one-quarter of NGACOs reported that they had "very little" ability to forecast shared savings and losses. By contrast, most physician-hospital partnerships (9 out of 10) and physician practices (10 out of 11) reported that they could forecast shared savings and losses either somewhat or to a great extent. Looking at IDS/hospital systems, almost half of NGACOs (6 out of 14) reported "very little" ability to forecast accurately and, of those six, four opted for lower risk. Indeed, many NGACOs mentioned difficulties with forecasting despite noting past successes in other Medicare ACO models in their baseline interviews, as well as in the 2021 NGACO Leadership Survey.

NGACOs That Selected Higher Risk Saw Greater Spending Reductions

Average reductions in gross Medicare spending PBPY were significantly associated with NGACOs' selections concerning financial risk (**Exhibit 6.3**). NGACOs opting for 100% risk and a cap greater than 5% were associated with the largest average spending reductions (2.9%, \$392.2 PBPY, $p < 0.01$), followed by those electing 80% risk and cap greater than 5% (1.9%, \$247.4 PBPY, $p < 0.01$), 80% risk and cap less than or equal to 5% (1.4%, \$194.8 PBPY, $p < 0.01$), and 100% risk and cap less than or equal to 5% (1.4%, \$191.6 PBPY, $p < 0.01$). These findings are consistent with findings from our [Fourth Evaluation Report](#), in which higher risk was associated with larger differential declines in spending at the model level, but was not required for NGACOs to reduce spending.

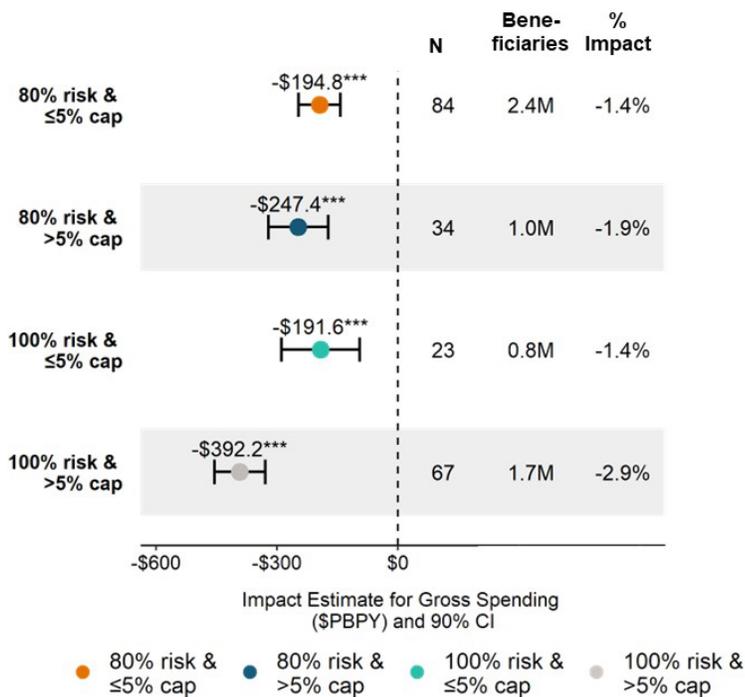
NGACOs electing higher risk were more likely to:

- **be physician practice-affiliated** (IDS/hospital systems vs. physician practices: OR=0.30; $p < 0.01$; physician practice/hospital partnerships vs. physician practice: OR=0.28; $p < 0.01$)
- **have beneficiary populations with more chronic conditions on average** (OR=2.63; $p < 0.01$)

These factors likely influenced the association between election of higher risk and gross spending reductions for NGACOs. Other beneficiary demographic factors in the model (percent of duals and percent below poverty) were not significant.

Appendix H includes more information on factors associated with the selection of higher risk and how such factors likely influenced gross spending reductions.

Exhibit 6.3. Estimated Impacts on Gross Spending, by Risk Category as of PY 6



SOURCE: NORC analysis of NGACO and comparison group enrollment and claims data.
NOTES: Impact estimates for gross Medicare spending PBPY and 90% CIs displayed. Impact estimates are weighted averages of the gross Medicare spending DID estimates for the NGACO-years in each risk category subgroup. For each subgroup, the impact estimate is displayed as a percentage (% impact). We considered gross Medicare spending impacts for 208 out of 225 NGACO-years as of PY 6, excluding 17 NGACO-years due to failure of baseline parallel trends. N indicates number of NGACO-years. Appendix A includes additional detail on our approach to estimating impacts for the subgroups. Impact estimates significant at * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

PBPs Were Associated with Greater Spending Reductions

NGACOs primarily chose FFS-based payment mechanisms such as the FFS or FFS with infrastructure payment (FFS+ISP). The PBP payment mechanisms (PBP and AIPBP) did not expose NGACOs to financial risk and the percentage of NGACOs electing them increased over time (**Exhibit 6.4**). The NGACOs that had elected a risk cap of >5% and a 100% risk level were more likely to elect PBP or AIPBP. NGACOs electing PBP payment mechanisms received portions of expected FFS claims payments for aligned beneficiaries on a prospective basis at the start of each month. Differences between prospective payments for expected FFS claims and incurred FFS claims during the month were recouped as part of shared savings calculations after the end of a performance year. As discussed in earlier reports, the option of FFS+ISP may have appealed to many NGACOs because of the additional cash flow supporting clinical transformation. In interviews, NGACO leaders described using these funds to support upfront operating costs and infrastructure or clinical process enhancements such as new staff, health information technology (IT), data analytic capacity, population health management, or care coordination. In some cases, however, NGACOs were reluctant to choose this option, as the ISP dollars would be recouped by CMS at final reconciliation.

Selecting PBPs or AIPBPs provided NGACOs more predictable cash flow and the flexibility to pass on financial risk to providers and institutional providers in their networks. Only one NGACO selected AIPBP; however, leaders from NGACOs that chose any PBP described their motivation for and approach to using the alternative payment mechanism in different ways. For example, one NGACO leader noted that the NGACO used PBPs to help cover the administrative costs that practices incurred while implementing NGACO-related activities. Others reported using the upfront monthly PBP as a withhold to share financial risk with institutional providers in their networks (for example, SNFs, home health agencies). The [Third Evaluation Report](#) provides additional discussion of how NGACOs used PBPs and fee reductions across provider types.

NGACO Payment Mechanisms

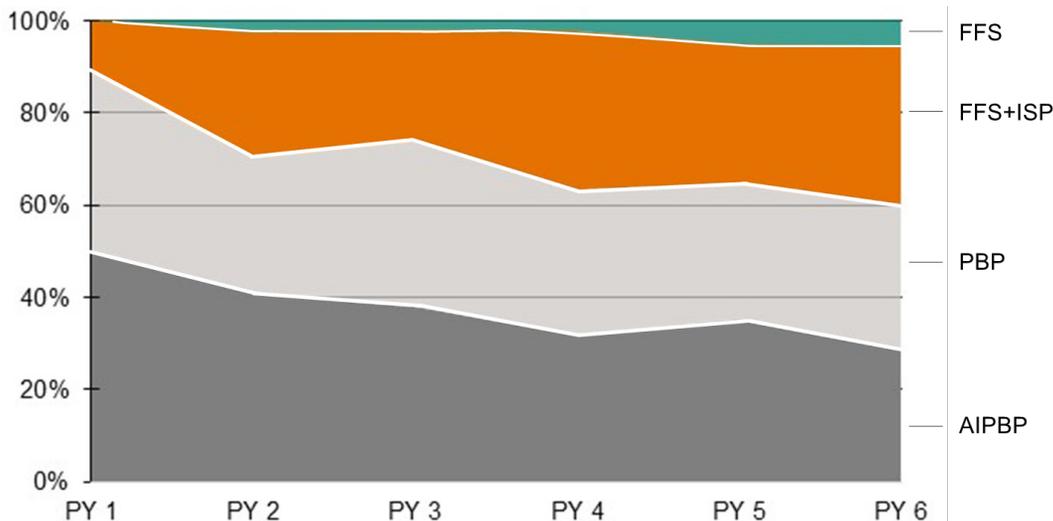
FFS. Traditional fee-for-service.

FFS-ISP. FFS with a fixed per-beneficiary per-month infrastructure payment.

PBP. Population-based payments that gave NGACOs a fixed percentage of expected FFS claims reductions in prospective monthly payments.

AIPBP. All-inclusive PBP, in which NGACOs received expected FFS claim reductions in prospective monthly payments.

Exhibit 6.4. Share of NGACO Selecting FFS Payment Mechanisms Declined Over Time

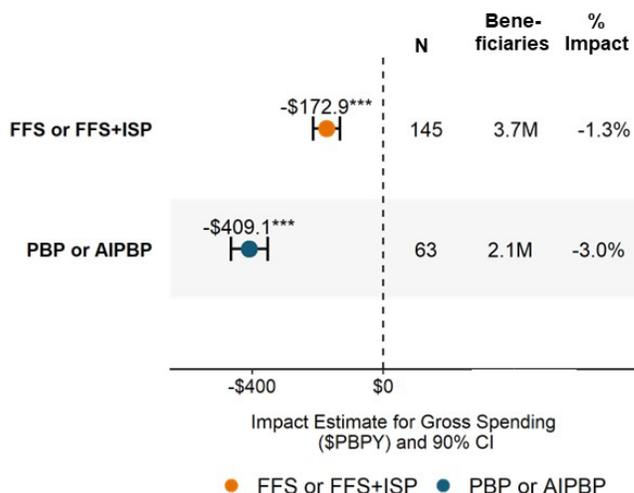


NOTES: FFS = fee-for-service; FFS+ISP = FFS & monthly infrastructure payments; PBP = population-based payment; AIPBP = all-inclusive PBP.

SOURCE: NORC’s analysis of NGACO Model programmatic data.

NGACOs’ choice of payment mechanism was significantly associated with reductions in gross Medicare spending PBPY (**Exhibit 6.5**). Consistent with our hypothesis, NGACOs electing FFS or FFS+ISP tended to see lower spending reductions, compared with NGACOs electing PBP or AIPBP (1.3% vs 3.0%, \$172.9 PBPY vs. \$409.1 PBPY, $p < 0.01$). At the same time, election of PBPs or AIPBP was not required for NGACOs to reduce spending.

Exhibit 6.5. NGACOs Electing PBP Mechanism Saw Greater Spending Reductions



NOTES: Impact estimates for gross Medicare spending PBPY and 90% CIs displayed. Impact estimates are weighted averages of the gross Medicare spending DID estimates for the NGACO-years in each payment mechanism subgroup. For each subgroup, the impact estimate is displayed as a percentage (% impact). We considered gross Medicare spending impacts for 208 out of 225 NGACO-years as of PY 6, excluding 17 NGACO-years due to failure of baseline parallel trends. N indicates the number of NGACO-years. Appendix A details our approach to estimating impacts for the subgroups. Impact estimates significant at * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

SOURCE: NORC analysis of NGACO and comparison group enrollment and claims data.

Uptake of Benefit Enhancements Remained Low

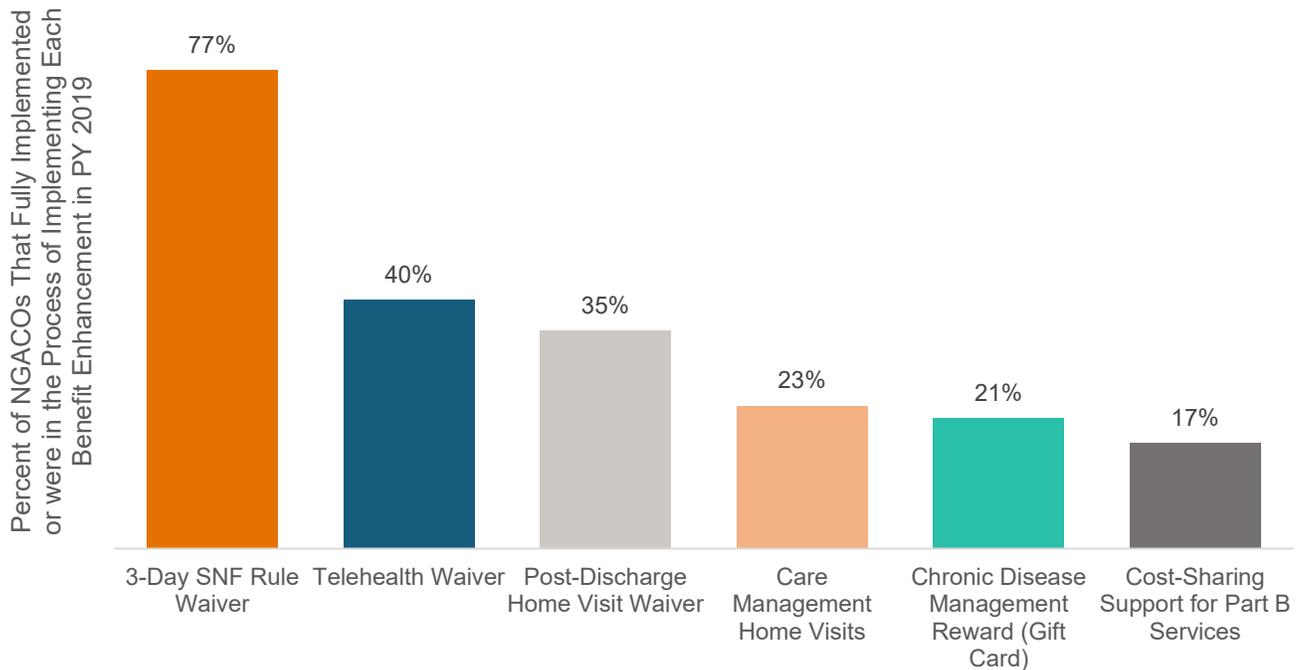
Benefit enhancements were a unique feature of the NGACO Model and served as a key motivator for NGACOs to participate in the model. At the same time, uptake of most benefit enhancements remained low over the course of the model.^l Fifty NGACOs reported that they were implementing or fully implemented the SNF three-day rule waiver in PY 2 (2017), PY 3 (2018), or PY 4 (2019); however, across PY 2, PY 3, and PY 4, only 28 NGACOs reported implementing the post-discharge waiver and 27 reported implementing the telehealth waiver.^m The chronic care management home visit waiver saw low uptake, as did the two additional beneficiary engagement waivers introduced in PY 4; further, over time, there was a decline in ACOs electing the post-discharge home visit waiver (**Exhibit 6.6**).

The SNF three-day rule waiver was the most frequently implemented waiver. However, only a small fraction of overall SNF admissions within a given NGACO used the waiver and only a subset of SNF admissions were eligible for the waiver. In addition, NGACOs cited several challenges to wider implementation and more frequent use of the waiver, including lack of awareness and understanding among physicians and ED staff who could use the waiver to admit beneficiaries directly to a SNF, as well as concerns about authorization.

^l Findings on waiver implementation are based on qualitative and survey data collected in PY 2 (2017) through PY 4 (2019) and do not reflect NGACOs' experiences in PY 5 and PY 6.

^m These are unique ACO counts based on responses to the 2017, 2018, and 2019 NGACO Leadership Surveys. The 2017 survey was fielded to only the 2016 cohort; the 2018 survey was fielded to the 2017 cohort; and the 2019 survey was fielded to all three cohorts (2016, 2017, and 2018). The total number of unique respondents in all three surveys is 60 ACOs.

Exhibit 6.6. A Majority of NGACOs Implemented the 3-Day SNF Rule Waiver



SOURCE: 2019 NGACO Leadership Survey data (n=48)

Conclusion

The NGACOs that elected higher risk and PBP mechanisms had greater spending reductions in the NGACO Model. Decisions by the NGACOs about model features were likely driven by their perceptions of their own organizational capacity to assume risk with their aligned beneficiary population. For this reason, model features should be considered in the context of other factors that may influence ACO performance, which we explore in the following two chapters.

Chapter 7: Population Health Strategies and Pathways to Reduced Spending

Key Findings

Data Analytics



- For NGACOs, Data analytic capacity was a key area of organizational investment and growth.
- There was an evolution in approach from early reliance on vendors to building in-house capacity. Where interoperability was not feasible, NGACOs created workarounds such as view-only access to EHR data and collection of data from health information exchanges (HIEs).

Care Coordination and Management



- Cumulatively, the greatest significant reduction in Medicare spending was for beneficiaries with the most chronic conditions, who were often the focus of care management interventions.
- NGACOs expanded and enhanced care management programs. Changes included hiring additional and more varied types of staff, increasing presence of care managers in primary care practices and hospitals, increasing support to beneficiaries during transitions in care, promoting team-based care, and testing pilot programs.

Annual Wellness Visits (AWVs)



- NGACOs viewed AWVs as an effective strategy to engage beneficiaries, assess beneficiaries' needs, conduct preventive screenings, and address gaps in care.
- Nearly all NGACOs implemented initiatives to increase AWVs among aligned beneficiaries and saw a significant 21.6% (89.2 PBPY, $p < 0.01$) cumulative increase in the number of AWVs.

Collaboration with Skilled Nursing Facilities (SNFs)



- NGACOs built and strengthened relationships with SNFs, particularly high-performing facilities and those serving the largest numbers of their attributed beneficiaries.
- NGACO staff were embedded in SNFs to facilitate coordination, shared performance data, and implemented quality improvement interventions.

Population Health Strategies Associated with NGACO Outcomes



- By the end of the model, 25 of 35 NGACOs had reduced cumulative Medicare spending while maintaining or reducing rates of ACSC hospitalizations or 30-day unplanned readmissions.
- Four pathways—with different combinations of organization type, organization size, and population health management strategies—included over half of the NGACOs that reduced spending while maintaining or improving quality of care.

The focus of this chapter is on model implementation, a critical aspect of our theory of action to understand the impact of the NGACO Model. Our analyses extend beyond individual factors that influence spending outcomes to consider combinations of factors associated with spending reductions. We address the following research questions:

- **What strategies did NGACOs implement in response to the model?**
- **What combinations of implementation strategies and other factors were associated with spending reductions?**

Overview of Methods for Chapter 7

- We analyzed qualitative data collected from interviews with NGACO staff.
- We conducted descriptive analyses of NGACO Leadership Survey data.
- We used DID regression models to analyze beneficiary subgroup experience in the model.
- We conducted comparative case analyses using CCM.

Some NGACOs joined the model with prior experience managing population health in the Pioneer ACO model or brought more limited experience as providers in the Shared Savings Program or MA networks, with a prospectively aligned beneficiary population. Across diverse prior experiences, NGACOs focused their implementation efforts on developing in-house capacity or working with health IT vendors to aggregate data, create data warehouses, and conduct risk stratification. In doing so, they considered the model's flexibilities and incentives and worked within their health systems to leverage existing capacity and to design new interventions. NGACOs also recognized that reducing Medicare spending and preventing illness and acute events would require addressing beneficiary needs across the care continuum.

In this chapter, we synthesize qualitative, survey, and quantitative findings across the model's performance years, describing the evolution of NGACOs' population health management capacities and approaches and associations with reduced spending. See **Appendix L** for the full set of results from the 2021 Leadership Survey.

NGACOs Expanded Data Analytic Capacity

For NGACOs, internal capacity and infrastructure for population health management expanded throughout the model, specifically through investments in data analytic capacity and the use of risk stratification. In the initial NGACO Leadership Survey and interviews,ⁿ fewer than one-quarter of NGACOs reported that they had the data analytic staff they needed and that they required additional resources to build their infrastructure, yet almost all (91%) had made investments to do so. The ongoing investments were significant and involved extensive planning and large numbers of staff.

ⁿ The first NGACO survey and interviews were conducted with the 2016 cohort.

When the model concluded, all NGACOs, regardless of organization type, had significantly expanded their infrastructure, systems, processes, and staff to manage, analyze, and share data for population health management. Even NGACOs that withdrew from the model cited the benefits of these investments, noting that changes had been rapid, with primary care practices able to see data they had not previously seen and population health management staff supporting their practices in delivering care differently.

For Data Analytics, NGACOs That Remained in the Model Evolved from Relying on Vendors to Building In-House Capacity

In PY 6, NGACO leaders surveyed noted the importance of capabilities such as dedicated resources to identify at-risk beneficiaries and connect them to services; respondents also noted the value of access to claims and clinical data to improve risk stratification of beneficiaries for care management and to identify opportunities for focused interventions. At the model's outset, NGACOs reported relying on vendors while investing to develop in-house capacity. By the model's third year, many NGACOs were bringing the work in-house or switching vendors. Overall capacity grew but at the conclusion of the model, variation remained in approaches across organization types. According to the 2021 NGACO Leadership Survey:

- 12 NGACOs (34%) reported using both in-house and vendor capacity
- IDS/hospital systems and physician practices were more likely to report using in-house, proprietary analytic models to risk stratify beneficiaries
- Physician-hospital partnerships used vendor-developed proprietary analytic models^o

Over the Course of the Model, NGACOs Advanced Data Sharing and Exchange Among Their Providers

As NGACOs invested in systems and processes to integrate and analyze data, they shared data with providers to identify gaps in care and to inform care management and coordination. Early in the model, organizations with a dominant EHR were able to bring together claims and clinical data and to share

"During the time we participated in the NGACO Model the most significant changes came about by advances made in understanding and utilizing data. When we first started, we used vendors to analyze the data and provide insights. We were subject to the priorities they felt were important. As we built in-house competency over data management and analysis, we were able to better use data to advance our ACO's priorities. This allowed for advances in many of our programs like PAC, care management, provider outreach, and education, etc. Data is the lifeblood of any value-based care organization. Understanding and leveraging your data to help inform all activities is paramount to success."

- NGACO Leader

^o See Appendix L for additional 2021 NGACO Leadership Survey results.

actionable information with Participant Providers on a regular basis. However, most NGACOs operated across multiple EHR systems. Fewer than 10 NGACOs had all providers on a single EHR system, and more than half operated with nine or more EHR systems.^p NGACOs that could not rely on interoperable systems used workarounds to facilitate care coordination across providers, including independent providers, hospitals, and SNFs. Workarounds included point-of-care tools, EHR care coordination platforms, view-only access to EHR data, and HIEs. For the NGACOs that remained in the model (n=35), 60% (n=21) of those surveyed in PY 6 said that their ability to share performance, quality, and cost data with individual providers had improved “a lot.” Leaders underscored the importance of capabilities such as dedicated resources to identify at-risk beneficiaries and to connect them to services, as well as access to claims data to improve risk stratification of beneficiaries and put them into standardized care management programs.

NGACOs Enhanced Care Coordination and Management

Care coordination and management were integral to NGACOs’ efforts to decrease spending and to improve quality. Research offers mixed findings on the impact of care coordination and management for high-risk beneficiaries in Medicare ACOs on savings.^{19,20} Evidence from the third year of the Medicare SSP suggests that savings from care coordination and management efforts may not be greater among higher-risk beneficiaries.²¹ In contrast, our evaluation finds that by PY 6, cumulative spending reductions were larger for higher-need beneficiaries.

NGACOs significantly reduced cumulative Medicare spending the most for beneficiaries with more chronic conditions. As shown in **Exhibit 7.1**, NGACOs’ impact on spending reductions was greatest for beneficiaries with 8 or more chronic conditions at 2.6% (\$823.2 PBPY, p<0.01), followed closely by those with 3 to 7 chronic conditions at 2.1% (\$200.9 PBPY, p<0.01). These impacts grew larger in the later years of the model. For example, the average spending decline for beneficiaries with 3 to 7 chronic conditions grew from 2.1% (\$199.7 PBPY, p<0.01) during PY 4 to 6.1% (\$579.1 PBPY, p<0.01) during PY 6. For beneficiaries with 8 or more chronic conditions, the differential spending decline grew from 2.5% (\$819.4 PBPY, p<0.01) in PY 4 to 5.0% (\$1,566.3 PBPY, p<0.01) in PY 6 (**Appendix G Exhibit G.2**). Despite the fact that twice as many beneficiaries in the model had 3 to 7 chronic conditions than had 8 or more chronic conditions, the aggregate decline in spending as of PY 6 was greater for aligned beneficiaries with at least 8 chronic

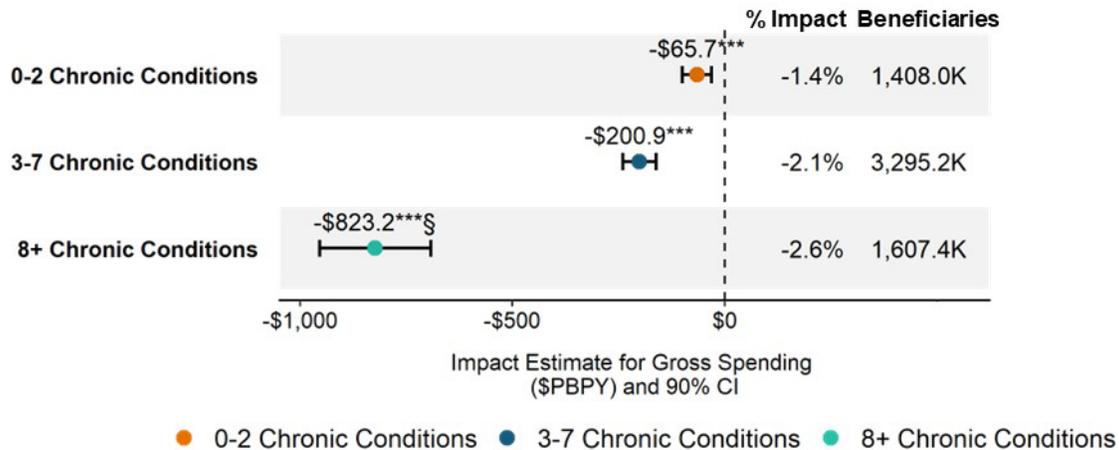
NGACOs reported fully implemented initiatives in priority areas

- Closing gaps in preventive care (89%)
- Preventing readmissions (80%)
- Reducing avoidable ED visits (77%)
- Reducing avoidable inpatient admissions (71%)

^p More physician practice NGACOs reported that they had nine or more EHRs across Participant Providers, compared with IDS/Hospital NGACOs. As reported in our [Third Evaluation Report](#), 12 out of 18 physician practice NGACOs had 9 or more EHRs in their network, compared with 8 of 18 IDS/hospital-affiliated NGACOs and 7 of 14 physician-hospital partnership-affiliated NGACOs.

conditions (\$1.3 billion), compared with the aggregate decline for beneficiaries with 3 to 7 chronic conditions (\$662 million).

Exhibit 7.1. Gross Spending Reductions Were Greater for Beneficiaries with Multiple Chronic Conditions, Cumulatively as of PY 6



NOTES: Gross spending impact estimates are the DID estimates of the NGACO Model on Medicare Parts A and B spending for subgroups of beneficiaries based on number of chronic conditions. Confidence intervals at 90% level are displayed as bars around the impact estimates. Percentage impact is the impact relative to expected average spending for NGACO beneficiaries in PY(s) absent the model. § Denotes failure of parallel trends assumption for outcome in subgroup across BYs, so that estimated impacts should be interpreted with caution. Estimated impacts PBPY for spending significant at *p<0.1, **p<0.05, and ***p<0.01.

SOURCE: NORC analysis of NGACO and comparison group enrollment, claims, and model programmatic data

Initially, most NGACOs focused on beneficiaries with greater clinical needs—and at risk of hospitalization—and aimed to address high utilization and spending through population health and care management, particularly in high priority initiatives. The majority of NGACOs expanded prior care coordination and management efforts and built new programs through investments in both staff and patient engagement efforts. By PY 6, most NGACOs (88%) reported a high degree of standardization for care management processes and staff.

NGACOs hired care management staff, such as medical assistants, pharmacy technicians, social workers, community health workers, and other nonclinical staff. In PY 6, 69% of NGACOs reported employing non-traditional providers such as community health workers and peer navigators. As discussed in our Third Annual Report, the roles of nonclinical staff (for example, care navigators or health coaches) included fostering ongoing relationships with beneficiaries and assisting with care coordination across settings.

At the end of the model, the majority of NGACOs reported having care managers embedded in primary care practices.

Embedding care managers was more common for IDS/hospital system (71%) and physician-hospital partnerships (70%) than it was for physician practice NGACOs (36%), several of which were spread across wide geographic areas. Fewer than half of NGACOs participating in PY 6 had care managers embedded in hospitals, either in the inpatient setting (46%) or in EDs (34%).

NGACOs adapted their patient engagement approaches to increase enrollment in care management programs.

In the 2021 NGACO Leadership Survey, one NGACO leader explained that “[i]t is difficult to reach high-risk beneficiaries. They tend not to respond to phone or mail and that is one of the reasons they are at risk.” NGACOs often used recent hospitalizations as an opportunity to engage aligned beneficiaries in care management programs, beginning with a focus on care transitions. In one interview, a care management director explained how the ACO pivoted its enrollment process from care managers cold-calling high-risk beneficiaries identified through an algorithm to contacting beneficiaries following discharge from acute care facilities, when

beneficiaries were most vulnerable to readmission. In PY 6, over half (57%) of NGACOs reported that most beneficiaries who were offered high-risk or complex care management programs agreed to participate. Acceptance was slightly lower among beneficiaries in transition from PAC to home (49%) and among those considered “rising risk” (46%). Beneficiaries described as rising risk were those with moderate utilization and spending, forecasted to become more costly in the future.

NGACOs implemented new processes or programs focused on specific populations. Most NGACOs (77%) reported that they hired new staff to focus on priority initiatives such as home-based care, care management for people with specific conditions (for example, congestive heart failure, end-stage renal disease), integration of behavioral health care into primary care, and palliative care. Over the course of the model, several NGACOs reported expanding their focus to beneficiaries deemed to be rising risk.⁹

With the COVID-19 PHE, NGACOs shifted the focus of care management to connect beneficiaries to needed services.²² Many NGACOs reported using care managers to conduct outreach to aligned beneficiaries during the COVID-19 PHE, to identify beneficiary needs and connect

Selected NGACO Priority Initiatives

Home-Based Care

- Hospital at home
- Community paramedicine

Disease-Specific

- Team-based care model with nephrology care coordination and medication therapy management

Behavioral Health

- Behavioral health integration into primary care
- Outreach to beneficiaries with frequent ED visits and underlying behavioral health issues

Palliative Care

- Pre-discharge visits by care managers
- Community-based education around palliative care and hospice

⁹ For more information about PHE related changes to implementation of the model, see the [Third Evaluation Report](#).

them to services, including food and medication delivery. NGACO care managers also educated beneficiaries on the risks of COVID-19 and assisted them in accessing testing and vaccinations.

NGACOs Increased the Number of Annual Wellness Visits

In interviews, NGACOs identified AWVs as an effective strategy to engage beneficiaries, assess beneficiaries' needs, conduct preventive screenings, and address gaps in care. The visits were a chance to check in with aligned beneficiaries who may not have had recent interactions with Participant Providers. The AWVs allowed for better care planning and identification of chronic conditions through coding and risk scoring. According to discussions with NGACO leaders, beneficiaries also viewed AWVs positively and appreciated the chance to interact with providers and share health concerns.

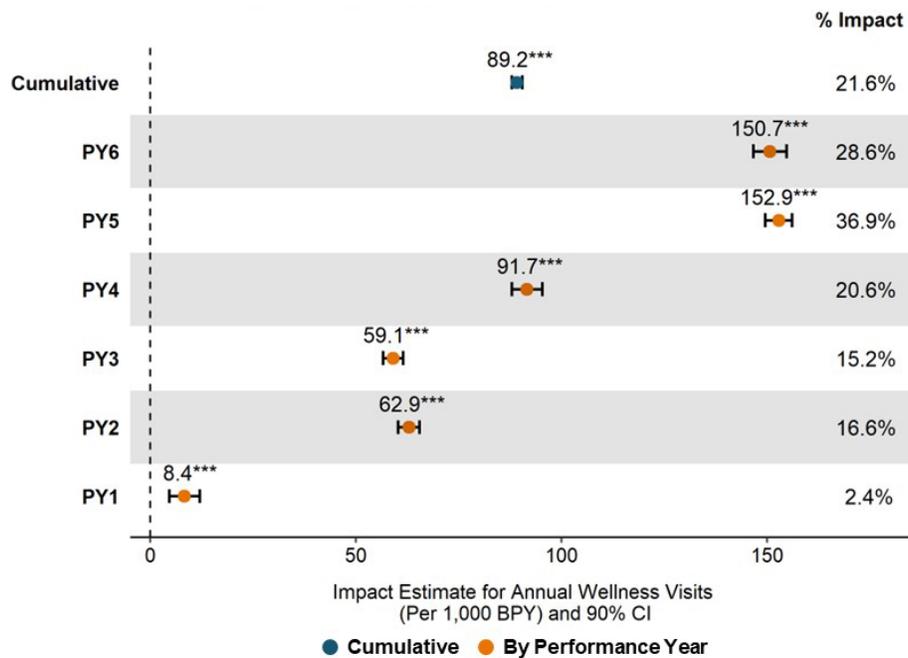
An NGACO focus on AWVs was reflected in a significant 21.6% (89.2 per 1,000 BPY, $p < 0.01$) cumulative increase in the number of visits. The trend held across PYs and all three organization types. For NGACOs, the impact on AWVs grew each year, starting at 2.4% (8.4 per 1,000 BPY, $p < 0.01$) in PY 1 and peaking at 36.9% (152.9 per 1,000 BPY, $p < 0.01$) in PY 5 (Exhibit 7.2).



66% of NGACOs

reported that they fully implemented initiatives to increase AWVs among aligned beneficiaries.

Exhibit 7.2. Estimated Impacts on Annual Wellness Visits Model-wide, Cumulative and by PY



NOTES: Estimated impacts for utilization per 1,000 BPY significant at $*p < 0.1$, $**p < 0.05$, $***p < 0.01$. Impact estimates are the DID estimates for utilization for AWVs. Confidence intervals (CIs) at the 90% level are displayed as bars around the impact estimates. Percentage impact is the impact relative to expected utilization for NGACO beneficiaries in PY(s) absent the model. Only NGACOs that passed parallel trends are included in the analysis. Cumulative impact is the summary impact from PY 1 through PY 6 of the model.

SOURCE: NORC analysis of NGACO and comparison group enrollment, claims, and model programmatic data.

Strategies to increase AWWs focused on both beneficiaries and providers. To increase patient awareness, NGACOs sent notification letters to aligned beneficiaries about the CCR, a \$25 payment that CMS sent to aligned beneficiaries who completed an AWW.[†] Perceptions of the CCR were mixed, with some NGACO leaders saying the feature was valuable in encouraging AWWs, while others noted that the CCR was not associated with a large impact on AWW use and was challenging to implement.²³ For providers,

strategies to increase AWWs included building EHR workflows to identify beneficiaries who had not had an AWW and having care managers or other staff reach out to those beneficiaries to schedule visits. A few NGACOs reported tying provider compensation or performance to increasing uptake of AWWs and providing opportunities for providers to share experiences and best practices around incorporating AWWs into their workflow.

“We think that when we can get folks in for the annual wellness visit, we’re more likely to make sure that we’ve accurately assessed all of their health conditions.”

- NGACO Leader

NGACOs Built and Strengthened Relationships with SNFs

From the beginning of the model, NGACOs identified PAC as a key area of inefficiency in spending.²⁴ More than half of NGACOs reported that managing PAC spending and quality was a high priority (57%), while one-third said it was a medium-level priority (34%); IDS/hospital system NGACOs were most likely to report that PAC was a priority. NGACOs addressed PAC utilization and spending through efforts to improve both the quality and management of care that their SNF partners delivered.



60% of NGACOs

reported that they had fully implemented initiatives to manage PAC spending and quality.

Across all model years, SNFs were the most common type of facility participating in NGACO networks. Most NGACOs focused specifically on strengthening processes to communicate and coordinate with SNFs in their networks, particularly those with the highest volumes of aligned beneficiaries and those identified as high-performing facilities.^{25, 26, 27, 28, 29} Findings from the 2021 NGACO Leadership Survey and our interviews with NGACO leaders offer insights into NGACO strategies around PAC during the model’s early years.

Most NGACOs implemented PAC quality improvement strategies to facilitate learning and share performance data. NGACOs supported learning through workgroups or collaboratives between the NGACO and its SNF partners (89%). These activities emphasized data sharing and the importance of

[†] The CCR was only available in PY 2 (2017) and PY 3 (2018).

care coordination. NGACOs also shared performance data with SNFs in their networks (83%).^s Some NGACOs also reported in interviews that they collaborated with their partner SNFs to focus on decreasing the lengths of SNF stays.

"We surely have connected the various SNFs together in a quality improvement program...And we're communicating more actively with the people involved with the discharge planning in the hospital, trying to stand up some information...And I think the Next Gen program helped impel us to do that work."

By PY 6, a majority of NGACOs (66%) felt they had gotten "a lot better" at coordinating and managing the care of beneficiaries admitted to PAC settings over the course of the model. Both IDS/hospital systems and physician-hospital partnerships were more likely than physician practice NGACOs to report that their ability to track and manage beneficiaries admitted to PAC settings was "a lot better." The NGACOs facilitated information-sharing and data transparency between their PCPs and SNFs. Approximately 90% of NGACOs reported they alerted care managers when a beneficiary was admitted to

PAC and/or had established regular phone communications with their PAC providers. NGACOs also gave participating and PAC providers access to EHRs for information exchange (71%).

Early in the model, some NGACO leaders explained that having staff embedded in SNFs helped them manage patient care and support warm handoffs to primary care providers and outpatient care managers. In PY 6, 51% of NGACOs reported embedding staff such as care managers, physicians, or "SNFists" in facilities in the NGACO's provider network. Most NGACOs also developed resources for beneficiaries and clinicians that highlighted high-performing facilities (83%).

Implementation of Certain SNF-Related Strategies was Associated with Improvements in SNF-Related Outcomes

As noted in Chapter 2, NGACOs' efforts saw significant cumulative reductions in SNF spending and days. We estimated additional multivariable models to assess whether NGACO strategies for engaging with SNFs, as well as general care management activities, were associated with greater performance improvements on SNF-related measures (**Appendix M, Section M3**).[†] For each outcome, we estimated separate multivariable linear regression models to examine the association with each survey item,^u

^s Based on self-reported activities in the 2021 NGACO Leadership Survey. The structure of the survey question does not require that an NGACO enumerate all activities; for this reason, not selecting a specific activity may not mean that the NGACO did not engage in the activity. In addition, some strategies were not applicable to certain NGACOs. See **Appendix L** for complete survey findings.

[†] Models were run at the NGACO-level (N=35), with the dependent variables being the cumulative PY 6 results for SNF days per 1,000 beneficiaries, SNF spending per patient, and hospital readmissions within 30 days of SNF admission per 1,000 beneficiaries. We excluded the first year of NGACO Model participation for each NGACO, to allow for a transition period for the implementation of NGACO coordination strategies with SNFs.

^u Survey items were recoded to binary variables, defined as 1 for the top-box response (for example, fully standardized, to a great extent) and 0 if otherwise.

controlling for covariates, including the average number of chronic conditions, organization type, and total Medicare Parts A and B spending.^v

NGACOs that reported conducting three activities—prioritizing PAC spending and quality, sharing performance measures with SNFs, and having fully standardized care management processes had larger reductions in SNF days than did NGACOs that did not report conducting these activities. The associated percentage point reductions 7.7 ($p<0.01$) for prioritizing PAC spending and quality, 7.3 ($p<0.05$) for shared performance measures; and 6.3 ($p<0.05$) for standardized care management. We observed greater declines in hospital readmissions within 30 days of SNF admission among NGACOs that knew when beneficiaries were registered in an ED or a hospital (5.8 percentage point decrease, $p<0.05$) and embedded care management in SNFs (6.2 percentage point decrease, $p<0.05$).

NGACO Population Health Management Strategies: Pathways Associated with Reduced Spending

After the NGACO Model ended, we aimed to understand how NGACOs' approaches to population health management were associated with outcomes. We reported in our [Fourth Evaluation Report](#) that no single factor sufficiently explained outcomes in the model; since that time, we have observed heterogeneity across the model with respect to NGACOs' strategies, the features of their markets, and their organizational resources and capacities. Considering the complex and variable interplay of multiple dimensions, we hypothesized that reduced total spending was possible for NGACOs operating in certain contexts and with specific resources and strategies.

To explore this idea, we conducted comparative case analyses, using CCM to identify subsets of the final 35 NGACOs participating in PY 6 that shared strategies and characteristics and reduced total spending without reducing quality. We refer to the shared strategies and characteristics as pathways. **Appendix B** includes an overview of CCM and our analytic approach.

Methodological Considerations. The CCM approach is grounded in set theory and uses Boolean logic instead of traditional statistical correlation methods to examine the relationship of various conditions to an outcome. The approach is useful when: 1) an outcome is observed under varying conditions, 2) an outcome is possible in the presence of multiple conditions, and 3) the association between conditions and an outcome is asymmetric (that is, the absence of a condition does not necessarily mean that the outcome did not occur). We identified distinct pathways that represent groups of NGACOs with shared conditions (for example, contextual, structural, or population health management characteristics) that occurred with a given outcome (reducing spending and maintaining or improving quality). The analysis may not have identified all potential pathways associated with a given outcome.

^v Coefficient estimates (β s) are the average percentage point change in the outcome for ACOs that reported the top-box response, compared with ACOs that did not (the reference group), holding other variables constant.

In the sections that follow, we summarize the cases, conditions, and outcomes considered for this analysis; the pathways we identified; and our interpretation of the results. To provide additional context for the mechanisms likely at work in each pathway, our results include descriptive analyses of the cases within and outside of each pathway and comparisons of the pathways with respect to factors such as Medicare spending and utilization by service area, beneficiary characteristics, and provider network composition.

Components of the Analysis. For this analysis, the outcome of interest was each NGACO’s cumulative impact on reduced Medicare spending while maintaining or improving quality. To identify pathways, the analysis considered several conditions: population health management strategies used by the NGACO, contextual factors related to baseline Medicare spending in the NGACO’s market and among its Participant Providers, the type of organization with which the NGACO was affiliated (IDS/hospital system, physician practice, or physician-hospital partnership), and the number of beneficiaries aligned to the NGACO (**Exhibit 7.3**). We conducted sensitivity testing to confirm the findings of our analyses were robust to the choice of thresholds for each condition and for the outcome; for more information on calibration of the conditions and outcome and the sensitivity tests conducted, refer to **Appendix B, Exhibits B.6 and B.10**.

Exhibit 7.3. Comparative Case Analysis Examined Contextual and Population Health Management Strategies Associated with Reduced Spending and No Reductions in Quality

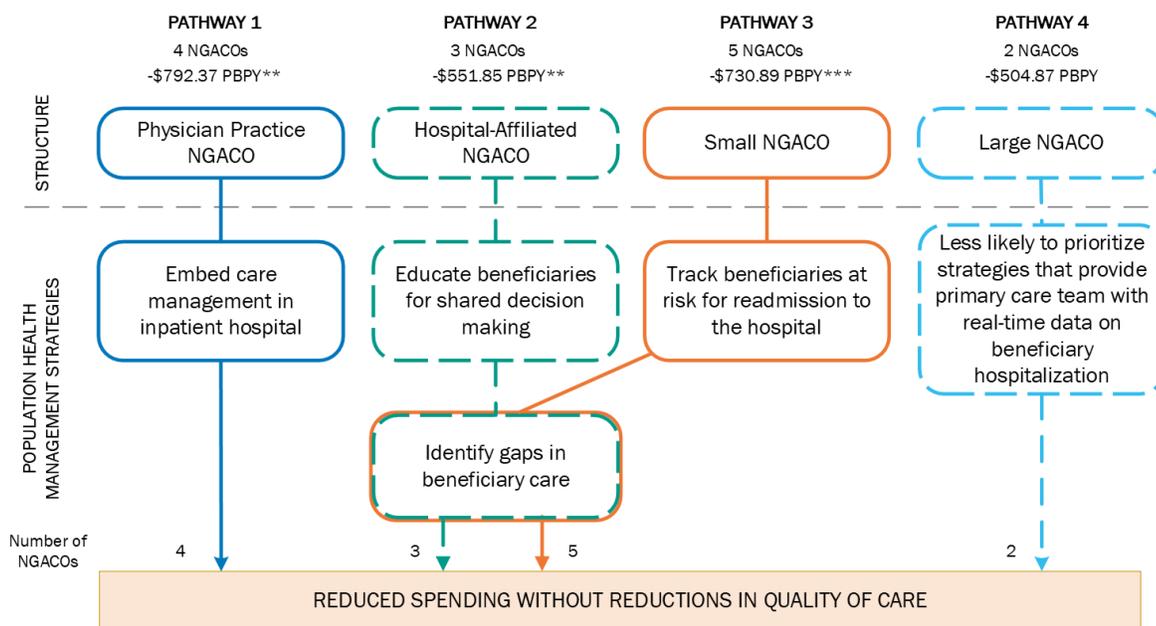
Component	Description
Cases	NGACOs participating in PY 6, the model's final PY (n=35)
Outcome	Reduced cumulative Medicare spending (Parts A and B) while maintaining or improving quality of care for ACSC hospitalizations and 30-day all-cause readmissions
Contextual Conditions	<ul style="list-style-type: none"> ■ Market-level per capita Medicare spending prior to start of model ■ Provider-level per capita Medicare spending prior to start of model ■ NGACO organization type (three types) ■ Number of aligned beneficiaries
Population Health Management Strategies	<p>For its aligned beneficiaries, NGACO does the following “to a great extent”:</p> <ul style="list-style-type: none"> ■ Knows when they are in the ED or admitted to the hospital ■ Provides primary care team with real-time data on hospitalizations ■ Navigates to the right PAC setting ■ Tracks those at risk for readmission to the hospital ■ Identifies gaps in care <p>Settings in which NGACO provides embedded or centralized care management:</p> <ul style="list-style-type: none"> ■ Primary care offices or practices ■ Specialty offices or practices ■ Inpatient hospital ■ ED ■ SNF

NOTE: Appendix B provides technical details about the specification and calibration of each component of the analysis.

Once pathways were identified, we conducted descriptive analyses of survey, qualitative, and quantitative data for NGACOs in any pathway and compared results with NGACOs remaining in the model through PY 6 that were not in any pathway. We assessed in-pathway and not-in-pathway NGACO data related to spending and utilization by service setting (for example, SNF, outpatient, ED), market factors (for example, hospital market concentration), beneficiary characteristics, risk selection, and provider network characteristics (for example, ratio of specialists to PCPs, percentage of care received from NGACO providers).

Four pathways to reducing spending while maintaining or improving quality encompassed more than half of the NGACOs. Of the 35 NGACOs participating in the final year of the model, 25 reduced cumulative spending while maintaining or improving quality. More than half of those 25 NGACOs (n=14) were in one of four pathways featuring different organization types and sizes and specific population health strategies (**Exhibit 7.4**).^w While organizational characteristics and strategies are present in all four pathways, neither baseline market nor provider spending emerged as a crucial component of any pathway.

Exhibit 7.4. Four Pathways Encompassed Cumulative Medicare Spending Reductions While Maintaining or Improving Quality



In **Exhibit 7.5**, we summarize the values of conditions in each of the four pathways: their organization type (physician practice, IDS/hospital system, physician-hospital partnership), number of aligned

^w The algorithm identified the minimally sufficient conditions for an outcome to occur, so a condition could be absent from a pathway even if present for the cases in the pathway. For example, if a population health management condition does not appear on a pathway, it may not be the case that NGACOs in that pathway are not implementing the strategy.

beneficiaries (median and range), and population health strategies, as well as the pooled percentage impact for total spending for cases in the pathway.

Exhibit 7.5. Characteristics of NGACO Cases in Four Pathways to Achieving Medicare Spending Reductions While Maintaining or Improving Quality

Pathway	Organizational Type	Number of Aligned Beneficiaries (median, range)	Population Health Management Strategies	Pooled Total Spending Effect Estimate (PBPY)	Pooled Percent Impact on Total Spending
1	Physician practice	24,968 (12,450-26,300)	Embed care managers in inpatient settings	-\$792.4**	-5.5%**
2	IDS or hospital system	26,038 (15,294-83,895)	Identify gaps in care and foster shared decision-making	-\$551.9**	-4.2%*
3	Multiple	13,979 (11,414-16,468)	Track beneficiaries at risk for hospitalization and identify gaps in care	-\$730.9***	-5.2%***
4	IDS or hospital system	68,534 (53,254, 83,814)	Less likely to prioritize strategies that provide primary care teams with real-time data on hospitalizations	-\$504.9	-3.9%

NOTES: Estimated impact significant at *p<0.1, **p<0.05 and ***p<0.01. Pooled effect estimate and impact estimate for each pathway estimated using ACO-level meta-analysis with the Hartung-Knapp adjustment for a random effects model. Pooled estimates include PYs in which ACOs failed the parallel trends test.

In the sections that follow, we characterize each pathway, describing characteristics related to their markets, providers, and beneficiaries that distinguish the pathway from other NGACOs not in the pathway. We summarize each pathway’s impact on Medicare spending reductions,^x with each description including an illustrative case study. Finally, we present plots of descriptive characteristics highlighting NGACOs in the four pathways, compared with NGACOs not in the pathways (**Exhibit 7.6**).

Pathway 1: Physician Practice NGACOs That Embed Care Managers in Inpatient Hospital Settings

There were four physician practice NGACOs in this pathway, with each NGACO reporting embedding care managers in inpatient hospital settings. On average, the NGACOs had 25,000 aligned beneficiaries residing in urban and suburban areas. Their hospital markets tended to be competitive to moderately concentrated. Structurally, their provider networks ranged in size from 390 to 1,350, with a mix of employed and contracted providers.

NGACOs in the pathway expanded and developed inpatient care management in the high-volume hospitals serving many of their aligned beneficiaries. The physician practice NGACOs focused on knowing when their aligned beneficiaries were hospitalized and on effectively managing them post-

^x Impact for each pathway estimated using ACO-level meta-analysis with the Hartung-Knapp adjustment for a random effects model. Pooled effect estimate includes ACOs that failed the parallel trends test. For additional information on the meta-analysis, see **Appendix I**.

discharge. They coordinated inpatient and post-discharge care by integrating admission, discharge, and transfer (ADT) feeds into their EHRs and once a hospitalized beneficiary was identified, a care manager or navigator connected with the patient in the hospital.

For NGACOs in this pathway, a random effects meta-analysis (**Appendix I, Exhibit I.8**) estimated the pooled effect on total spending as a decline of 5.5% (\$792.4 PBPY, $p < 0.05$). They reduced cumulative spending and utilization in inpatient settings (admissions and ACSC hospitalizations) and SNFs, as well as on home health (**Exhibit 7.6**), compared with NGACOs that were not in the pathway.

Case Study: Large Internal Medicine Group Leveraged Hospitalists and Nurse Care Navigators for Hospitalized Beneficiaries

At the outset of the model, the medical group's physicians worked in a three-county area in three hospitals and health systems used by most of their aligned beneficiaries. The medical group owned a hospitalist company that managed most beneficiaries in these high-volume hospitals. The NGACO used nurse care navigators to conduct inpatient care management. Navigators went to the beneficiaries' bedsides, introduced themselves, and worked directly with the hospitalist team. They managed care during the hospitalization and facilitated a warm handoff to primary care physicians for follow-up care. They used the three-day SNF rule waiver and facilitated the transition from the hospital to a SNF or home health, connecting beneficiaries to preferred vendors and then back to their primary care providers. Midway through the model, the NGACO expanded its inpatient care management operations as hospitalist contracts extended to other hospitals used by aligned beneficiaries. By the end of the model, the NGACO reported that it employed 40 nurse case managers, a significant change from the "minimal" care management program it had when it entered the model.



Pathway 2: Hospital-Affiliated NGACOs That Identify Gaps in Care and Foster Shared Decision-Making

This pathway included three IDS/hospital NGACOs. The NGACOs reported identifying gaps in care and educating beneficiaries and their caregivers to make informed, shared decisions. The aligned beneficiary populations ranged from smaller (~15,000) to larger (~84,000). Structurally, these NGACOs had relatively large provider networks (between 850 and 5,000 Participant and Preferred Providers) and employed at least half of their primary care clinicians. NGACOs in the pathway also had high rates of specialists per 1,000 beneficiaries, compared with other NGACOs (31% vs. 17%).

NGACOs in the pathway reported having care managers engage in regular direct outreach to beneficiaries. For example, one NGACO relied on the health system's clinical quality committee to provide annual guidance on recommended preventive services. The information was used to promote health literacy and to educate beneficiaries about their health status, encouraging them to access their online medical record. The NGACO also incorporated Choosing Wisely®—the campaign to promote conversations between clinicians and beneficiaries to help beneficiaries choose evidence-based care—into their programs so that providers and beneficiaries could discuss how to avoid unnecessary

services. Another NGACO conducted risk assessment during hospitalization, used to produce long-term care plans for high-risk beneficiaries and interventions to reduce readmissions.

For NGACOs in this pathway, a random effects meta-analysis (**Appendix I, Exhibit I.8**) estimated the pooled effect on total spending as a decline of 4.2% (\$551.9 PBPY, $p < 0.10$). The NGACOs had somewhat greater reductions in Part B professional costs (**Exhibit 7.6**), compared with NGACOs that were not in the pathway.

Case Study: Joint Venture Between an IDS and an Independent Practice Association Identified High-Risk Beneficiaries and Connected Them to Community Resources

An NGACO owned the participating community hospitals and employed many of its Participant Providers, while many others were independent. As a result of the model, the NGACO made significant investments in its population health infrastructure and data analytics and restructuring efforts to increase organizational efficiencies. The NGACO used both technology (patient registries, predictive modeling tools, risk scoring, online platforms) and health coaches to identify high-risk beneficiaries, engage beneficiaries, conduct longitudinal care planning, improve access to services, and integrate community resources to meet patient needs. The NGACO created a Board of Managers that included a consumer advocate representing Medicare beneficiaries and established a Clinical Integration Committee to support and sponsor community health education activities.



Pathway 3: Smaller NGACOs That Track Beneficiaries at Risk for Readmission and Identify Gaps in Care

This pathway included five NGACOs with smaller beneficiary populations (~11,000 to 16,000) in urban and suburban areas. They reported tracking aligned beneficiaries at risk for readmission to the hospital and identifying gaps in beneficiary care. Structurally, their provider networks tended to be small (between 490 and 690 Participant and Preferred Providers) with a mix of employed and contracted providers.

NGACOs in the pathway described close working relationships with hospitalists, discharge planners and physicians that enabled them to effectively manage hospitalized beneficiaries with a focus on preventing readmission. Other strategies included proactively reaching out to members who had exhibited risk factors, such as 3 or more ED visits within 12 months or who had received care outside of the NGACO network. Risk stratification of their populations enabled the NGACOs to identify and engage with high-risk beneficiaries, identify gaps in care, and increase their focus on preventive care. At the end of the model, one NGACO in this pathway addressed these gaps by establishing a care-at-home program that was delivered by community health workers who coordinated with the member's primary care clinician.

For cases in this pathway, a random effects meta-analysis (**Appendix I, Exhibit I.8**) estimated the pooled effect on total spending as a decline of 5.2% (\$730.9 PBPY, $p < 0.01$). The NGACOs in this pathway also saw a significant decrease in ACSC hospitalizations per beneficiary across the performance period, estimated as a pooled percentage impact of 3.7% ($p < 0.05$). In addition, there were

significant reductions in outpatient costs, imaging, and ED visits, compared with NGACO cases not in the pathway (**Exhibit 7.5**).

Case Study: Physician Practice NGACO Works Closely with Hospital Staff on Transitions of Care Following Hospitalization

One physician practice NGACO had care managers in the hospital who were “well-networked into the existing infrastructure.” The care managers worked closely with a team of social workers and hospitalists to develop discharge plans; in addition, they collaborated with hospital care managers to manage discharges for NGACO beneficiaries and to facilitate warm handoffs between discharge teams and their PCP/specialist. To support individuals at high risk for readmission, the NGACO offered a post-discharge clinic that included a physician, a nurse practitioner, a social worker, a pharmacist, and a dietician. Care managers then followed beneficiaries for approximately 30 days post-discharge, as needed, with home visits by a team comprising nurses and social workers.



Pathway 4: Larger NGACOs Less Likely to Prioritize Strategies that Provide Primary Care Teams with Real-Time Data on Hospitalizations

This pathway included two IDS/hospital NGACOs with larger beneficiary populations (53,000 to 84,000). The beneficiaries tended to be non-Hispanic White (90% and 94%) and a significant number lived in rural areas (23% and 38%). The NGACOs in the pathway operated in highly concentrated hospital markets. Structurally, the NGACOs had large provider networks (between 3,190 and 4,050 Participant and Preferred Providers) and employed at least half of their primary care clinicians.

Across model implementation, many NGACOs prioritized strategies that involved providing primary care teams with real-time data (for example, ADTs) on beneficiary hospitalizations. In contrast, for the two NGACOs in this pathway, leaders explained that providers had access to EHR data and other IT tools that facilitated transfer of patient clinical data and care plans between providers to coordinate and manage care (interview data). One NGACO interview respondent emphasized the important function of EHRs in coordinating care and NGACOs' role in facilitating notifications by commenting, “As an ACO, we do not inform a beneficiary's PCP team about a hospitalization in real time. We (ACO, hospital, and clinic) share an EMR and notification is via the EMR system.”

For the two NGACOs, a random effects meta-analysis (**Appendix I, Exhibit I.8**) estimated the pooled effect on total spending as a nonsignificant decline of 3.9% (\$504.9 PBPY). The NGACOs also saw a significant increase in 30-day unplanned hospital readmissions per beneficiary across the Model performance period, estimated as a pooled percentage impact of 1.8% ($p < 0.05$). In addition, there were larger reductions in ED and home health visits, compared with NGACOs not in the pathway (**Exhibit 7.6**).

Case Study: Regional IDS Serving Rural Communities Uses EHRs and Cross-EHR Communication to Coordinate Care

This rural NGACO operated in nine regions spanning three states. While the NGACO reported that 30-50% of the beneficiaries in its market used the IDS, its aligned beneficiaries also received care at nearby community or critical access hospitals. The NGACO used its EHR system (Epic) to communicate with its primary care providers, 75% of whom were employed by the IDS. Automatic alerts were embedded within Epic and provided a way for primary care teams to be notified in near real-time about patient admissions and discharges, allowing follow up. Certain NGACO features reinforced information-sharing across health care settings and collaborative care planning. These included Epic Care Link, which allowed record-viewing across Epic systems, and the Common Care Plan, which beneficiaries used with their care teams. In addition, the NGACO used tools such as Health Maintenance alerts and Care Gap reports to foster touchpoints with beneficiaries with high needs or gaps in preventive care.

NGACOs in Pathways Shared Some Characteristics and Outcomes When Compared to Other NGACOs

Our findings about four pathways to reduced Medicare spending with reducing quality emphasized the contextual and population health management strategies that distinguished groups of NGACOs. In addition to differences across NGACOs, there are meaningful commonalities. We examined trends in cumulative spending and utilization by service area, quality of care, market context, provider network, and beneficiary characteristics for all NGACOs populating the four pathways (referred to as “pathway NGACOs”) compared with all other NGACOs participating in PY 6 (“other NGACOs”) (**Exhibit 7.6 and Appendix I, Exhibits I.1-I.4**).

 **Pathway NGACOs had larger reductions in inpatient spending and admissions, including ACSC hospitalizations and unplanned 30-day readmissions.** The reductions were particularly large for the physician practice NGACOs with embedded inpatient care managers.

 **Pathway NGACOs tended to reduce outpatient spending and ED visits.** Outpatient reductions were larger for the smaller NGACOs that tracked beneficiaries at risk for readmissions or gaps in care. Larger NGACOs that used EHRs and other IT infrastructure to facilitate information-sharing across their providers had large reductions in ED visits and observation stays. Pathway NGACOs had significantly larger reductions in procedures and imaging than did other NGACOs; reductions tended to be larger among physician practice NGACOs with embedded inpatient care managers, as well as among smaller NGACOs that tracked beneficiaries at risk for readmissions or gaps in care.

 **Pathway NGACOs tended to reduce SNF spending and utilization.** Overall, the differences were not significant but did highlight the different areas of focus within specific pathways. Physician practice NGACOs with embedded inpatient care managers achieved larger reductions in SNF stays. Smaller NGACOs that tracked beneficiaries at risk for readmissions or gaps in care had mixed results, but two saw large reductions in SNF utilization.



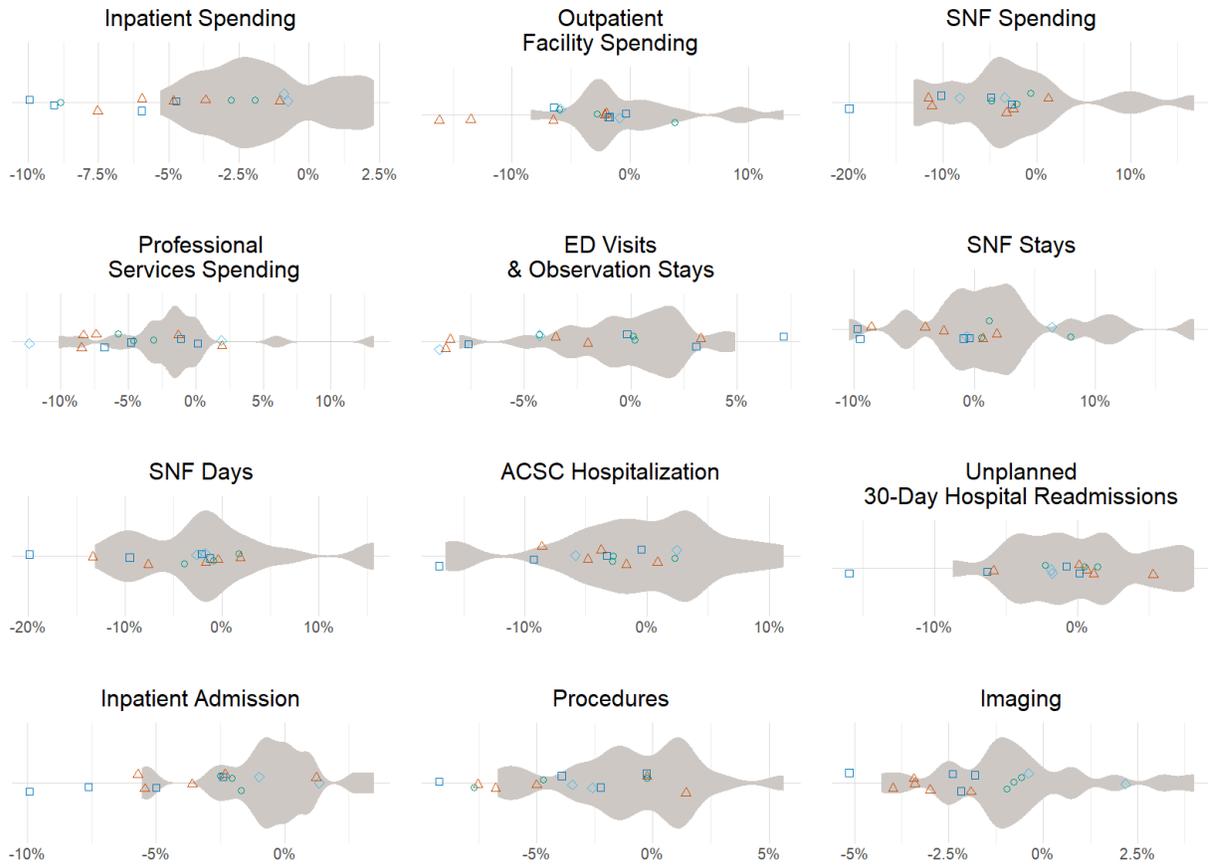
Pathway NGACOs tended to operate in moderately concentrated hospital markets, while other NGACOs' markets tended to have more dominant hospital players. Physician practice NGACOs with embedded inpatient care managers tended to operate in competitive hospital markets, suggesting a favorable environment for physician practices to forge relationships with hospital partners.



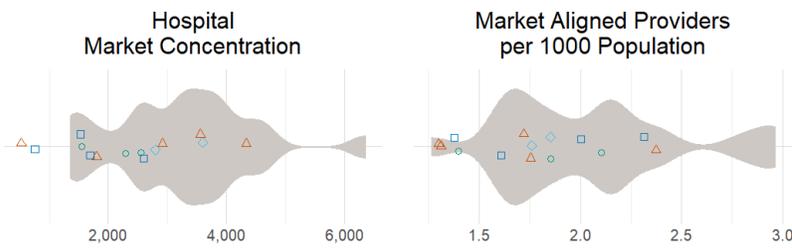
Few differences existed between pathway NGACOs and other NGACOs with respect to the levels of risk they selected or their provider and beneficiary characteristics. Some pathway NGACOs exhibited notably lower rates of spending or utilization for certain measures; however, the levels of risk selected and characteristics of their provider networks and beneficiary populations were similar to those of NGACOs not in a pathway. Pathway NGACOs were no more likely to select the highest level of risk (100%) or highest financial risk exposure (risk level of 100% and risk cap of >5%) for 75% or more of their years in the model than were other NGACOs. Provider network characteristics—specifically, the number of specialists relative to primary care providers and the proportion of care provided by NGACO providers—were similar for pathway and other NGACOs. Beneficiaries aligned to pathway NGACOs were not statistically different from beneficiaries served by other NGACOs in terms of rurality, dual eligibility, race and ethnicity, and average number of chronic conditions.

Exhibit 7.6. Pathway NGACOs Shared Some Characteristics and Outcomes Compared with all Other NGACOs

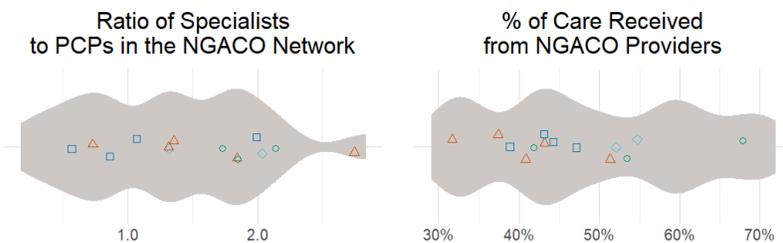
Impact on Spending, Utilization, and Quality



Market Characteristics



Provider Network Characteristics



- Physician Practice NGACOs that Embed Care Managers in Inpatient Hospital Settings
- Hospital-Affiliated NGACOs that Identify Gaps in Care and Foster Shared Decision-Making
- △ Smaller NGACOs that Track Beneficiaries at Risk for Readmission and Identify Gaps in Care
- ◇ Larger NGACOs Less Likely to Prioritize Strategies that Provide Primary Care Teams with Real-Time Data on Hospitalizations
- NGACOs not in a Pathway

NOTES: Dots represent distinct pathway NGACOs. Gray areas represent the distribution of other NGACOs. For ease of interpretation, the gray distributions are mirrored on both sides of the x-axis, and the dots are jittered over the y-axis; the y-axis has no interpretive meaning.

SOURCE: NORC analysis of claims data.

Conclusion

Over the course of the model, NGACOs invested in initiatives to better manage their patient populations, toward the goals of reduced spending and improved quality. They leveraged health IT and data analytics to use prospective alignment data, engaged beneficiaries through care management and AWWs, and built relationships with SNFs. The NGACOs expanded their organizations' capacity to use data to understand their patient populations, to coordinate care across the continuum, and to identify and close gaps in care. In addition, NGACOs expanded their prior care coordination and management efforts and built new programs through investments in areas where they identified specific needs. In turn, NGACOs reduced spending for beneficiaries with chronic conditions. Efforts to increase AWWs saw increases in AWW utilization, and NGACOs' prioritization of PAC spending and quality was associated with reductions in SNF days.

We used comparative case analyses to better understand how combinations of NGACO activities were associated with outcomes. Through this approach, we identified four pathways to reducing total spending while maintaining or improving quality. The pathways accounted for more than half of the NGACOs that succeeded in these outcomes. Varied organizational types and sizes, as well as population health management strategies, characterized the pathways:

- Pathway 1: Physician practice NGACOs that embedded care managers in inpatient settings
- Pathway 2: Hospital-affiliated NGACOs that identified gaps in care and fostered shared decision-making
- Pathway 3: Smaller NGACOs that tracked beneficiaries at risk for readmission and gaps in care
- Pathway 4: Larger NGACOs that were less likely to prioritize strategies that provide primary care team with real-time data on hospitalizations

The pathways illustrate the multiple combinations of factors that can influence ACO performance. Nevertheless, no single factor is sufficient or necessary to achieve spending reductions.

Just as it is important to understand pathways associated with spending reductions, it is also important to understand pathways associated with lack of spending reductions, which we explore in the next chapter.

Chapter 8: Contextual and Structural Factors Associated with No Spending Reductions for NGACOs

Key Findings

Factors Associated with NGACOs' Failure to Realize Reduced Parts A & B Spending



- Market spending and hospital concentration, market-level MA penetration, organization type, the size of NGACOs' beneficiary populations, the size and relationship of NGACOs' provider networks, and the ratio of specialists to PCPs in network were all related to failures to reduce spending.
- Six combinations of these conditions explained almost half (47%) of 126 cases (NGACO-PYs) failing to reduce spending across model years.

Pathways Were Heterogeneous, but NGACOs That Failed to Reduce Spending Tended To:



- Operate in markets with higher hospital concentration
- Operate in markets with lower baseline Medicare spending and higher MA penetration
- Be hospital-affiliated, although one pathway featured physician practice NGACOs and two pathways comprised a mix of organization types
- Have larger provider networks or beneficiary populations
- Show improvements in unplanned 30-day readmissions

In this chapter, we continue to explore pathways to outcomes in the NGACO Model, shifting focus from Medicare spending reductions to the failure to achieve total spending reductions. We present results from analyses investigating the relationship between the context and structure in which NGACOs operate and the failure to reduce Medicare spending in a given performance year. The analysis complements work in our [Fourth Evaluation Report](#) that examined pathways leading to Medicare spending reductions, considering the relative efficiency of Medicare spending in an NGACO's market; NGACO organization type, experience, and size; and the complexity of an NGACO's aligned beneficiary population.³⁰

As in Chapter 7, we conducted comparative case analysis using CCM to systematically create groups of cases that produce an outcome of interest and share a distinct combination of factors or conditions. **Appendix B** presents an overview of CCM and our analytic approach. We identified unique pathways—or different combinations of conditions—that represent groups of NGACOs with shared inputs (for example, contextual, structural, or provider characteristics) that occur with a given outcome (in this case, failure to reduce spending).

Methodological Considerations. As described in Chapter 7, the CCM approach is useful when an outcome is observed under multiple, varying conditions, and when there is an asymmetric association between conditions and a given outcome. The approach applies set theory and Boolean logic to systematically group cases with shared conditions and outcomes, unlike traditional statistical analyses that typically focus on the impact of one variable at a time and that have specific model parameterization requirements. It is important to note that CCM may not identify all potential pathways associated with the outcome.^y

In the sections that follow, we summarize the cases, conditions, and outcomes considered for the CCM analysis; the pathways we identified; and our interpretation of the results. To provide additional context for the mechanisms likely at work in each pathway, our results include descriptive analyses of the cases within and outside of each pathway and comparisons of the pathways with respect to factors such as Medicare spending and utilization by service area, beneficiary characteristics, and provider network composition.

Components of the Analysis. We identified a set of explanatory conditions for this analysis based on the evaluation’s theory of change (**Exhibit 1.5**), a review of the peer-reviewed literature, case-level insights, data availability, and priorities identified by the CMS Innovation Center. We selected factors related to context and structure as indicators of an NGACO’s internal resources, capacity, and opportunities for cost savings (**Exhibit 8.1**). We conducted sensitivity testing to confirm that the findings were robust to the choice of thresholds for each factor and the outcome; for more information on calibration and sensitivity tests, see **Appendix B, Exhibits B.12 and B.18**.

Exhibit 8.1. CCM Examined Contextual, Structural, and Provider Conditions Associated with Lack of Spending Reductions in a Given PY

Component	Description
Cases	NGACOs participating in a PY (PY 1-6) (n=225 NGACO-PYs)
Outcome	Increased or no change in gross Medicare spending (Parts A and B) for the PY ^z

^y The conditions included in this analysis are factors that we hypothesized to have the greatest impact on Medicare spending and for which data were available. Given the complexity of the NGACO Model and the many factors that might contribute to spending reductions, these findings cannot represent all combinations of conditions that may be sufficient to produce a given outcome, nor are they generalizable beyond the cases included in this analysis.

^z The outcome used NGACOs’ percentage impact estimates for gross Medicare Parts A and B spending in each PY. The outcome was calibrated on a continuum, with cases with larger percentage impact estimates considered to be more likely to have failed to reduce spending in that year.

Component	Description
Conditions	<ul style="list-style-type: none"> ■ Market-level per capita Medicare spending prior to start of model ■ Hospital market concentration (Herfindahl-Hirschman Index) ■ MA penetration in NGACO market in year prior to the PY ■ NGACO organization type (physician practice or hospital-affiliated*) ■ NGACO size (defined as the larger of the aligned beneficiary population size or the provider network size) ■ Percent of primary care providers in NGACO network who are employed ■ Ratio of specialists to primary care providers in the provider network

NOTES: Appendix B provides technical details about the specification and calibration of each component of the analysis.

*Hospital-affiliated NGACOs include both IDS/hospital NGACOs and physician-hospital partnership NGACOs.

As in the CCM approach presented in our [Fourth Evaluation Report](#), the NGACO-PY is the unit of analysis; each year of participation in the model offers NGACOs an opportunity to select model features and to implement strategies that may reduce Medicare spending. Considering each NGACO-PY as a distinct case allowed us to account for the dynamic nature of participation in the model and systematically assess how NGACO outcomes changed over time.^{aa} Our CCM analysis identified six pathways associated with lack of spending reductions, described in the following section.

Once pathways were identified, we conducted a descriptive analysis of survey, qualitative, and quantitative data for NGACO-PYs characterized as being in a pathway and compared results to NGACO-PYs that were not in any pathway. We gathered and assessed in-pathway and not-in-pathway NGACO data related to spending and utilization by service setting (for example, SNF, outpatient, ED), ACSC hospitalizations, unplanned 30-day readmissions, and market factors (for example, hospital market concentration), beneficiary characteristics, risk selection, and provider network characteristics (for example, ratio of specialists to PCPs, percentage of care received from NGACO providers).

NGACO Characteristics: Six Pathways Associated with Lack of Spending Reductions

Of the 225 NGACO-PYs (NGACO-PYs) in the model, 126 NGACO-PYs (representing 55 NGACOs) failed to reduce Medicare spending.^{bb} We identified six pathways with different combinations of contextual, structural, provider, and beneficiary characteristics that accounted for 59 (47%) of these 126 NGACO-PYs. Twenty-seven NGACOs were accounted for in the six pathways, with the pathways characterized as follows:

^{aa} This approach contrasts with the comparative case analyses in Chapter 7 in which the NGACO is the unit of analysis. For that analysis, we focused specifically on cumulative outcomes for NGACOs participating in the final year of the model, in consideration of the fact that most population health management approaches would have been fully implemented and operational by the end of the model.

^{bb} We set the threshold for failing to reduce spending at impact estimates of greater than 2.89% during the PY, the largest significantly negative impact estimate. For more details on how we calibrated the outcome, see **Appendix B**.

1. Larger hospital-affiliated NGACOs in more concentrated hospital markets with higher baseline Medicare spending.
2. Larger hospital-affiliated NGACOs in markets with higher MA penetration and lower baseline Medicare spending. Their provider networks comprised mostly employed PCPs and few specialists.
3. Smaller hospital-affiliated NGACOs in more concentrated hospital markets with lower baseline Medicare market spending and lower MA penetration. Their provider networks comprised mostly employed PCPs and few specialists.
4. Larger physician practice NGACOs in more concentrated hospital markets. Their provider networks comprised mostly contracted PCPs and more specialists.
5. NGACOs (multiple types and sizes) in more concentrated hospital markets with higher MA penetration and lower baseline Medicare spending. Their provider networks comprised mostly contracted PCPs and more specialists.
6. NGACOs (multiple types and sizes) in more concentrated hospital markets with lower MA penetration. Their provider networks comprised mostly contracted PCPs and few specialists.

As with spending reductions, failure to reduce Medicare spending can occur under different settings and structures. While some characteristics appear in more than one pathway, each pathway comprises a different combination of structural, contextual, and provider characteristics. **Exhibit 8.2** displays these pathways, using a single color to group pathways for the same organization type and size. The solid and dotted lines distinguish distinct combinations of market and provider characteristics.

Exhibit 8.2. Six Pathways Explain Lack of Spending Reductions in a Given PY

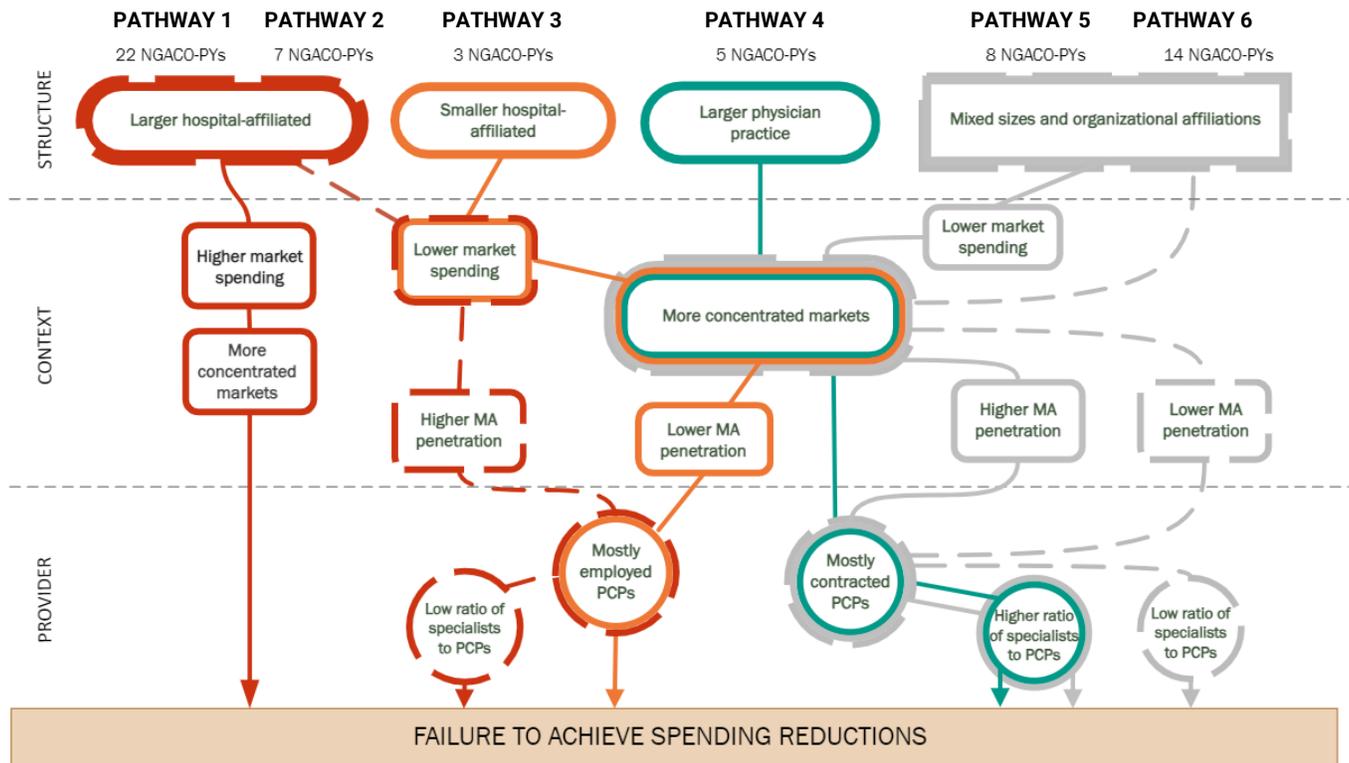


Exhibit 8.3 summarizes the explanatory conditions in each pathway, as well as the average PBPY spending for cases in the pathway.^{cc} Light gray shading indicates the presence of a condition in the given pathway (cells without shading did not appear in a pathway).

^{cc} We estimated the average PBPY using meta-analysis of NGACO-PY difference-in-differences (DID) estimates with the Hartung-Knapp adjustment for a random effects model. For additional information on the meta-analysis, see Appendix J, Exhibit J.32.

Exhibit 8.3. Different Market and Provider Characteristics and PBPY Spending Estimates Characterize Each Pathway for NGACOs That Did Not Achieve Gross Spending Reductions

Pathway #	Median Cumulative Value for ACOs in Pathway							Pooled Total Spending Effect Estimate (PBPY) (p-value)	Pooled percent impact on total spending (p-value)	Number of NGACO-PYs in pathway
	Baseline Medicare market spending (\$ per capita)	Hospital market concentration (HHI)	MA penetration (%)	Aligned beneficiaries (n)	Number of providers in network (n)	% PCPs employed	Ratio of specialists to PCPs			
1	11,215* (10,674-11,548)	3,309* (1,510-3,860)	42.1 (20.2-55.9)	28,259* (11,751-103,918)	2,420* (68 – 3768)	<50%	1.9 (0.01 – 2.6)	-22.63	-0.3%	22
2	9,923* (9,922 – 9,924)	1,507 (1,448-1,535)	58.2* (51.1-62.1)	14,427* (12,879-32,101)	2,263* (1,006 – 2,732)	>50%*	0.9* (0.5 – 1.0)	161.14	1.3%	7
3	10,520* (10,398-10,596)	2,849* (1,576-3,115)	34.3* (29.6-41.0)	14,819* (12,449-21,822)	568* (534-839)	>50%*	1.4 (1.0-1.4)	109.45	0.8%	3
4	11,444 (8,885-12,694)	2,678* (1,539-4,414)	42.2 (38.5-54.1)	28,121* (25,393-34,422)	995* (572-2,486)	<50%*	2.3* (1.7-4.1)	-8.98	0.02%	5
5	10,302* (8,912 – 10,398)	2,535* (2,160 – 3,306)	47.9* (43.1 – 54.6)	13,102 (8,286 – 22,165)	918 (478 – 1,706)	<50%*	2.1* (1.6 – 3.4)	205.16	1.7%	8
6	10,329 (9,843-12,215)	3,772* (1,525-6,040)	36.7* (14.2-51.3)	27,063 (9,500-42,680)	1,008 (190-2,148)	<50%*	1.3 * (0.2-1.5)	-27.07	-0.4%	14

NOTES: Darker gray shading with an * indicates condition is present on pathway. The pathway characteristic of larger NGACO size refers to NGACOs with *either* larger beneficiary populations or larger provider networks. All values are medians, with ranges in parentheses (low – high), except for the categorical variable % PCPs. No estimated impact or spending PBPY was significant at levels less than p=0.15.

Pooled effect estimate and impact estimate for each pathway were estimated using ACO-level meta-analysis with the Hartung-Knapp adjustment for a random effects model. Pooled estimates included PYs in which ACOs failed the parallel trends test. Market spending, number of aligned beneficiaries, ACO relationship with providers, and the ratio of specialists to primary care providers (PCPs) reflected the baseline year of a given NGACO. Hospital HHI, Medicare Advantage (MA) penetration rate, and provider network size were based on the PY indicated by each NGACO-PY.

Descriptions of each pathway allow us to understand how NGACO implementation contributed to spending outcomes.



Pathways 1 and 2: Larger Hospital-Affiliated NGACOs

We identified two pathways for NGACOs affiliated with hospitals and larger by virtue of their aligned beneficiary and/or provider populations. Each pathway reflected starkly different market environments:

- Pathway 1: More concentrated hospital markets with higher baseline Medicare spending.
- Pathway 2: Markets with higher MA penetration and lower baseline Medicare spending. The NGACOs' primary care providers were mostly employed, with primary care-focused networks (i.e., with a lower ratio of specialists to primary care providers).

Despite their differences, cases in both pathways failed to reduce inpatient facility spending; see **Appendix J** for detailed comparisons of the pathways with respect to spending, utilization, and market, provider, and beneficiary characteristics). Recent research suggests many advantages of including a hospital in an ACO (for example, start-up capital, advanced data sharing capabilities, larger provider networks); however, other qualitative research indicates that it might not be in hospitals' best interest to reduce inpatient spending, as such revenue might not be offset by shared savings and/or population-based or capitated payments.^{31,32,33}



Pathway 1: Larger hospital-affiliated NGACOs in more concentrated hospital markets with higher baseline Medicare spending

There are 22 cases in this pathway, reflecting 9 unique NGACOs. In a random effects meta-analysis, the pooled effect on total spending of cases in this pathway was a nonsignificant decline of 0.3% (\$22.6 PBPY).^{dd} While high baseline spending may present opportunities to reduce costs, high market concentration may dampen the motivation to do so. Six of the NGACOs in this pathway were IDS/hospital systems, and the remaining three were physician-hospital partnerships. Most NGACOs in this pathway failed to reduce spending during some of the years they were in the model and did reduce spending during other model years. However, there was no clear pattern regarding years associated with reduced spending or lack of improvement—some NGACOs failed to reduce spending early on and then improved, while others reduced spending early, then increased spending in later years. Two NGACOs failed to reduce spending during each year they were in the model. Finally, four NGACOs withdrew from the model early, two after only one year.

Cases in this pathway were associated with increased outpatient and DME spending, as well as with increased inpatient spending. Shared patterns of utilization included increases in inpatient admissions, imaging services, ED visits, and ACSC hospitalizations, compared with cases outside the pathway. Beneficiaries aligned with cases in this pathway were less likely to be dually eligible for Medicare and

^{dd} Effect estimated using meta-analysis of NGACO-PY DID average spending PBPY estimates with the Hartung-Knapp adjustment for a random effects model. For more information on the meta-analysis, see Appendix J, Exhibit J.31.

Medicaid, with no other differences in beneficiary characteristics between cases in and out of this pathway.



Pathway 2: Larger hospital-affiliated NGACOs in markets with higher MA penetration and lower baseline Medicare spending; their provider networks comprised mostly employed PCPs and few specialists

This pathway comprises seven NGACO-PYs but only two individual NGACOs. One NGACO was an IDS/hospital system that failed to reduce spending during every year of participation in the model. The other was a physician-hospital partnership that dropped out of the model after only one year. The pooled effect on total spending of cases in this pathway was 1.3% (\$161.1 PBPY). In addition to increases in inpatient spending, cases also increased spending on professional services, SNF, and home health, although there was an average, large *decrease* in outpatient costs.

The market environment for cases in this pathway—a large managed care presence and already low baseline spending—may have limited opportunities for NGACOs with mostly employed, primary care-focused networks to reduce spending. Interviews with one NGACO in this pathway revealed the ongoing challenge of significant numbers of aligned beneficiaries “churning” into nearby MA plans. Such churn limited NGACO population care management and accurate forecasting of medical expenses: Leadership reported that throughout the year, they lost members to MA.

Compared with cases outside the pathway, pathway cases showed increases in inpatient admissions, ACSC hospitalizations, SNF days, and SNF stays. However, along with higher SNF utilization, NGACO cases also showed decreases in 30-day SNF readmissions compared with cases not in the pathway. Pathway cases also showed relative reductions in procedures and a very high AWW rate. Consistent with their larger provider networks, the cases had a larger number of PCPs and specialists per 1,000 beneficiaries and provided a larger share of care in network. Their beneficiary populations were less likely to live in rural areas and had fewer chronic conditions compared to beneficiaries aligned with NGACO cases outside the pathway.



Pathway 3: Smaller hospital-affiliated NGACOs in more concentrated hospital markets with lower baseline Medicare market spending and lower MA penetration; their provider networks comprised mostly employed PCPs and few specialists

Unlike NGACOs in pathways 1 and 2, NGACOs in this pathway had smaller provider networks serving relatively smaller beneficiary populations. They operated in more concentrated markets with lower baseline Medicare market spending and lower MA penetration. Most of their PCPs were employed, rather than contracted.

There are three NGACO-PYs in this pathway, representing three NGACOs. Two were IDS/hospital systems. One failed to reduce spending during only its first year in the model, then successfully

reduced spending over the next four years in the model.^{ee} The other IDS/hospital in the pathway failed to reduce spending during all three years in the model, after which it withdrew. The third NGACO in this pathway was a physician-hospital partnership that withdrew from the model after only one year of participation.

For NGACO cases in the pathway, the pooled effect on total spending was 0.8% (\$109.4 PBPY). The small number of cases makes general conclusions difficult to draw; however, cases tended to increase inpatient, home health, hospice, and other PAC spending. In addition, there was increased utilization in imaging services, more home health visits and episodes, and fewer AWWs. Collectively the three NGACOs in this pathway had few prior years of ACO experience compared with those not in the pathway. Cases in this pathway also tended to have beneficiary populations that were less racially and ethnically diverse, compared with cases outside the pathway.



Pathway 4: Larger physician practice NGACOs in more concentrated hospital markets; their provider networks comprised mostly contracted PCPs and more specialists

This pathway is the only one focused on physician practice NGACOs. The physician-led cases served relatively large beneficiary populations and provider networks. Cases in this pathway operated in concentrated hospital markets, were less primary care-focused with 2 to 4 specialist physicians for every PCP and contracted with, rather than employed, most of the PCPs in their networks. Higher ratios of specialists to PCPs could indicate that NGACOs in the pathway prioritized having a greater number of expensive specialists rather than primary and preventive care for their beneficiary populations.

There were five cases in this pathway, reflecting four individual NGACOs, all of which withdrew before the model's end. Three NGACOs participated for only two years, failing to reduce spending both years. One NGACO participated in the model for three years, failing to reduce spending in two of the years.

For the pathway cases, the pooled effect on total spending was a nonsignificant decline of 0.02% (\$9 PBPY). Cases tended to increase spending in home health, hospice, professional services, and other PAC. Interviews with the NGACOs in this pathway corroborated the frustration that many independent practice association NGACOs expressed about their limited ability to control several aspects of patient care, for example in the ED or inpatient setting. Given the contractual relationships with many of their PCPs, the physician-led NGACOs may have had less leverage to manage their provider networks and provide comprehensive patient care coordination that would yield cost savings.

Cases in this pathway saw increased utilization, in the number of home health episodes and home health visits (consistent with increases in home health spending) but reduced 30-day SNF readmissions, compared with non-pathway cases. In addition, cases had relatively fewer years of prior

^{ee} The discussion notes the overall experience of the NGACOs included in a given pathway during their entire tenure in the model. However, the pathway does not necessarily capture all years of a given NGACO's experience in the model.

ACO experience and provided a relatively lower percentage of care in network. NGACO cases in this pathway served aligned beneficiaries with slightly higher average numbers of chronic conditions but did not differ from non-pathway cases regarding beneficiaries' geographic residence, dual eligibility, or racial/ethnic composition.

Pathways 5 and 6: Various NGACO Types and Sizes

NGACOs in pathways 5 and 6 represented varied organization types and sizes. Both pathways were characterized by NGACOs operating in markets with higher hospital market concentration and by contracting most of their PCPs. However, NGACO cases differed in other market characteristics and in the ratio of specialists to PCPs.

 *Pathway 5: NGACOs (multiple types and sizes) in more concentrated hospital markets with higher MA penetration and lower baseline Medicare spending; their provider networks comprised mostly contracted PCPs and more specialists*

Market characteristics for NGACO cases in this pathway included greater hospital concentration, higher MA penetration, and lower baseline Medicare market spending. The cases were less primary care-focused, with a higher ratio of specialists to PCPs. There were eight cases in this pathway, representing four individual NGACOs. One NGACO was an IDS/hospital system that failed to reduce spending all six years in the model. The remaining three NGACOs also failed to reduce spending during all years but withdrew before the model's end (two were physician-led and one was a physician-hospital partnership).

For the cases, the pooled effect on total spending was a nonsignificant decline of 0.4% (\$27.1 PBPY). Cases in this pathway failed to reduce spending in several areas: outpatient facilities, home health, and particularly in professional services and SNF spending. For the most part, cases in this pathway contracted with their PCPs, so they may have had less leverage over the decisions and care protocols made by their providers, resulting in increased professional services spending.

Cases in this pathway showed increased utilization on several measures, compared with cases outside this pathway: imaging services, procedures, tests, SNF days, SNF stays (consistent with higher SNF spending), and E&M visits. However, the cases also showed a large *decrease* in ACSC hospitalizations. In addition, the NGACO cases had relatively lower numbers of PCPs per 1,000 aligned beneficiaries paired with slightly higher numbers of specialists per 1,000 aligned beneficiaries. There were no clear patterns related to aligned beneficiary characteristics: some cases had low proportions of beneficiaries living in rural areas, while other cases had very high proportions of rural beneficiaries. Similarly, some cases had low proportions of beneficiaries from racial and ethnic minority groups, while others had higher proportions.



Pathway 6: NGACOs (multiple types and sizes) in more concentrated hospital markets with lower MA penetration; their provider networks comprised mostly contracted PCPs and few specialists

Cases in this pathway operated in highly concentrated hospital markets with lower MA penetration and were more primary care-focused, with a lower ratio of specialists to PCPs. There are 14 cases in this pathway, representing 8 individual NGACOs: Four NGACOs were physician-led, one was an IDS/hospital system, and three were physician-hospital partnerships. Two NGACOs in this pathway failed to reduce spending across their six years in the model; the others included a mix of failing to reduce spending across their model tenure and those that reduced spending in some years but not for others. Four NGACOs withdrew before the model's end.

For the NGACO cases in this pathway, the pooled effect on total spending was 1.7% (\$205.2 PBPY). Spending increased in the inpatient, outpatient, and professional services settings but only slightly compared with cases not in the pathway. The NGACOs had networks comprised mostly of contracted PCPs and were not constrained by operating in markets with high MA penetration and low baseline spending, either of which could have limited the extent of observed spending increases.

Cases in this pathway saw increased utilization for procedures and ED visits, compared with cases outside the pathway. However, there were improvements in all three quality measures, with a striking decrease in the rate of unplanned 30-day readmissions, compared with cases not in the pathway. Further, the NGACO cases also reduced rates of hospital readmissions from SNF and ACSC hospitalizations and had fewer specialists per 1,000 aligned beneficiaries. The NGACOs likely were more focused on primary care (with fewer specialists in their networks) and on preventing costly ED visits or inappropriate hospital admissions. The primary care focus may have meant that network PCPs were more open to novel care management and concerned with the entirety of a patient's care.

Cases in this pathway tended to have either relatively lower or relatively higher values of percent care provided in network. One group of cases had an average value of percent care provided in network around 30% and the other group an average value around 58%, in contrast with the average value of cases not in this pathway of 47%. Cases in this pathway had beneficiary populations with slightly higher proportions of dually eligible individuals but otherwise did not differ from cases not in this pathway on other beneficiary characteristics. Finally, NGACOs in this pathway were more likely to select the lower risk level (80%), compared with NGACO cases not in this pathway.

Pathways to Lack of Reduced Medicare Spending: Patterns Among NGACOs

There are several common characteristics and patterns across the six pathways associated with failure to reduce total spending. Our evaluation explored such characteristics and how certain conditions, either alone or in combination, may result in a failure to reduce spending. For the full comparison of characteristics between pathway and non-pathway NGACOs, see **Appendix J, Exhibits J.13-J.30**.

The six pathways encompass 27 NGACOs, some over multiple years and with different trajectories in the model. For example, more than half (n=15) withdrew before the end of the model and five left the model after one year's participation. Fewer than half (n=12) failed to reduce spending in each year of their participation in the model. One-quarter (n=7) had a mixed record, with some years where spending was not reduced and others that saw a spending reduction; one NGACO achieved success after an initial year without a spending reduction.



Operating in more concentrated hospital markets was a condition in all pathways leading to failure to reduce spending.

First, five of the six pathways included highly concentrated markets. Greater hospital concentration has long been associated with higher health care costs, particularly in the inpatient setting.³⁴ Greater concentration can also make it difficult for NGACOs to demonstrate their relative savings. Interviews with one NGACO in these pathways revealed that, even though it had relatively low spending, it did not “get credit” for reducing costs in its region since it covered most of its region, meaning that it was competing against itself.

Higher market concentration is a prominent factor but on its own is not sufficient to lead to failure to reduce spending. Instead, high market concentration appears in pathways in combination with other organizational and market characteristics. For example, two of the pathways include both higher market concentration and larger beneficiary populations or networks. Indeed, larger NGACOs face barriers to spending reductions in three individual pathways. This is an important addition to findings in our [Fourth Evaluation Report](#), which concluded that both larger physician-led and larger hospital-affiliated NGACOs were able to successfully reduce spending. Larger NGACOs operating in concentrated hospital markets may be constrained in their ability to achieve spending reductions, either because they are the dominant hospital in the market or because, as a physician practice NGACO, they may have little leverage over the main hospital players. When we examine percentage impact estimates, cases in the two pathways with large size and high market concentration show increases in inpatient, home health, and DME spending, compared with cases not in the two pathways.



Those NGACO cases in the six pathways did reduce unplanned 30-day readmissions, compared with cases not in the pathways (-1.8% versus 0.2%, respectively, p<0.05).

The three pathways showing the largest decreases in 30-day readmissions included a variety of structural, contextual, and provider characteristics, but all three contracted with most of their PCPs, and two of the three had a higher ratio of specialists to PCPs. A greater focus on more expensive specialty care can lead to cost increases; however, the availability of specialty care may enable greater access to specific interventions that prevent readmissions,³⁵ particularly for beneficiaries with chronic or severe conditions.



The mean impact estimate for total spending for all cases in these pathways was 0.59%, compared to a decrease of 3.09% for cases not in the pathways, with notable differences by service area. All three pathways for hospital-affiliated NGACOs indicated failures to reduce inpatient spending, which may suggest hospitals' reluctance to decrease inpatient revenue. All three pathways with mostly contracted PCPs showed increases in Part B professional costs. The two pathways operating in markets with lower baseline Medicare spending and higher MA penetration

showed increases in SNF and home health costs. As expected, cases that failed to reduce spending collectively also did not reduce utilization, compared with cases outside the six pathways.



Markets with lower baseline Medicare spending and higher MA penetration presented barriers to reduced spending.

Lower baseline spending may suggest both efficiency in the market and fewer opportunities to leverage care management and population health approaches to lower additional spending. Leaders at many NGACOs operating in markets with low baseline spending voiced concerns in surveys and interviews about sustainability in the model. For NGACOs that already operated efficiently with low PBPM costs, staff expressed concern that they were not rewarded for their efficiency; they were pessimistic about their success in the model, given the lack of opportunity to make their efficient operations even leaner. Furthermore, pathways with lower baseline spending also tended to have higher MA penetration. Providers in high MA penetration markets were more likely to have experience with care management and coordination and assumption of risk through capitated payments, so they may have been employing such approaches before joining the model. When NGACOs with prior experience operate in markets with low spending, there may be constraints on achieving further savings.



There were no differences in the percent of care provided by Participant versus Preferred Providers in NGACO cases that failed to reduce spending, compared with those that successfully reduced spending.

Cases in these pathways had a range of values for the percent of care provided in network, with no discernible patterns. NGACOs with low percentages of care provided in network may have struggled with care coordination; increased spending may have reflected less NGACO control over their beneficiaries' care. However, even for cases with high percentages of care provided in network and strategies for care coordination and population health, there was little incentive for any provider to take in less revenue without offsets such as shared savings or reductions in their own direct costs. Additional time may be needed to realize reduced total spending across providers.



Aligned beneficiaries shared similar characteristics across NGACO cases that failed to reduce spending and those NGACO cases that did reduce spending.

Interviews with the NGACOs, as well as other qualitative evidence, confirmed that different types of beneficiaries aligned with NGACOs encountered barriers to reducing spending for different reasons across NGACOs, with no clear patterns. For example, NGACOs operating in largely rural areas reported difficulty providing access to a full spectrum of health care services to all aligned beneficiaries and engaging beneficiaries for comprehensive care coordination and management. On the other hand, NGACOs in more urban areas may have faced other challenges, such as more beneficiaries seeking care outside the ACO or more beneficiaries with multiple chronic conditions.

Conclusion

Six pathways—comprising different combinations of contextual, structural, provider, and beneficiary characteristics—accounted for almost half of NGACO cases without spending reductions. Common

features in such pathways include operating in more concentrated hospital markets—where there may be less incentive to decrease hospital spending (the largest contributor to total spending)—and operating in less expensive markets, where market efficiency may mean fewer opportunities to leverage population health approaches. In particular, the combination of operating in less expensive markets and in markets with higher MA penetration presented barriers to reduced spending.

Alternatively, NGACO cases in the six pathways did show improvements in unplanned 30-day readmission rates. There were no differences between NGACO cases that failed to reduce spending and those that did not in the characteristics of aligned beneficiaries or percent of care provided by Participant versus Preferred Providers. No single factor was wholly responsible for an NGACO failing to achieve spending reductions, suggesting that organizations with less favorable factors could compensate in other ways to succeed in ACO models.

Chapter 9: Lessons Learned from the NGACO Model

The CMS Innovation Center launched the NGACO Model in 2016 “to test whether strong financial incentives for ACOs, coupled with tools to support better patient engagement and care management, could improve health outcomes and lower expenditures for Traditional Medicare FFS beneficiaries.”³⁶ When the model concluded in December 2021, NGACOs had consistently demonstrated success in lowering gross expenditures for their aligned beneficiaries without increasing ACSC hospitalizations, unplanned 30-day hospital readmissions, or hospital readmissions from SNFs. In addition, NGACOs reduced utilization in the most intensive care settings, including hospitals and PAC institutions.

NGACOs achieved reductions in acute and PAC utilization and spending, and increased the use of preventive care, through strategies enabled by the model’s resources and features. The NGACOs used prospective alignment lists to enhance their data analytic capabilities, allowing them to stratify beneficiaries by risk, target care management activities, and help beneficiaries avoid ED visits and hospitalizations. The NGACOs recognized PAC as an area with inefficiencies and an influence on overall costs and partnered with SNFs to improve quality of care and manage beneficiaries’ care across the care continuum. In addition, NGACOs engaged beneficiaries through AWWs, leveraging CCRs available in PYs 2 and 3. Finally, NGACOs engaged providers using care enhancements such as improved data sharing and care management support. NGACOs achieved their most pronounced impacts on spending and utilization, and progress with respect to quality of care, during the final two model years, which overlapped with the COVID-19 pandemic. NGACO activities created a robust infrastructure that supported beneficiaries and providers during the COVID-19 pandemic. However, the dramatic spending reductions in PY 5 and PY 6 may also represent the exit of lower-performing NGACOs and providers from the model.

Our evaluation found that spending reductions grew over time for NGACOs that remained in model and for providers and beneficiaries who stayed in the model over the longest periods of time. The impacts seen during the model’s final three years suggest that it takes time to implement and see results from population health initiatives. That NGACOs reduced utilization and spending relative to a comparison group during the pandemic may also suggest that the robust population health infrastructure NGACOs had in place helped to identify and meet patient needs. Of note, synergy between the NGACO and OCM with respect to spending reductions in the final years of both models, points to the potential benefit of embedding certain types of specialty care models within accountable care models.



Key Outcomes of the NGACO Model

- Cumulative gross spending reduction of 1.9% in Medicare Parts A and B (\$1.7 billion)
- No cumulative effect on net spending
- Net spending reduction of 2.4% in PY 6 (\$324.9 million)
- Decrease in hospitalizations of 0.6% cumulatively and 2.1% in PY 6
- Decreases in ED visits (2.4%), SNF stays (3.3%), and 30-day readmissions (1.9%) in PY 6

Implementation Successes and Challenges

The NGACO Model enabled organizations to make progress toward population health management. The model stimulated growth in organizational capacity and a focus on building relationships with providers across the continuum of care. With a prospectively aligned patient panel, NGACOs invested in health IT and data analytics, which allowed them to take a population-based perspective, to engage in risk stratification, and to identify gaps in patient care. NGACOs embedded staff in EDs and hospital inpatient settings, SNFs, and primary care practices, developing relationships that facilitated care coordination and management. Through in-person and virtual forums and meetings, NGACOs engaged physicians and SNFs to focus on quality improvement. NGACOs also initiated and expanded efforts to address SDOH.

However, in interviews and surveys, NGACO leadership and other staff identified several challenges in implementing the model that may have limited them from achieving their full potential under the model. Such challenges are important to consider when designing and implementing new ACO models.

One set of challenges related to data analytics. The lag in claims data from CMS hindered NGACOs' ability to respond in real time to changes in the intensity of utilization and spending. Variations in EHRs across health systems and lack of interoperability further limited care coordination among providers. Prospective alignment information enhanced NGACOs' capacity to risk stratify and target resources toward beneficiaries with the greatest need; however, real-time data sharing across providers and systems influenced the ability to manage beneficiary care on an ongoing basis.

Another set of challenges related to beneficiary engagement, specifically beneficiaries' awareness of the benefits of staying within their NGACO network. Beneficiaries retained their choice of providers; for this reason, NGACOs needed to consider approaches to educate their aligned beneficiaries and to encourage them to seek care from their Participant or Preferred Providers. Engagement was especially important in light of the model's emphasis on voluntary alignment, which had minimal beneficiary uptake.



Key Implementation Successes

- Increased data analytic capacity
- Increased communication and coordination across provider organizations
- Enhanced approaches to care management
- New initiatives to address key priority areas such as avoidable ED visits and other areas of increasing priority, including behavioral health and palliative care
- Increased focus on AWWs
- Support for providers and beneficiaries during the COVID-19 pandemic

Clinicians in ACOs used tools such as AWVs to establish relationships with beneficiaries, engender trust, identify any gaps in care, and explain the benefits they received from advanced alternative payment models.

Finally, some NGACOs cited the lack of financial predictability in the model and administrative burden as barriers to effective implementation. Such factors may have been related to changes in the benchmark methodology and may have led some NGACOs to withdraw from the model.³⁷

Factors Associated with NGACO Outcomes

Several individual factors were associated with model-level spending reductions—including physician practice affiliation, electing the highest risk levels and risk caps, and electing PBP mechanisms—but no single factor alone was necessary for an NGACO to lower spending. Rather, combinations of factors related to organizational structure and population health management strategies, or pathways, were associated with NGACO-level spending reductions. The pathways included large and small NGACOs and those affiliated with either physician practices or hospitals and approaches focused on population health management to prevent acute events. In addition, six pathways composed of different contextual and structural features were associated with lack of spending reduction. Overall, the NGACOs that did not reduce spending tended to operate in more efficient and highly concentrated markets. It is important to note that NGACOs that failed to reduce spending tended to have significantly greater reductions in unplanned 30-day readmissions.

We have identified several factors and pathways that offer insights for organizations considering participation in ACOs or other value-based purchasing models. It is important to note that the factors are not necessary to reduce spending, nor are NGACOs on pathways associated with lack of spending reductions guaranteed to face the same challenges. Existing evaluation data do not capture all of the myriad contextual, organizational, provider, and beneficiary dynamics that may influence performance. Combinations of conditions in ACO markets, leadership teams, provider networks, and populations served all affect the VBP models in which ACOs are most likely to succeed.

Limitations of Our Evaluation

There are several limitations to interpreting our evaluation findings. As the NGACO Model is voluntary, there may be selection effects related to high-performing NGACOs that remained in the model while lower-performing NGACOs withdrew. The NGACOs that remained in the model may have been successful before joining the model, achieving additional spending reductions even in the model's absence. In addition, there may be unmeasured differences between the NGACO and comparison



Key Implementation Challenges

- Lack of real-time claims data
- Variation in interoperability of EHRs
- Limited beneficiary awareness of the model
- Leakage of beneficiaries to other models or organizations
- Administrative burden
- Delays in receiving shared savings payments
- Lack of financial predictability

groups that contributed to NGACO outcomes such as dynamics regarding leadership and staff motivation.

Further, we were not able to collect qualitative data in the last two years of the model, other than the brief NGACO leadership group calls in PY 5. Our data were limited to the NGACO Leadership Survey. For this reason, we could not offer in-depth perspectives on how NGACOs' strategies evolved and adapted over the course of the model or which strategies NGACOs believed were associated with the model's outcomes. Finally, the evaluation scope did not allow for analysis of Consumer Assessment of Healthcare Providers and Systems® data, so that we did not assess beneficiaries' experiences in the NGACO Model or their self-reported health outcomes.

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