THIRD EVALUATION REPORT

Next Generation Accountable Care Organization Model Evaluation

SEPTEMBER 2020

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The contents of this report are solely the responsibility of the authors and do not necessarily represent the official views of the U.S. Department of Health and Human Services or any of its agencies. Research reported in this report was supported by the Center for Medicare & Medicaid Innovation under HHSM-500-2014-00035I.

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In addition, NORC wishes to acknowledge the contributions and support of our partners Jim Genuardi, Albert Ketler, Gerald Riley, Rebecca Socarras, and Todd Trapnell of the **Actuarial Research Corporation**, and Jon Christianson, Bryan Dowd, Roger Feldman, and Katie White of the **University of Minnesota.** We would also like to acknowledge editorial assistance from Lisa Stein. Lastly, we would like to thank the **Center for Medicare & Medicaid Innovation** team for their review and feedback on draft materials and their support in finalizing this report.

Executive Summary

In January 2016, the Center for Medicare & Medicaid Innovation (CMMI) at the Centers for Medicare & Medicaid Services (CMS) launched the Next Generation Accountable Care Organization (NGACO) model. This advanced alternative payment model (AAPM) builds on previous CMS accountable care organization (ACO) initiatives in the Medicare program. NGACOs comprise groups of practitioners and institutions that come together to coordinate care for fee-for-service (FFS) Medicare beneficiaries. NGACOs agree to assume responsibility for the total cost and quality of care delivered to a prospectively aligned beneficiary population during the performance period. Aligned populations are defined as the set of patients receiving the plurality of certain primary care services from the ACO's participating providers. NGACOs share in savings or pay back losses relative to an aligned population's spending benchmarks set by CMS. Three cohorts of NGACOs entered the model in 2016, 2017, and 2018, respectively. The model runs through December 2020. Key features of the NGACO model include:

- Higher levels of risk and opportunity for shared savings than in other Medicare ACOs: Upside and downside risk for 80 percent or 100 percent of the difference from a Medicare FFS benchmark, with caps ranging from 5 to 15 percent for savings and losses;
- Incorporation of alternative payment flows: The option of selecting payment flows that are different from those in simple FFS, including FFS with monthly infrastructure payments (ISP) and population-based payments (PBP) or all-inclusive population-based payments (AIPBP). PBP and AIPBP arrangements provide upfront monthly payments for anticipated FFS spending. Alternatives to simple FFS are intended to enable flexibility in staffing, clinical processes, and care delivery;
- Prospective alignment of beneficiaries to enable NGACOs to identify in advance which beneficiaries are part of their patient population;
- Access to optional benefits enhancements for skilled nursing facilities (SNFs), post-discharge home visits, and telehealth through waivers of certain Medicare service rules; and
- A Coordinated Care Reward (CCR) for beneficiaries who received annual wellness visits (AWVs) from NGACO providers. The CCR feature was included in the 2017-2018 performance years of the model and phased out in subsequent years.

In September 2016, CMMI selected NORC at the University of Chicago (NORC) to conduct an independent evaluation of the model. This third evaluation report summarizes implementation experiences and outcomes for 50 NGACOs that participated in the model in the 2018 performance year (PY3). In addition, the report evaluates cumulative findings of the model to date, from NGACOs entering the model in 2016, 2017, and 2018, respectively. This report uses primary data, including interviews with NGACO leadership and staff and surveys of NGACO leadership and physicians, as well as secondary Medicare claims and administrative data, to address four overarching research questions:

- What are the characteristics of NGACOs, their providers, and their aligned beneficiaries in PY3?
- What approaches did NGACOs implement in response to the model?

- What is the impact of the NGACO model on Medicare spending, utilization, and quality of care in PY3 and cumulatively from PY1 through PY3?
- How do NGACOs differ in their impact on total Medicare spending, specifically by their organization type, risk selection, or payment mechanism selection?

Characteristics of NGACOs, Providers, and Aligned Beneficiaries in PY3

In PY3 (2018), there were 50 NGACOs financially responsible for their beneficiary populations' Medicare spending. These comprised 13 NGACOs from the 2016 cohort, 21 NGACOs from the 2017 cohort, and 16 new NGACOs from the 2018 cohort. Since PY2, five NGACOs from the 2016 cohort and seven NGACOs from the 2017 cohort have exited the model.

Exhibit ES.1. Numbers of NGACOs across the First Three Performance Years

	Starting in 2016 "2016 cohort"	Starting in 2017 "2017 cohort"	Starting in 2018 "2018 cohort"	Total
Active in 2016	18	Not applicable	Not applicable	18
Active in 2017	16	28	Not applicable	44
Active in 2018	13	21	16	50

NGACO Model Features Selected and Organizational Characteristics in PY3

- NGACOs varied by level of risk assumed, payment mechanisms and benefits enhancements selected, organizational characteristics, and prior ACO experience. All of these factors may influence the behavior of NGACO providers and affect an NGACO's ability to achieve cost savings.
- Fifty-six percent of NGACOs in PY3 (28 out of 50) selected the 100 percent risk arrangement, with an average 8 percent cap on savings or losses. This is similar to the rate observed in PY2 when 20 out of 44 NGACOs opted for 100 percent risk. The 2016 and 2017 cohorts had similar rates of NGACOs selecting 100 percent risk, but NGACOs that entered the model in 2018 were more likely than the other cohorts to opt for 100 percent risk.
- Thirteen NGACOs in PY3 opted for PBPs or AIPBPs, suggesting a willingness to experiment with alternative payment arrangements in return for more predictable cash flows, which may represent a shift towards value over volume, and potentially sharing risk with providers.
- Twenty-seven NGACOs (54 percent) used the 3-day SNF rule waivers in PY3; four used telehealth waivers and six used post-discharge home visit waivers. The reach of waiver services was limited, with the SNF waivers accounting for 2.1 out of 71 SNF stays per 1,000 aligned beneficiaries in PY3 (3 percent) and the other waivers covering less than one such service per 1,000 aligned beneficiaries.
- In PY3, 18 NGACOs (36 percent) were affiliated with an integrated delivery system (IDS) or hospital system, 18 (36 percent) were affiliated with physician practices alone, and 14 (28 percent) comprised partnerships between physician practices and hospitals.

- As shown in Exhibit ES.2, there were differences by NGACO cohort in organizational affiliation. The 2016 cohort had relatively fewer NGACOs affiliated with physician practices alone (15 percent) compared to the 2017 cohort (38 percent) and the 2018 cohort (50 percent). In contrast, the 2018 cohort had relatively few NGACOs affiliated with hospitals alone (12.5 percent), compared to 54 percent of the 2016 cohort and 43 percent of the 2017 cohort. Prior research suggested that physician-led ACOs had greater and more persistent savings over time than hospital-led ACOs. Chapter 5 of this report includes a discussion of this relationship.

Exhibit ES.2. Differences in Organizational Affiliation by NGACO Cohort

NGACO Cohort	Hospital System	Physician-Hospital Partnerships	Physician Practices Only	Total
2016	7 (54%)	4 (31%)	2 (15%)	13
2017	9 (43%)	4 (19%)	8 (38%)	21
2018	2 (12.5%)	6 (37.5%)	8 (50%)	16

- NGACOs affiliated with hospital systems had the largest average population of aligned beneficiaries (mean 38,835; median 24,603) compared to those affiliated with physician practices alone (mean 22,509; median 21,956) or partnerships between physician practices and hospitals (mean 21,086; median 22,030).
- Forty-one out of 50 NGACOs (82 percent) had prior ACO experience in either the Medicare Shared Savings Program (SSP) or Pioneer ACO Model. Twelve out of 13 NGACOs in the 2016 cohort (92 percent) had previously participated in an ACO, compared to 17 out of 21 (81 percent) in the 2017 cohort and 13 out of 16 (81 percent) in the 2018 cohort.

Participating and Preferred Providers

- The number of participating practitioners—those used to determine which beneficiaries are aligned to a given NGACO—varied widely across NGACOs in PY3, from 53 to 5,253. Generally, NGACOs in the 2018 cohort had smaller practitioner networks (mean 571, median 526) compared to the 2016 (mean 1,446; median 1,413) and 2017 (mean 1,356; median 835) cohorts, consistent with the former cohort having more physician practice-affiliated NGACOs and the latter two having more hospital system-affiliated NGACOs.
- Of the 56,401 participating practitioners, 32,158 (57 percent) were in primary care. Of the 15,619 preferred practitioners—those who supplement networks but do not inform beneficiary alignment—8,247 (54 percent) were specialists, with medical, surgical, and hospital specialists being the three most common. This reflects the priorities of NGACO leadership to focus on primary care practitioners for their participating networks, as specialists tend to operate under different incentives that reward volume.
- SNFs were the most common institutional provider among NGACO networks, comprising 136 out of 328 participating and 1,726 out of 2,801 preferred institutional providers (62 percent).

Aligned Beneficiaries

- The 1.4 million beneficiaries aligned to NGACOs in PY3 were primarily female (58 percent) and white (82 percent), with an average age of 73.6 years and an average of 5.6 chronic conditions. They were less likely to be dually enrolled in Medicaid, disabled, or living in rural communities, but were otherwise comparable to beneficiaries who met NGACO eligibility criteria but were not aligned to NGACO providers.

How NGACOs Responded to the NGACO Model

In interviews and surveys, NGACOs reported investing in four broad areas in response to the NGACO model:

- **Improving data analytic capacity to leverage prospective alignment data.** Leadership from most NGACOs reported using lists of prospectively aligned beneficiaries and claims data for these beneficiaries from CMS to stratify based on risk, identify gaps in care, and forecast financial outcomes.
- **Engaging beneficiaries through AWVs and providing care management.** Most NGACOs built on existing care management services developed for patients before the NGACO model and offered services to patients based upon need, rather than NGACO alignment. NGACOs targeted beneficiaries for care management based on assessments of health status, utilization, and expenditure risks. NGACO leadership perceived care management to be effective in reducing utilization, changing provider culture, and improving patient self-management and care transitions.
- **Engaging physicians through financial and nonfinancial incentives.** Aside from sharing savings with physicians, NGACOs provided financial incentives tied to measures of performance on quality and utilization metrics (e.g., rewards or discrete payments for completing AWVs or attending NGACO-related meetings or trainings). NGACO leadership perceived the quality and utilization incentives to have more impact on physician behavior than potential shared-savings payments. Few NGACOs shared downside financial risk with providers. NGACOs' nonfinancial strategies to engage physicians included sharing comparative performance data, providing infrastructure and workflow support, and offering peer-to-peer learning. NGACO leaders believed that sharing comparative performance data with physicians was a particularly effective strategy.
- **Collaborating with SNFs.** Recognizing the importance of post-acute care (PAC) as an opportunity for efficiency, NGACOs invested in SNF relationships through building SNF networks, coordinating care across settings, and implementing the 3-day SNF waiver. NGACOs developed collaborative relationships with SNFs and identified a network of SNFs with shared performance goals in terms of quality, spending, and utilization among attributed Medicare FFS beneficiaries.

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

Cumulative NGACO Model Impacts on Medicare Spending

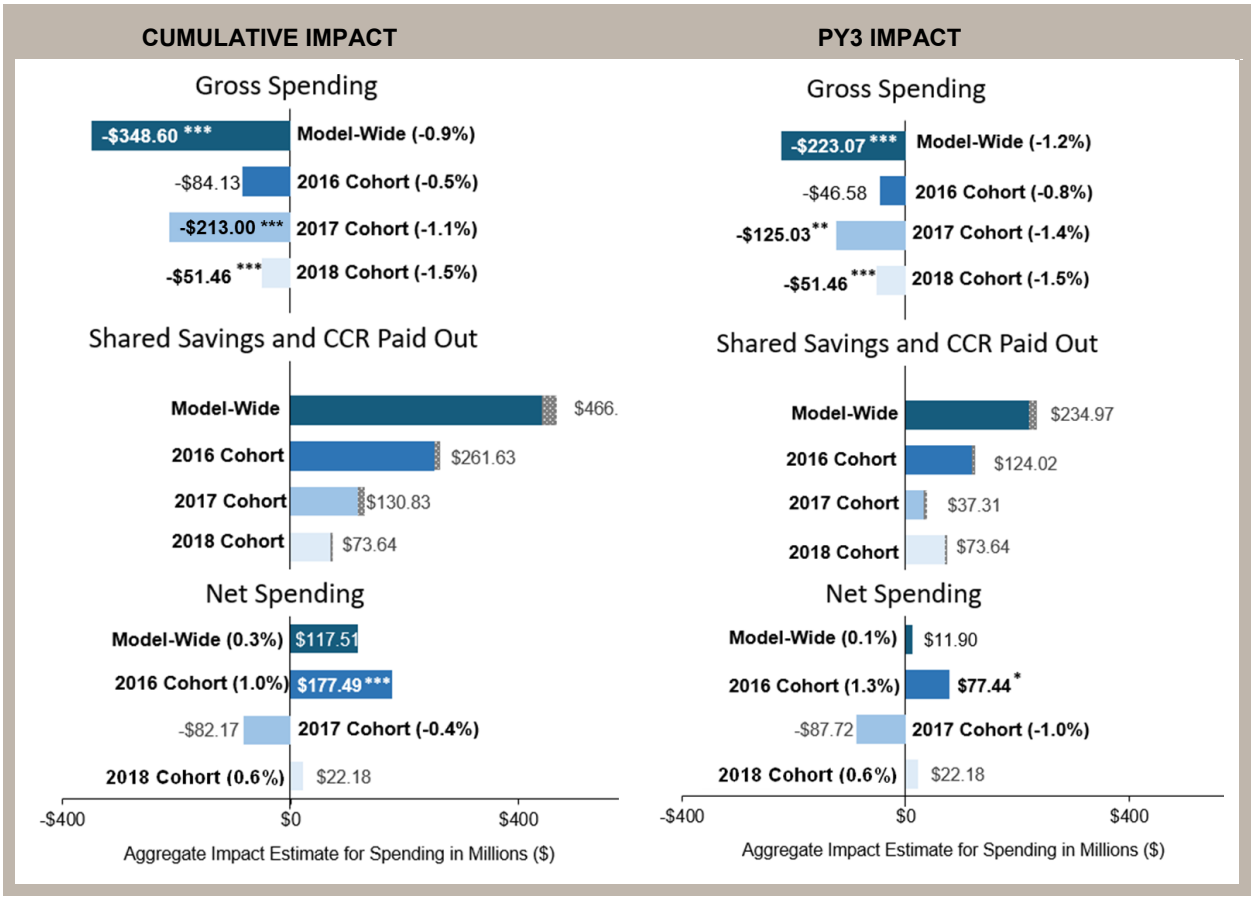
- **Across the first three years of the NGACO model, gross Medicare expenditures declined but there was no net spending reduction (Exhibit ES.3).** The NGACO model decreased Medicare Parts A and B spending by $348.6 million overall relative to the comparison group. However, after accounting for the $466.1 million in shared savings paid out to NGACOs and beneficiary incentives for AWVs in the form of CCRs, the model generated a statistically non-significant net spending increase of $117.5 million over the model's first three years.
- **The three NGACO cohorts showed different patterns in terms of cumulative gross and net spending impacts (Exhibit ES.3 and below).**
  - The 2017 cohort had the largest gross spending reduction. They had statistically significant gross reductions of $213 million over its two performance years, the most of any cohort. When taking shared savings and CCR payouts of $130.8 million into consideration, the net reduction shrank to a statistically non-significant net reduction of $82.2 million.
  - The 2016 cohort had the highest net spending increase. They produced statistically non-significant gross reductions of $84.1 million over the three performance years. However, after accounting for shared savings and CCR payouts of $261.6 million, the largest payout for any cohort, the 2016 cohort generated a statistically significant net spending increase of $177.5 million. This substantially contributed to the model-wide net increase in spending.
  - The 2018 cohort had a promising first year in terms of gross spending impact. In its first performance year, the 2018 cohort had statistically significant gross reductions of $51.5 million, but these were offset by shared savings and CCR payouts of $73.6 million for a statistically non-significant net spending increase of $22.2 million.
  - The 2016 and 2018 cohorts earned more shared savings than the 2017 cohort, even though the latter showed a greater spending reduction relative to a comparison group.

Performance Year 3 NGACO Model Impacts on Medicare Spending

- **In PY3, NGACOs reduced gross spending but did not reduce net spending (Exhibit ES.3).** Similar to the pattern observed in cumulative impacts, NGACOs produced significant gross reductions of $223 million that turned into statistically non-significant net increases of $12 million when shared savings and CCR payouts of $235 million were factored in. Cohort-level effects for PY3 followed patterns seen in the cumulative estimates in that statistically significant gross spending reductions were observed in the 2017 and 2018 cohorts, while the 2016 cohort had a net spending increase for the year.
- **The effect size of the model-wide gross Medicare spending reduction in PY3 (1.23 percent) was larger than the gross spending reduction in PY2 (0.40 percent).** Two-thirds of gross spending declines in the first three years of the NGACO model occurred in PY3. This is likely a result of two factors: new model entrants in 2018 showed greater spending reductions (1.46 percent) than the 2016 and 2017 cohorts did in their first years in the model (1.03 percent for 2016 cohort, 0.87

percent for 2017 cohort), and the 2016 and 2017 cohorts gained more experience and greater efficiencies.

Exhibit ES.3. Estimated Aggregate Impact on Gross and Net Total Medicare Spending, Cumulatively as of PY3 and in PY3



NOTES: Estimated aggregate impact in millions and per beneficiary per year (PBPY) impact significant at p<0.1*, p<0.05**, p<0.01***. Estimated aggregate gross impact is the difference-in-differences (DID) estimate multiplied by the number of aligned beneficiaries in performance year(s). Estimated aggregate net impact is the difference between the aggregate gross impact and CMS's shared savings and coordinated care payouts to NGACOs in the performance year(s). The reported net impacts include the total Coordinated Care Reward (CCR) payments to NGACOs and their beneficiaries, respectively, in the performance year(s). Percentage impact in parentheses is the impact relative to expected average Medicare spending for NGACO beneficiaries in performance year(s) absent the model. The bars are shaded according to cohort: model-wide (navy blue), 2016 cohort (royal blue), 2017 cohort (medium blue), and 2018 cohort (light blue). Shared savings paid out are indicated in the solid shades of blue, while CCR paid out are indicated with the grey crosshatch.

NGACO Model Impacts on Utilization and Types of Spending

- **The statistically significant areas of spending reductions were in the categories of professional services, SNF, and other PAC facility spending.** NGACOs had gross reductions of $95.4 million in these three categories in PY3 and $136.5 million cumulatively. The reduction in SNF and other PAC facility spending is consistent with qualitative and survey findings, indicating NGACOs focused on improving communication and coordination with SNFs to improve care transitions. Reductions in Medicare spending for inpatient rehabilitation facilities and long-term care

hospital facilities are due in part to shifts in care from these settings to less intensive settings such as SNFs.

- **There were no model-wide reductions in acute care hospital spending observed.** Model wide, acute care hospital spending accounted for one-third of total gross Medicare spending, but NGACOs showed non-significant declines in PY3 and cumulatively. The 2018 cohort significantly reduced acute care hospital spending in their first model year.
- **All three cohorts had a relative uptick in AWVs of at least 12 percent in PY3.** The 2016 cohort increased AWVs by 34 percent from their baseline years. This finding is consistent with the NGACOs' efforts to engage beneficiaries through AWVs, as reported in interviews and surveys. Model-wide and cumulative effects on AWVs were similarly strong.

NGACO Model Impacts on Quality

- **There were no significant improvements or declines in quality of care measures.** Quality of care measures included hospitalizations for ambulatory care sensitive conditions, unplanned 30-day readmissions, and hospital readmissions from SNF. There were no impacts model-wide, cumulatively or in PY3, despite a focus on care management across the NGACOs.

NGACO-Level Impacts on Medicare Spending, Utilization, and Quality of Care

- **Ten of the 50 NGACOs demonstrated significant reductions in cumulative Medicare spending across three years**,[1] with effect sizes ranging from -$590.1 to -$137.3 per beneficiary per year (PBPY) (5.7 percent to 1.3 percent reduction). These 10 NGACOs reduced gross Medicare spending by $186.6 million in aggregate, accounting for 53.5 percent of the reduction in spending model-wide.
- The 10 NGACOs with cumulative gross savings differed from the other 40 NGACOs in several ways:
  - A greater percentage elected PBP or AIPBPs (50 percent versus 21 percent);
  - A greater percentage opted for full risk sharing (70 percent versus 15 percent) and a higher average risk cap (8.4 percent versus 7.8 percent); and
  - Half of the 10 NGACOs with cumulative gross savings were in the 2017 cohort.
- **One NGACO significantly increased cumulative spending.** Average spending for beneficiaries aligned with this NGACO increased $439.6 PBPY (an increase of 4.9 percent), while spending for similar beneficiaries in the market decreased.
- **Eight NGACOs had significant reductions in spending in PY3**. These NGACOs showed substantial and varied effect sizes ranging from -$672.9 to -$323.3 PBPY (reductions of 5 percent to 3.4 percent) and reduced gross Medicare spending by $134.7 million in aggregate, accounting for 60.4 percent of the model-wide savings in PY3.
- **Two NGACOs from the 2016 cohort saw significant increases in spending in PY3,** with effect sizes ranging from $588.6 to $727 PBPY (4.4 percent to 8.3 percent increase). In both, the NGACO

[1] Unless otherwise noted, statistical significance is noted at the $p<0.1$ level.

beneficiary group's spending increased from baseline to performance years, while the comparison group's spending declined.

- **NGACOs with 100 percent risk and risk cap > 5 percent had significantly larger annual Medicare spending reductions than NGACOs with 80 percent risk.** Relative to their comparison groups, NGACOs taking 100 percent risk significantly reduced annual Medicare spending, while those taking 80 percent risk reduced spending non-significantly. NGACOs electing 100 percent risk and risk cap greater than 5 percent achieved a 1.64 percent significant annual Medicare spending reduction. Compared to NGACOs taking 80 percent risk, those taking 100 percent risk and risk cap > 5 percent had significantly larger annual Medicare spending reductions.
- **NGACOs electing PBP or AIPBP had larger annual spending reductions than those electing FFS payment mechanisms, though the difference was not statistically significant.** Both NGACOs electing PBP or AIPBP and NGACOs electing FFS payment mechanisms had significant annual Medicare spending reductions, relative to their comparison groups. NGACOs using PBP or AIPBP achieved a statistically significant 1.36 percent reduction in spending relative to their comparison groups. NGACOs electing FFS payments had lower, but still statistically significant, reductions of 0.68 percent, relative to comparison groups. Although spending impacts for NGACOs electing PBP/AIPBP were almost twice that of FFS, differences in spending impacts between the two subgroups were non-significant due to a smaller proportion of NGACOs that elected PBP/AIPBP (26 percent) and variability within this subgroup.
- **NGACO organizational affiliation was not associated with significant differences in reduced annual spending impacts.** NGACOs that were hospital system-affiliated, physician-hospital partnerships, and physician practice-affiliated had significant annual Medicare spending reductions. Contrary to prior evaluations of SSP Medicare ACOs, we found average spending impacts were similar among NGACOs that were hospital system-affiliated, physician-hospital partnerships, and physician practice-affiliated (a range of 0.8 percent to 0.98 percent reduction).

While the NGACO model encouraged further transformation in care delivery, its impact on Medicare spending and utilization was modest. Although spending for professional services, SNFs, and other PAC facilities declined model-wide in PY3 and cumulatively, these care settings accounted for only 42 percent of Medicare spending for NGACO beneficiaries. The largest spending category for NGACO beneficiaries was acute care hospital spending. Although the 2018 cohort saw statistically significant declines in hospital spending, the model as a whole did not reduce expenditures in this area, which likely contributed to modest model-wide declines in gross spending.

Differences in the size of shared savings payouts to cohorts influenced the model-wide net impacts. The 2016 cohort experienced statistically significant net spending increases in PY3 and cumulatively, which were primarily a function of their large shared savings payouts relative to other cohorts. These net increases were sufficient to wash out the gross spending declines generated by the 2017 and 2018 cohorts, and suggest that the methods used to determine benchmarks strongly influence the net spending impact of shared savings models.

Other factors may have diminished gross spending declines that otherwise could have been realized under the NGACO model. These include leakage of NGACO beneficiaries to providers outside the NGACO,

spillover of care from NGACO providers to the comparison group, and the challenge of outperforming baseline spending for NGACOs that had already developed efficiencies under prior ACO models. These factors warrant further investigation in subsequent reports.

In future reports, we plan to explore contributors to performance under the NGACO model by classifying NGACOs according to their care management strategies and determine if particular strategies are associated with Medicare spending reductions. We also plan to explore how combinations of market, organizational, provider, and beneficiary characteristics may be related to different outcomes under the model. Our ultimate goal is to measure the structural conditions or process changes that may contribute to reductions in Medicare spending, while maintaining or improving quality of care, in AAPMs with two-sided risk.

Chapter 1: Introduction to the NGACO Model and Evaluation

In January 2016, the Center for Medicare & Medicaid Innovation (CMMI) in the Centers for Medicare & Medicaid Services (CMS) launched the Next Generation Accountable Care Organization (NGACO) model. The NGACO model is an advanced alternative payment model (AAPM) that expands on CMS's previous ACO initiatives. Three cohorts of NGACOs launched in successive performance years (PYs) of the model—2016 (PY1), 2017 (PY2), and 2018 (PY3)—with all cohorts to operate through December 2020.

In September 2016, CMMI selected NORC at the University of Chicago (NORC) to conduct an independent evaluation of the NGACO model. This third evaluation report summarizes implementation experience and outcomes in PY3 as well as cumulative results to date. The report includes the 50 NGACOs that participated in the model in PY3, building on findings from previous evaluation reports.[2,3] This report also lays a foundation for subsequent analyses to identify which factors are likely contributing to NGACO performance under the model.

Overview of the NGACO Model

ACOs are "groups of doctors, hospitals, and other health care providers and suppliers that come together voluntarily to provide coordinated, high-quality care at lower costs to their original Medicare patients."[4] Providers in NGACOs include *participating providers* and *preferred providers*. Participating providers are used to define an NGACO's prospectively aligned beneficiary population using the model's alignment algorithm and may include individual clinicians or facilities. CMS aligns eligible beneficiaries with an NGACO if, collectively, the NGACO's alignment eligible participating providers account for the plurality of a beneficiary's primary care medical encounters.[5] Alignment eligible beneficiaries may also proactively choose to align voluntarily with NGACOs. Preferred providers, which may also include clinicians and facilities, are used to expand NGACO referral networks but are not used in beneficiary alignment and are not responsible for reporting quality. All aligned beneficiaries remain free to see any Medicare provider of their choice.

The NGACO model tests whether stronger financial incentives for ACOs, paired with the option of using alternative payment flows and tools to support patient engagement and care management, can improve health outcomes and reduce expenditures for Medicare fee-for-service (FFS) beneficiaries. The model's

[2] Centers for Medicare & Medicaid Services. Next Generation Accountable Care Organization (NGACO) Model Evaluation: First Annual Report. 2018. https://innovation.cms.gov/files/reports/nextgenaco-firstannrpt.pdf.
[3] Centers for Medicare & Medicaid Services. Next Generation Accountable Care Organization Model (NGACO) Second Evaluation Report. 2020 (January). https://innovation.cms.gov/files/reports/nextgenaco-secondevalrpt.pdf.
[4] Centers for Medicare & Medicaid Services. Next Generation ACO Model. Accessed December 17, 2018. https://innovation.cms.gov/initiatives/Next-Generation-ACO-Model/.
[5] Beneficiaries are prospectively aligned with an NGACO if the NGACO's participant providers provided the plurality of primary care medical encounters during a performance year's 24-month alignment period. See Appendix D, Exhibit D.4, for details on the alignment periods for PY3.

prospective alignment of beneficiaries provides NGACOs with the list of beneficiaries they are accountable for at the start of each performance year. Similar to other Medicare ACO models or programs, CMS sets a spending benchmark for each NGACO prior to each PY based on an NGACO's historical spending for aligned beneficiaries. NGACOs earn a share of savings from CMS for keeping Medicare spending for aligned populations below their benchmark and meeting quality standards. Yet, they must pay back a portion of the losses if spending exceeds the benchmark.

There are four features of the NGACO model that differentiate it from other Medicare ACO models or programs. First, ACOs in the NGACO model assume a higher level of shared financial risk and reward than ACOs in either the current Medicare Shared Savings Program (SSP) or the Pioneer ACO Model. NGACOs choose between two levels of financial risk—partial risk (liable for 80 percent shared savings/losses) or full risk (liable for 100 percent of shared savings/losses). Second, the model allows NGACOs to select from one of four payment mechanisms determining cash flows for services delivered to aligned Medicare beneficiaries:

1. Traditional FFS;
2. FFS with a fixed per-beneficiary-per-month infrastructure payment (ISP) to support ACO activities;
3. Population-based payments (PBPs) that give ACOs a fixed percentage of expected FFS claims payments prospectively every month; and
4. All-inclusive population-based payments (AIPBP), in which the ACO receives all expected FFS claims payments prospectively every month.

The three alternatives to traditional FFS are intended to provide more flexibility for NGACOs in staffing, clinical process change, and care delivery. In the case of PBP and AIPBP, NGACOs are responsible for compensating their providers who agree to receive fee reductions from Medicare for covered services, based on the terms of payment agreements executed in the beginning of each year.

Third, the model's benchmark methodology allows ACOs with larger improvements in quality to realize greater shared savings or smaller shared losses. The model's methodology also adjusts the benchmark upward for ACOs in areas with lower average spending and provides a downward adjustment in the benchmark for ACOs in areas with higher average spending.

Fourth, the model includes a number of features designed to facilitate ACO engagement of beneficiaries and provide greater flexibility in the delivery of care. Beneficiaries may voluntarily align with the NGACO model by designating an NGACO's participating provider as their main provider. Starting in PY2 and continuing through PY3, beneficiaries were eligible to receive a $25 Coordinated Care Reward (CCR) if they visited an NGACO provider for their annual wellness visit (AWV). AWVs are an opportunity for beneficiaries to receive preventive health screenings and review health goals. The model also includes optional *benefit enhancements* through waivers providing ACOs with greater flexibility in the delivery of care. Over the first three PYs, NGACOs could apply one or more of the following three benefit enhancements:

- a three-day skilled nursing facility (SNF) waiver, which allows SNF admissions without a qualifying three-day hospital stay;
- a telehealth expansion waiver, which permits telemedicine services to originate in the patient's home and authorizes coverage of telemedicine services to patients in non-rural areas; and
- a post-discharge home visit waiver, which allows a limited number of home visits after hospital discharge, from a licensed clinician under the general supervision of an NGACO provider.

During the first two PYs, the NGACO model was associated with a modest and statistically significant decline in gross Medicare spending (-0.6 percent) and a non-significant increase in net Medicare spending (+0.4 percent) after accounting for CMS's shared savings payouts to NGACOs. Reductions in post-acute care (PAC) spending contributed to the modest model-wide decline in gross Medicare spending. To date, our evaluation of the NGACO model has not identified any notable impact on claims-based measures of quality of care.

The NGACO Model in PY3

Exhibit 1.1 presents the number of NGACOs in each cohort and model performance year across the first three years of the model. Fifty NGACOs participated in the model in PY3 (2018)—13 from the 2016 cohort, 21 from the 2017 cohort, and 16 new NGACOs from the 2018 cohort. Since PY2, five NGACOs from the 2016 cohort and seven NGACOs from the 2017 cohort have exited the model. Almost all exiting ACOs paid out shared losses to CMS. However, they represented a mix of NGACOs that increased and reduced spending relative to a comparison group.

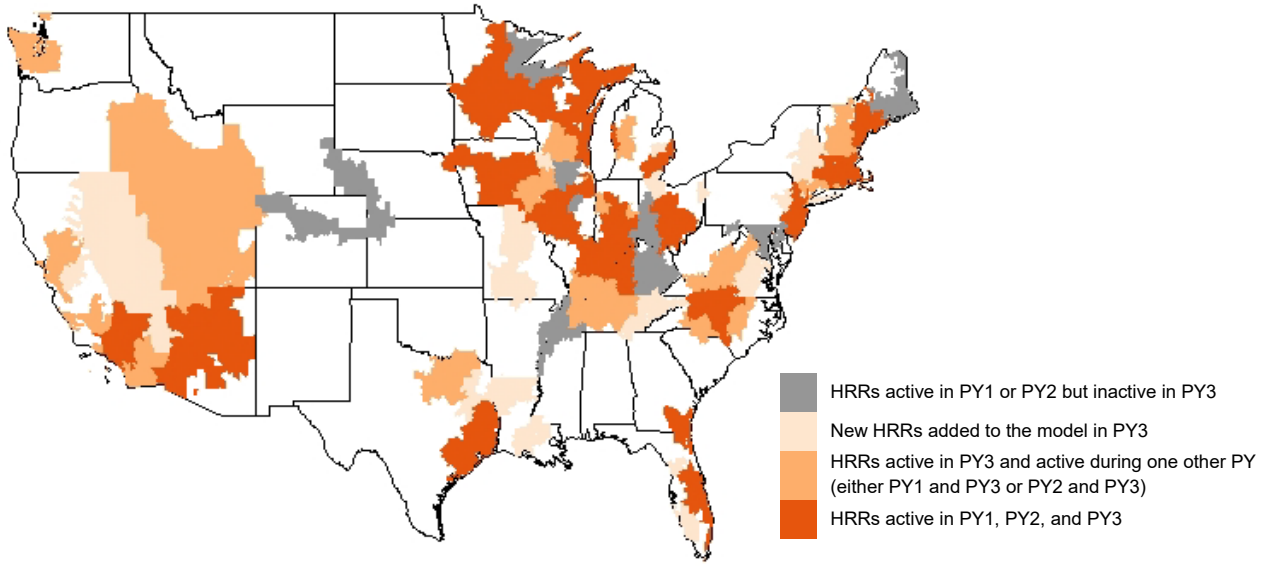
Exhibit 1.1. Numbers of NGACOs across the First Three Performance Years

	Starting in 2016	Starting in 2017	Starting in 2018	Total
Active in 2016	18	Not Applicable	Not Applicable	18
Active in 2017	16	28	Not Applicable	44
Active in 2018	13	21	16	50

The map in Exhibit 1.2 presents the geographic distribution of the NGACOs across the first three performance years of the model. In PY3, the 50 NGACOs spanned 126 hospital referral regions (HRRs). [6] NGACOs and their aligned beneficiaries were located primarily in the Southwest, Northeast, and Midwest United States.

[6] The operational definition of an ACO's local market area differs across the literature and includes geographic units such as counties, metropolitan statistical areas, hospital service areas, and HRRs. In this analysis, we define an NGACO's market area as the collection of HRRs containing at least 1 percent of its aligned Medicare beneficiaries.

Exhibit 1.2. Market Areas of Participating NGACOs



NOTE: An NGACO's market area within a given performance year was defined as the collection of HRRs containing at least 1 percent of the NGACO's aligned population in the year.

Exhibit 1.3 presents the names and abbreviations of all 50 NGACOs that participated in the model in PY3.

Exhibit 1.3. NGACOs Participating in the Model in PY3, by Cohort

NGACO Organization Name	Abbreviation	States in the NGACO Market Area
2016 Cohort		
Accountable Care Coalition of Southeast Texas, Inc.	ACCST	TX
Bellin Health DBA Physician Partners, Ltd. (PPL)	Bellin	WI, MI
Cornerstone Health Enablement Strategic Solutions, LLC	CHESS	NC
Deaconess Care Integration	Deaconess	IN, KY
Henry Ford Physician Accountable Care Organization	Henry Ford	MI
Park Nicollet Health Services	Park Nicollet	MN
Pioneer Valley Accountable Care, LLC	Pioneer Valley	MA, CT
Steward Integrated Care Network, Inc.	Steward	FL, MA, NH, OH, PA, RI
ThedaCare ACO, LLC	ThedaCare	WI
Triad HealthCare Network, LLC	Triad	NC
Trinity Health ACO Inc.	Trinity	IL, MI, NJ, OH, PA
UniPhy ACO, LLC (formerly Baroma Accountable Care, LLC)	UniPhy	FL
UnityPoint Accountable Care (formerly Iowa Health Accountable Care)	UnityPoint	IA, IL, MO

NGACO Organization Name	Abbreviation	States in the NGACO Market Area
2017 Cohort		
Accountable Care Options, LLC	Accountable Care Options	FL
APA ACO, Inc. (formerly ApolloMed)	APA	CA, TX, WA
Arizona Care Network, LLC	Arizona	AZ
Atrius Health, Inc.	Atrius	MA, NH, RI
Montefiore ACO IPA (formerly Bronx Accountable Healthcare Network IPA, Inc.)	Bronx	NJ, NY
Carilion Clinic Medicare Shared Savings Company, LLC	Carillion	NC, VA
Dartmouth-Hitchcock Health	Dartmouth-Hitchcock	MA, NH
HealthCare Partners (HCP) ACO California, LLC	HCP	CA
Heritage California ACO (formerly Regal Heritage California ACO)	Heritage	CA
Hill Physicians Medical Group	Hill	CA
Indiana University Health	Indiana U	IN, KY
Integra Community Care Network, LLC	Integra	MA, RI
Michigan Pioneer ACO, LLC	MPACO	MI
National ACO, LLC	NatACO	CA, NV, PA, TN
NW Momentum Health Partners ACO	NW Momentum	WA
Partners Community Physicians Organization	Partners	MA, ME, NH, NY, RI
ProHealth Solutions, LLC	ProHealth	WI
Prospect ACO Northeast, LLC	ProspectNE	CT, RI
St. Luke's Clinic Coordinated Care, LTD	St. Luke's	ID, UT
UNC Senior Alliance, LLC	UNC	NC
Southwestern Health Resources Accountable Care Network (formerly University of Texas Southwestern Accountable Care Network)	UTSW	TX
2018 Cohort		
Accountable Care Coalition of Tennessee, LLC	ACC of TN	TN
Best Care Collaborative	Best Care Collab	FL
CareMount ACO	CareMount	CT, NY
Central Utah Clinic	Central Utah	NV, UT
Connected Care of Southeastern Massachusetts	Connected Care	MA, RI
CoxHealth Accountable Care, LLC	CoxHealth	MO
Franciscan Missionaries of Our Lady Health System Clinical Network, LLC	Franciscan	LA
Mary Washington Health Alliance LLC	Mary Washington	VA
NEQCA Accountable Care, Inc.	NEQCA	MA, NH, RI
North Jersey Health Alliance	North Jersey	NJ
Primaria ACO, LLC	Primaria	IN

NGACO Organization Name	Abbreviation	States in the NGACO Market Area
Primary Care Alliance	Primary Care Alliance	FL
Reliance Next Gen ACO, LLC	Reliance	MI, OH
Reliant Medical Group, Inc.	Reliant	CT, RI
Torrance Memorial Integrated Physicians, LLC	Torrance	CA
UW Health ACO, Inc.	UW Health	WI

NOTE: Three NGACOs from the 2016 cohort (Beacon, MemorialCare, and Optum) and seven NGACOs from the 2017 cohort (ACCC, Allina, Fairview, KentuckyOne, Monarch, Premier, and Sharp) exited the model after PY2 and were not financially responsible in PY3.

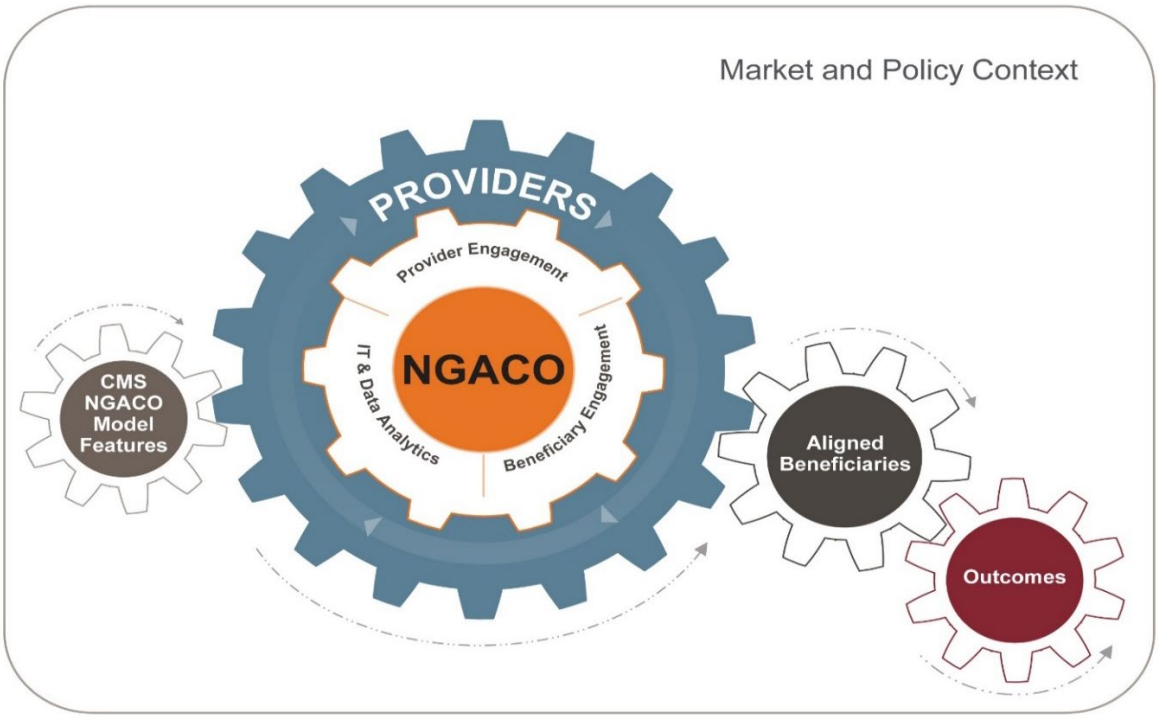
Evaluation Overview

Our evaluation relies on a conceptual framework and overarching research questions. It employs a rigorous mixed-methods design to assess implementation experience and the model's impact on cost, utilization, and quality outcomes. We describe all of these elements below.

NGACO Model Evaluation Conceptual Framework

The framework shown in Exhibit 1.4 depicts how the NGACO model features—in tandem with NGACO-level operations—influence providers' delivery of care and aligned beneficiaries' receipt of care, which ultimately are expected to influence the NGACO model's outcomes. The NGACOs operate within the context of markets and policies, which may influence how the model is implemented. This conceptual framework is based on existing literature, findings from previous ACO initiatives, and interim findings from our evaluation of the model. The framework also reflects driver diagrams developed by individual NGACOs. Given interdependencies among the key model domains, the framework depicts a system of interlocking gears that affect the NGACOs' overall operations and outcomes.

Exhibit 1.4. NGACO Evaluation Conceptual Framework



NGACO Model Features: CMS designed the NGACO model with specific features intended to improve the value of care by changing provider and beneficiary behavior. These include:

- increased financial risk for 80 percent or 100 percent of savings/losses and rewards for higher performance on quality measures;
- prospectively aligned beneficiaries, identified through claims or voluntary alignment;
- choice of payment mechanisms to explore a shift toward value over volume, including the possibility of sharing risk with providers;
- waivers for SNF stays, telehealth, and/or home visits; and
- beneficiary engagement through the $25 CCR for AWVs (in PY2 and PY3).

These features aim to enable providers to better manage their patient populations, promote efficiency, decrease fragmentation in care, and improve the patient experience. Performance may also reflect the impact of the levels of risk, payment mechanisms, and waivers that each NGACO selects, consistent with its respective organizational goals.

The NGACO model creates different incentives for care redesign. For example, as NGACOs take on greater downside financial risk, they may dedicate more resources to risk stratification and care management, which in turn might lead to reduced cost and fewer hospitalizations and emergency department (ED) visits. The greater financial risk and reward under the model may encourage ACOs to identify and improve health services or settings where efficiencies could be realized, such as in post-acute or sub-acute care settings.

NGACOs and Providers: NGACOs include a range of entities that vary in organizational structure and experience in ways that can influence approaches to care redesign and outcomes themselves. Our first annual evaluation report helped establish an evidence base for exploring hospital affiliation and prior experience with risk-based contracts as factors, among others, that could influence NGACO performance.[7]

As NGACOs formed, their leaders ideally sought to include providers committed to delivering high-quality and efficient care. Market factors also influence the universe of providers available for inclusion in NGACO networks. As NGACOs have gained experience, they have changed the composition of their provider networks.

Once NGACOs establish provider networks, they incorporate various strategies for managing their patient populations. These include:

- investing in data analytics to leverage prospective alignment;
- engaging physicians through financial incentives and other strategies such as model implementation support;
- engaging beneficiaries through care management and AWVs; and
- collaborating with participating and preferred SNFs to manage PAC.

Aligned Beneficiaries: Beneficiaries aligned with NGACOs vary in terms of their demographic characteristics, health status, preferences, and locality of residence. The interaction between beneficiary characteristics, local health system resources, and the NGACO and its providers can influence the extent to which beneficiaries use NGACO providers and services and, eventually, patient outcomes.

Outcomes: Aligned beneficiary experience with an NGACO exerts the most immediate influence on measured outcomes such as cost, utilization, and quality of care. In particular, aligned beneficiaries' health status, disease self-management, and compliance with clinical recommendations influence NGACO-level outcomes. Providers also affect outcomes through the health care services they offer, and NGACOs seek to influence outcomes through their value-based care provider network and population health management services. Finally, outcomes may be mitigated by an NGACO's market and policy context, including factors such as consolidation and competition, penetration of managed care and other commercial or public value-based payment models, and historical trends in cost and utilization.

Market and Policy Context: NGACOs and their providers and patients are subject to market and political conditions that may influence NGACO activities and outcomes. Different contexts may affect available resources, motivations, and outcomes. For example, geographic variation in characteristics such as managed care and ACO penetration, rurality, or average spending may influence organizational, clinician, and patient behavior, thus interacting with all facets of the conceptual framework. Moreover, policy factors such as the passage of the Medicare Access and CHIP Reauthorization Act (MACRA) of 2015 can

[7] Centers for Medicare & Medicaid Services. Next Generation Accountable Care Organization Model (NGACO) Second Evaluation Report. 2020 (January). https://innovation.cms.gov/files/reports/nextgenaco-secondevalrpt.pdf.

spur organizations and providers to take on more financial risk and adopt efficiencies in care apart from the NGACO model.

Research Questions

Guided by our conceptual framework, this report addresses four fundamental research questions. Each research question encompasses multiple secondary questions related to NGACOs, their providers, and their aligned Medicare beneficiaries.

- What are the characteristics of NGACOs and their aligned beneficiaries in PY3?
- What approaches did NGACOs implement in response to the model?
- What is the impact of the NGACO model on Medicare spending, utilization, and quality of care in PY3 and cumulatively from PY1 through PY3?
- How do NGACOs differ in their impact on total Medicare spending, specifically by their organization type, risk selection, or provider payment mechanism selection?

Data Sources and Methods

Findings in this report reflect analyses of multiple primary and secondary data sources. These sources include:

- program data (NGACO applications and data from the learning system contractor);
- semi-structured interviews with NGACO leadership and staff;
- surveys of NGACO leadership and affiliated physicians; and
- Medicare claims from 2010 through 2018 and administrative data.

To evaluate the implementation experience of NGACOs, we used qualitative thematic analysis of NGACO applications and interview transcripts, and descriptive analysis of survey measures. For the impact analyses of Medicare spending, utilization, and quality of care, we conducted quantitative analysis of claims data using a quasi-experimental difference-in-differences (DID) study design, comparing outcomes for beneficiaries aligned with NGACO providers with a comparison group of beneficiaries receiving usual care. See the Technical Appendices for more details.

Overview of This Report

As noted above, this third report was prepared as part of NORC's evaluation of the NGACO model; an outline by chapter is presented in Exhibit 1.5. This report builds on our previous two model evaluation reports by adding two additional performance years of findings (PY3 for the 2016 cohort and PY2 for the 2017 cohort) and results from PY1 for the 2018 cohort, and by providing more in-depth discussion of implementation experience based on a wider range of perspectives. In addition, we present initial findings on variation in model impact by individual NGACOs and subgroups of NGACOs to explore model features and other factors associated with performance.

Exhibit 1.5. Overview of the Third Evaluation Report

Chapter 2: NGACO and Participant Characteristics	Chapter 3: How NGACOs Responded to the Model	Chapter 4: NGACO Model Impacts	Chapter 5: Variation in NGACO-Level Impacts	Chapter 6: Summary
• Model features • NGACO characteristics • Provider characteristics • Beneficiary characteristics • Market characteristics	• Data analytics • Beneficiary engagement • Physician engagement • Integrating SNFs	• Cumulative findings: PY1 through PY3 for all three cohorts • Model-wide findings: PY3 only for all three cohorts	• Impacts in PY3 and cumulatively • Characteristics of NGACOs with cumulative spending reductions • Subgroup analyses	• Summary of results • Discussion of challenges • Plans for future research

Chapter 2: Who Participated in the NGACO Model? Characteristics of NGACOs, Providers, Beneficiaries, and Markets

Key Findings

Model Features & Organizational Factors

- Just over half of NGACOs (28 out of 50) selected 100 percent performance risk in PY3, with an average 8 percent cap on savings or losses.
- While a majority of NGACOs used the skilled nursing facility (SNF) three-day waiver to some degree, few implemented post-discharge home visit or telehealth waivers.
- The majority of NGACOs did not elect alternative payment mechanisms such as population-based payments (PBP) and all-inclusive population-based payments (AIPBP).

Provider Networks

- Most NGACOs built provider networks for the NGACO model on existing organizational or ACO provider networks.
- In PY3, over half of participating practitioners had prior Medicare ACO experience before joining the NGACO model.
- More than half of participating practitioners were either primary care physicians (25 percent) or primary care non-physicians, such as nurse practitioners (29 percent).

Beneficiary Characteristics

- 1.4 million Medicare beneficiaries were aligned with NGACOs in PY3.
- The majority of beneficiaries were female (58 percent) and white (82 percent), with an average age of 73.6 years.
- Beneficiaries averaged 5.6 chronic conditions and roughly 12 percent had a disability.

Market Characteristics

Compared to non-NGACO markets:

- NGACOs formed in markets that had more fee-for-service (FFS) Medicare beneficiaries per hospital referral region (HRR; 151,305 versus 90,557).
- NGACOs tended to form in less rural markets (17 percent versus 29 percent).
- NGACOs formed in markets with more than double the number of commercial ACO initiatives (185 versus 80).

In this chapter, we provide an overview of organizations, providers, and beneficiaries participating in the NGACO model as of PY3. Consistent with the conceptual framework established in Chapter 1, we describe the selection of NGACO model features as well as characteristics of NGACOs, their provider networks, the beneficiaries they serve, and the markets in which they operate.

NGACO Selection of Model Features

The NGACO model includes higher levels of shared financial risk and reward than did predecessor ACO models and a choice of four different payment mechanisms intended to transition providers away from pure FFS incentives. Exhibit 2.1 summarizes the NGACOs' selection of risk and payment options.

Risk Arrangements and Payment Mechanisms

Fifty-six percent (28 of 50) of NGACOs accepted full risk-sharing in PY3, with the 2018 cohort more likely than earlier cohorts to select this model feature. In addition, the average cap on savings and losses was higher among the 2018 cohort: 9.2 percent compared with 7.8 and 6.7 percent in the 2016 and 2017 cohorts, respectively. NGACOs that selected 100-percent risk cited a number of factors contributing to the organization's decision, including their strong historical performance in Medicare Shared Savings Program (MSSP) and Pioneer, an organizational commitment to value-based models, results of financial modeling, and organizational leadership's tolerance for risk. Those that selected 80-percent risk cited organizational leadership's reluctance to assume full risk based on the results of financial models, limited experience managing risk, and concerns with the benchmark (e.g., complexity of the benchmark, changes to benchmark methodology, timing of benchmark data reports that limited ability to accurately forecast).

Exhibit 2.1. Model Features: In PY3, NGACO Selection of Risk Arrangements and Payment Mechanisms

	2016 Cohort	2017 Cohort	2018 Cohort	Model-Wide
Number of NGACOs	13	21	16	50
Risk Arrangements (%)				
NGACOs Selecting 100% Performance Risk	7 (54%)	11 (52%)	10 (63%)	28 (56%)
Average Cap on Savings/Losses Selected	7.8%	6.7%	9.2%	7.8%
Payment Mechanisms (%)				
FFS	4 (31%)	6 (29%)	9 (56%)	19 (38%)
FFS + Infrastructure Payment (ISP)	4 (31%)	8 (38%)	6 (38%)	18 (36%)
Population-Based Payments (PBP)	5 (38%)	6 (29%)	1 (6%)	12 (24%)
All-Inclusive Population-Based Payments (AIPBP)	0 (0%)	1 (5%)	0 (0%)	1 (2%)

NOTE: FFS = fee-for-service.
SOURCE: Data from NORC-conducted NGACO Leadership Survey and model programmatic data.

Model-wide in PY3, three quarters of NGACOs (37 of 50) selected FFS (38 percent) or FFS with infrastructure payments (ISP; 36 percent) as their payment mechanism. Nearly all NGACOs in the 2018 cohort (15 of 16) chose FFS alone or FFS with ISP. Notably, most of the 2018 cohort was either physician practice-affiliated (8 of 16) or a physician-hospital partnership (6 of 16), while half the 2016 cohort (7 of 13) and near half of the 2017 cohort (9 of 21) were composed of hospital system-affiliated NGACOs (see NGACO Organizational Factors).

The FFS with ISP option may have appealed to many NGACOs because of the added flexibility from additional cash flow supporting clinical transformation. NGACO leaders described using the money to support upfront operating costs and infrastructure or clinical process enhancements such as new staff, health IT, data analytic capacity, population health management, or care coordination. One NGACO reported using ISPs to create provider incentives for activities such as annual wellness visits (AWVs) and redirecting acute visits from the emergency department (ED). In some cases, NGACOs were reluctant to use ISP because these dollars were to be recouped by CMS at final reconciliation. Two NGACOs that selected this option reported that they did not spend the payments because, in the words of one leader, they were "still on the balance sheet…as part of shared savings… [and] subject to clawbacks, [therefore] the ACO couldn't spend it."

Selecting PBPs or AIPBPs provides NGACOs more predictable cash flow as well as the flexibility to potentially pass on risk to practitioners and institutional providers in their networks. The 13 NGACOs electing PBP or AIPBP in PY3 included different organizational types: hospital system-affiliated (n=4), physician practice-affiliated (n=5), and physician-hospital partnerships (n=4). Leaders from NGACOs that chose PBP described their motivation for and approach to using the alternative payment mechanism in different ways. For example, one NGACO leader noted that the ACO used PBPs to help cover administrative costs practices incurred while implementing NGACO-related activities:

> *The ultimate goal that we've had with our physician partners is they're being paid fee-for-service for work that's done inside the exam room and in order to deliver high-quality care at a lower cost, there's a tremendous amount of work that they're asked to do outside of the exam room and after hours. The goal of taking these capitation fees that come across is to help cover this administrative cost structure that's going into the ACO into each individual practice. It costs doctors more to run these models than a FFS model... These dollars allow a doctor to decide that they could see 25 patients a day and spend an extra five minutes with each one and have the nurses and office staff coordinating care instead of having to see 35 patients that day just to cover the cost of running a practice.*

This ACO leader reported success with PBP in terms of an increase in providers managing patients appropriately.

NGACOs also reported using the upfront monthly PBP as a withhold to share financial risk with institutional providers in their networks. One NGACO leader described the ACOs' use of PBPs to share risk with SNFs as follows:

> *We... tied it to utilization and quality outcomes around readmission and the stay, engaged [an actuarial firm] to come up with benchmarks based on national SNF performance and we're basically saying, 'In order for you to earn back your withholds, you need to be at the 50th percentile, just average on length of stay and readmission, based on the preceding inpatient DRG.*

Among the 13 NGACOs that elected PBP or AIPBP in PY3, affiliated facilities were most likely to accept fee reductions; however, both the number of NGACOs with fee reductions and the average proportion of providers accepting fee reductions varied by provider type (Exhibit 2.2). Three quarters of PBP NGACOs had SNFs taking Part A reductions, and at least half had home health agencies and hospices taking reductions. On average, at least three quarters of the SNFs, home health agencies, and hospices in each of these NGACO networks took fee reductions. Fee reductions among hospitals were least common and occurred in one quarter of PBP NGACOs. On average, 59 percent of the hospitals in these NGACOs took fee reductions.

Of individual providers, PBP NGACOs were slightly more likely to have preferred practitioners than participating practitioners take fee reductions. In eight PBP NGACOs, 68 percent of preferred practitioners, on average, accepted Part B reductions, while in six PBP NGACOs, 49 percent of participating practitioners accepted fee reductions. One NGACO electing PBP (in the 2018 cohort) had no provider (practitioner or facility) accepting fee reductions (not shown).

The amounts of fee reductions also varied by provider type (Exhibit 2.2). The average Part A reduction for SNFs was 8.5 percent, and other facilities ranged from 2.5 percent (hospitals) to 9.5 percent (home health agencies). Average Part B reduction amounts were 14.5 percent for participating practitioners and 8.3 percent for preferred practitioners. The range of fee reductions was greater among participating practitioners primarily because one NGACO (physician practice-affiliated) averaged a 50 percent reduction among its participating providers.

Exhibit 2.2. Model Features: In PY3, Types of Providers and Their Average Medicare Fee Reductions among 13 NGACOs Selecting Population-Based and All-Inclusive Population-Based Payments

	Average Number of Providers per NGACO with PBP/AIPBP [a]	Number of NGACOs with Providers Accepting Fee Reductions	Average Proportion of Providers Accepting Fee Reductions [b] (%)	% Fee Reductions NGACOs with PBP Only [c]	
				Average (Median) %	Range %
Part A Reductions (Affiliated Facilities)					
Skilled Nursing Facilities	88.0	10	82.8	8.5 (9.7)	3.0 – 11.8
Home Health Agencies	37.8	8	82.9	9.5 (10.2)	3.0 – 12.9
Hospice	10.2	7	76.5	6.8 (7.2)	3.0 – 10.0
Inpatient Rehabilitation Facilities	2.2	5	93.3	7.5 (8.4)	3.0 – 10.0
Long-term Care Hospitals	2.2	4	97.2	5.6 (5.0)	5.0 – 6.9
Hospitals	7.2	3	59.1	2.5 (2.5)	2.0 – 3.0
Part B Reductions (Practitioners)					
Preferred	398.9	8	67.6	8.3 (8.6)	5.0 – 13.7
Participating	1028.6	6	49.4	14.5 (5.0)	3.0 – 50.0

NOTES: [a] Provider data reflect the number of Taxpayer Identification Numbers (TINs). Data on individual practitioners are not available. [b] Average proportion is calculated over NGACOs with provider type accepting fee reductions. [c] Average and range of fee reductions are calculated over NGACOs with PBP and provider type accepting fee reductions; one NGACO with AIPBP is excluded as the amount of reduction in AIPBP is 100 percent. [d] Presented in descending order of frequency.

NOT SHOWN: Federally qualified health centers, critical access hospitals, rural health centers, and other facilities. Fewer than two NGACOs have these types of providers electing Part A payment reductions.

SOURCE: NORC analysis of model programmatic data.

Among NGACOs considering PBP in the future, some mentioned providers' lack of readiness to commit to a PBP or the NGACO's lack of operational preparedness.

Benefit Enhancements

A majority of NGACOs implemented the SNF three-day rule waiver to some degree. Prior to launch of the NGACO model, many NGACOs had previous or concurrent experience and familiarity with the waiver through the Pioneer ACO Model, Medicare Advantage (MA) contracts, or bundled payment programs. NGACO staff reported the waiver helped "to deliver the right care at the right time at the right place." Examples of patients for whom the waiver was targeted included those at risk of hospitalization who may be prevented by direct admission to a SNF and hospitalized patients at risk of being discharged to home prematurely and, therefore, at risk of readmission. Other situations where SNF waiver admissions were used included certain surgical procedures or injuries (e.g., falls) where a patient did not need a three-day hospital stay, but was not ready for discharge home.

Use of the SNF waiver was limited, accounting for only 2.6 out of 71 SNF stays per 1,000 beneficiaries (3.7 percent), as shown in Exhibit 2.3. NGACOs cited several challenges to wider implementation and

more frequent utilization, including lack of awareness and understanding of the waiver among physicians and ED staff who could directly admit beneficiaries to a SNF through the waiver, as well as concerns about authorization.

NGACOs highlighted the need to provide education around who can benefit from the waiver, and tools to facilitate the process for using it. One participating physician noted, "Since it's a small percentage of the patient population, sometimes we don't use it because we forget it's available." Educating staff from hospitals with which they were not affiliated about the waiver was a particular challenge.

NGACOs implementing the SNF waiver described the need to implement authorization processes to identify eligible beneficiaries, as well as to ensure that SNFs were eligible to participate at a given point in time, citing the challenge of fluctuating star ratings. To facilitate the identification of eligible beneficiaries, several NGACOs created an NGACO patient identification banner within their electronic health record (EHR), visible only to providers operating within the same health system. Some NGACOs had care management staff act as "gatekeepers" for the waiver process, confirming beneficiary eligibility prior to using the waiver. Staff members from one NGACO described creating a 24/7 call center and a double verification system to ensure appropriate SNF admissions. Other NGACOs discontinued or paused use of the SNF waiver because of authorization challenges, citing multiple denials, the potential for abuse of SNF services, and lack of a control mechanism.

Exhibit 2.3. Model Features: In PY3, NGACO Benefit Enhancement Waivers, Model-Wide and by Cohort

	Model-Wide	2016 Cohort	2017 Cohort	2018 Cohort
3-Day SNF Waiver				
NGACOs that furnished SNF 3-day rule waiver services	27	8	12	7
3-day SNF waiver stays per 1,000 aligned beneficiaries in waiver participating ACOs	2.6	2.6	1.8	4.1
All SNF stays per 1,000 aligned beneficiaries in waiver participating ACOs	71	74	70	70
Telehealth Waiver				
NGACOs that furnished telehealth waiver services	4	2	2	0
Telehealth waiver services per 1,000 aligned beneficiaries	0.2	0.2	0.2	0
Post-Discharge Home Visit (PDHV) Waiver				
NGACOs that furnished PDHV waiver services	6	2	1	3
Discharges with PDHV waiver services per 1,000 aligned beneficiaries	0.3	0.4	0.4	0.1
PDH visits per 1,000 aligned beneficiaries	0.6	0.8	0.7	0.1

SOURCE: NORC analysis of NGACO Learning System Contractor Data.

Few NGACOs implemented the post-discharge follow-up home visit waiver, which allows a licensed clinician such as a nurse practitioner partnered with a physician to conduct home visits following hospital

discharge. NGACOs cited lack of staff and limited clinician buy-in. For some, the waiver was not a priority, while others indicated that the new infrastructure, workflow, and billing necessary to implement the waiver were not worth the investment given the waiver's restriction on the number of visits. Though this timeframe was expanded to nine visits within 90 days in 2018 (PY3), NGACOs continued to report the waiver was burdensome to implement or integrate into existing workflows. Since care management could occur telephonically and many NGACOs already conducted home visits outside of the waiver, some NGACOs leaders believed the waiver would complicate workflows while not providing significant additional value.

Most NGACOs chose not to implement the telehealth waiver because of lack of appropriate staff, technology, and provider buy-in, among other challenges. As one NGACO leader noted, "What we've seen… [is that] telehealth [providers] start strong and then move off. Their time is already allotted for [in-person] patient care. … To introduce another service, they would have to realign the way they practice. All this also requires that they're savvy or comfortable with the EHR."

NGACOs that received CMS approval for the telehealth waiver but chose not to implement it cited infrastructure needs (e.g., lack of appropriate technology, lack of billing systems, or the administrative burden of billing for waiver services). There were also market barriers—for example, if most patients lived nearby or in urban areas, NGACOs anticipated low demand for the waiver service. Finally, NGACOs also described patient preferences as another factor complicating waiver adoption. In the words of one NGACO leader, "I think there is a mentality ingrained in patients and physicians that [in-person] touch is needed. It's better to come in if they can." Further, some noted that older patients may be less comfortable with technology, discouraging their use of telehealth waiver services. NGACOs that used the telehealth waiver reported the existing technology and telehealth infrastructure assisted in implementation.

NGACO Organizational Factors

CMS requires that ACOs joining the NGACO model be independent legal entities. Some ACOs may have been legal entities prior to joining the NGACO model, while others may have become legal corporations specifically to participate in the model. Some of these entities are owned by or are subsidiaries of a health system, and others are independent. Regardless, ACOs function through contracts with providers in particular types of health care organizations (e.g., integrated delivery systems, hospital systems, independent providers).

Several studies have characterized ACOs based on the degree to which the ACO's management, administration, and/or activities are integrated with a particular type of health care organization.[8,9,10,11] Some studies describe an association between certain ACO organizational characteristics and outcomes. For example, McWilliams et al. found that after three years of participation in SSP, ACOs led by physician groups were more likely to achieve reductions in expenditures for Medicare than were ACOs led by hospitals during the study period.[12] However, recent studies have found that organizational structure does not consistently predict performance.[13]

When asked for their organizational type in their NGACO applications, ACOs varied in responses, with some identifying their organizational type based on the ownership of their ACO's legal entity and others based on the type of organization that its contracted providers work for or own. For the purposes of this evaluation, we have defined an NGACO's organizational type based primarily on the providers the NGACO contracts with and the types of health care organizations that they practice in, rather than solely ownership of the legal entity.

In considering NGACO program applications, interviews with NGACO leaders, and results from the leadership surveys, we have identified NGACO affiliation based on ownership and/or contracts with providers working in primarily:

- an integrated delivery system (IDS) or hospital system with tightly linked providers/facilities offering a continuum of care, hereafter referred to as hospital system-affiliated NGACOs;
- physician practice(s) and hospital system partnership, hereafter referred to as physician-hospital partnership NGACOs; or
- physician practices (e.g., a medical group practice or a network of individual practices that is not affiliated with a hospital system), hereafter referred to as physician practice-affiliated NGACOs.

Prior research has demonstrated that experience with risk-bearing models increases the likelihood of ACOs achieving shared savings.[14] In our previous interviews with NGACO leadership, respondents attributed their prior ACO participation as being instrumental to their participation in the NGACO model. We classified NGACOs according to their prior Medicare ACO experience in SSP and Pioneer ACO

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[8] Shortell SM, Wu FM, Lewis VA, Colla CH, Fisher ES. A taxonomy of accountable care organizations for policy and practice. *Health Serv Res*. 2014;49(6):1883-1899. doi:10.1111/1475-6773.12234.
[9] Chukmaitov A, Harless DW, Bazzoli GJ, Carretta HJ, Siangphoe U. Delivery system characteristics and their association with quality and costs of care: Implications for accountable care organizations. *Health Care Manage Rev*. 2015;40(2):92-103. doi:10.1097/HMR.0000000000000014.
[10] Muhlestein DB, Garder P, Merrill T, Peterson M, Tu T. A taxonomy of accountable care organizations: Different approaches to the triple aim. 2014;(June):1-12. http://leavittpartners.com/wp-content/uploads/2014/06/A-Taxonomy-of-Accountable-Care-Organizations.pdf.
[11] Essential Hospitals Institute. Integrated Health Care Literature Review. 2013. http://essentialhospitals.org/wp-content/uploads/2013/12/Integrated-Health-Care-Literature-Review-Webpost-8-22-13-CB.pdf.
[12] McWilliams JM, Hatfield LA, Landon BE, Hamed P, Chernew ME. Medicare spending after 3 years of the Medicare shared savings program. *N Engl J Med*. 2018;379(12):1139–1149. doi:10.1056/NEJMsa1803388.
[13] Ouayogodé MH, Colla CH, Lewis VA. Determinants of success in Shared Savings Programs: An analysis of ACO and market characteristics. *Healthcare*. 2017;5(1-2):53-61. doi:10.1016/j.hjdsi.2016.08.002.
[14] Ouayogodé MH, Colla CH, Lewis VA. Determinants of success in Shared Savings Programs: An analysis of ACO and market characteristics. *Healthcare*. 2017;5(1-2):53-61. doi:10.1016/j.hjdsi.2016.08.002.

models. We also counted their total years of experience as Medicare ACOs in the SSP, Pioneer, and NGACO models as of PY3.

Exhibit 2.4 displays the breakdown of NGACOs in PY3 by organizational structure and prior ACO experience.

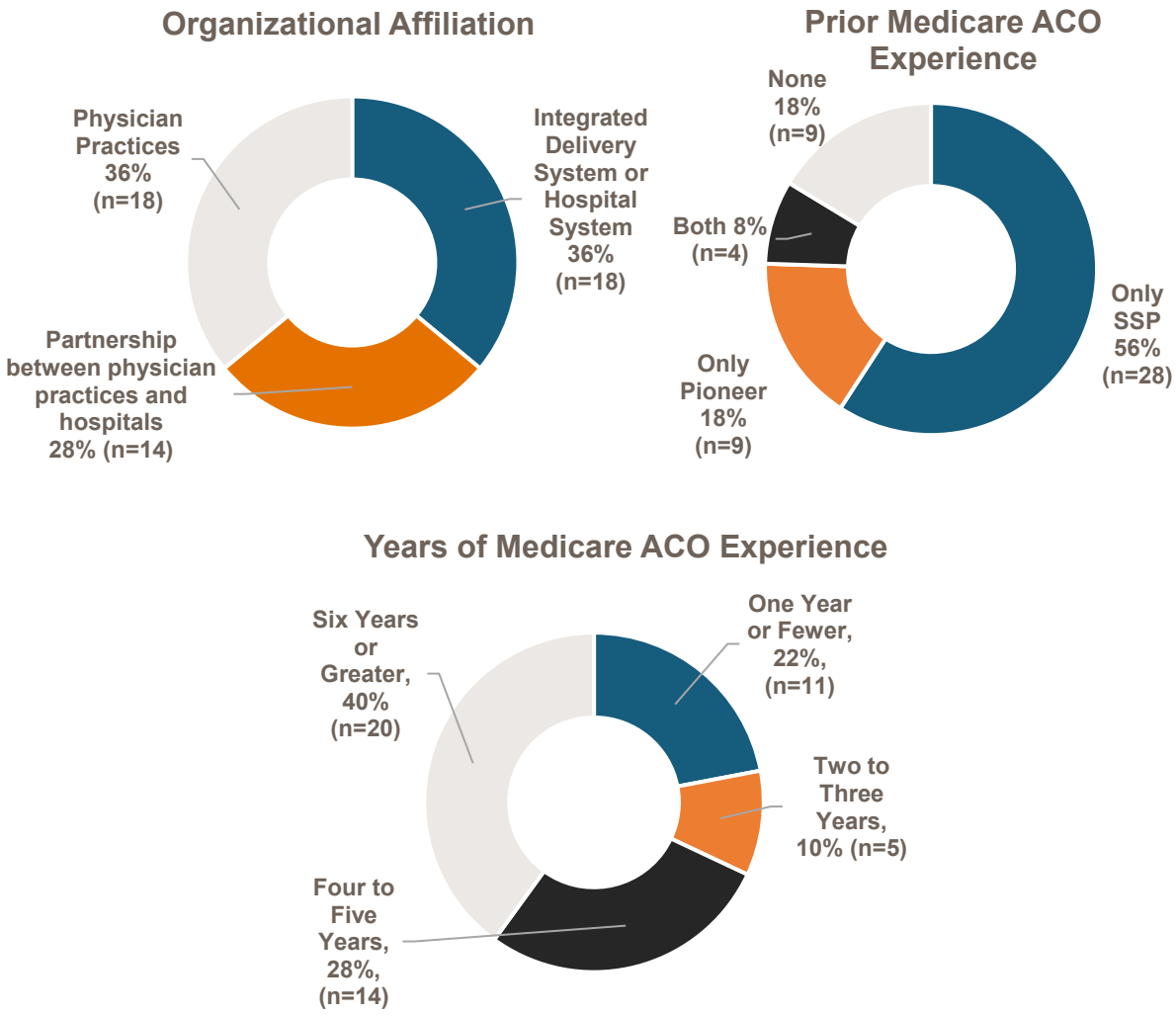
A majority of the NGACOs were either physician practice-affiliated (36 percent), or hospital system-affiliated (36 percent); the remainder were physician-hospital partnerships (28 percent). We explore the differential effects of NGACOs by organizational characteristics in Chapter 5. There were differences by cohort in organizational affiliation.

- The 2016 cohort had the highest proportion of hospital system-affiliated NGACOs (54 percent), fewer physician-hospital partnerships (31 percent), and fewest physician practice-affiliated NGACOs (15 percent).
- The 2018 cohort had the highest proportion of physician practice-affiliated NGACOs (50 percent), fewer physician-hospital partnerships (37.5 percent), and fewest hospital system-affiliated NGACOs (12.5 percent).
- In the 2017 cohort, most NGACOs were hospital system-affiliated (43 percent), and fewer were physician practice-affiliated (38 percent); it had the fewest physician-hospital partnerships (19 percent).

Most NGACOs (82 percent) in PY3 had prior experience as Medicare ACOs before starting the NGACO model, and the majority were previously in SSP (56 percent). There were also differences by cohort in prior Medicare ACO experience, with the 2016 cohort having the highest proportion of NGACOs with prior experience (92 percent), followed by the 2017 and 2018 cohorts (81 percent each).

NGACOs in PY3 varied in their years of experience as Medicare ACOs, ranging from six or more (40 percent) to one or fewer years (22 percent) of experience. Those in the 2016 cohort, by definition, had more years of experience, followed by those in the 2017 and 2018 cohorts. There were no notable differences in years of Medicare ACO experience across different organization types.

Exhibit 2.4. Organizational Characteristics: Majority of NGACOs Were Affiliated with Hospital Systems and/or Had Prior Medicare ACO Experience



NGACO Practitioner and Institutional Provider Networks

In this section we discuss the NGACO's provider networks that comprised both practitioners and institutional providers. We describe their network of participating providers (through whom beneficiaries were aligned with NGACOs) and preferred providers (who extended the NGACO's capacity to render accountable care for their aligned beneficiaries).

Participating Provider Networks

As shown in Exhibit 2.5, NGACO networks range in size from 53 to 5,253 individual practitioners in PY3, with the 2018 cohort having the smallest number of participating practitioners on average. Most NGACOs built their physician networks on existing organizational or ACO provider networks. For NGACOs affiliated with an IDS, hospital, or physician practice(s), clinicians employed by these entities serve as the base of the participating practitioner network. Forty-three out of 50 NGACOs (86 percent) built their practitioner networks on those previously established under previous Medicare ACOs or networks of their affiliated health systems (e.g., IDS).

Participating Providers: Beneficiaries are aligned with a given NGACO if the majority of their qualified evaluation visits were delivered by the ACO's participating providers.

Exhibit 2.5. Provider Networks: In PY3, the Number of Individual Practitioners in NGACO Participating Provider Networks Varied Widely Across NGACOs

Number of Individual Practitioners	All NGACOs in PY3 (50 NGACOs)	2016 Cohort (13 NGACOs)	2017 Cohort (21 NGACOs)	2018 Cohort (16 NGACOs)
Average	1,128	1,446	1,356	571
Median	748	1,413	835	526
Minimum	53	156	129	53
Maximum	5,253	2,687	5,253	1,834
25th Percentile	274	787	282	187
75th Percentile	1,412	2,131	1,311	741

NOTE: CMS uses the term "Next Generation Professional" to refer to participating individual physicians and non-physician practitioners.

SOURCE: NORC analysis of administrative and claims data for PY3 (2018). We used multiple data sources to summarize provider characteristics. We identified participating providers using their taxpayer identification number, national provider identifiers, and/or their CMS Certification Number at the beginning of each performance year. For participating providers in the NGACO model, we obtained data from CMS, as compiled by the NGACO program analysis contractor, and added participating provider information from the master data management provider files on the Chronic Condition Data Warehouse (CCW) Virtual Research Data Center (VRDC). We linked these data on participating providers to multiple CMS provider data sets. See Appendix I for more information.

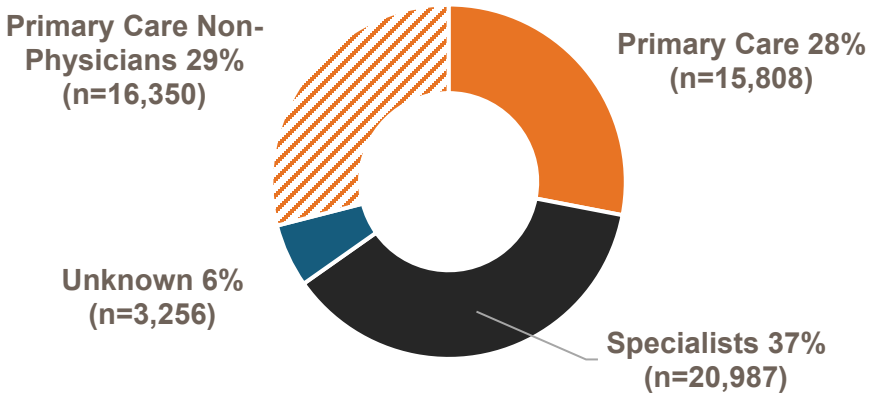
More than half of individual practitioners participating in NGACOs were either primary care physicians or primary care non-physicians (i.e., nurse practitioners or physician assistants), as illustrated in Exhibit 2.6.[15] Leadership from the majority of NGACOs emphasized that they felt that primary care practitioners are best able to provide the preventive and coordinated care aligned with the goals of the NGACO model. NGACO leaders were cautious about including specialists in their alignment-determining network, noting

[15] Appendix I includes the categorization of provider specialty into meaningful groups used in our NGACO evaluation. The MD-PPAS categories are used to group the taxonomy code for individual practitioners reported on the National Plan and Provider Enumeration System into the broad specialty classification provided in CMS MD-PPAS documentation. If a practitioner's specialties spanned more than one broad category, we apply Medicare Data on Provider Practice and Specialty (MD-PPAS) rules to classify each of these physicians into only one broad specialty: (1) Primary care overrides obstetrics-gynecology and general surgery, (2) medical specialty overrides primary care, (3) surgical specialty overrides all of the above, (4) obstetrics/gynecology overrides all of the above except for primary care, (5) hospital-based specialty overrides all of the above, and (6) psychiatry overrides all of the above.

that because many specialists' compensation is tied primarily to the delivery of procedures, they may not be as attuned to the mission of cost containment.

While a primary care-focused approach was the dominant model, some NGACOs included specialists as participating practitioners. The reasons cited for this varied. Some included specialists because the NGACO included all of its employed providers in the model (e.g., a specialty medical group practice). In other cases, NGACOs included particular types of specialists (e.g., cardiologists, nephrologists) who may serve as a primary source of care for beneficiaries with certain chronic diseases. By including these specialists, NGACOs report that they saw an opportunity to intervene with beneficiaries who may be higher cost and provide more opportunity for performance improvement. They also viewed the inclusion of specialists as a way to reduce the number of patients seeking specialty care outside the network. The most common specialty classes represented in participating practitioner networks were hospitalists, followed by medical and surgical specialists.

Exhibit 2.6. Provider Networks: In PY3, Most Participating Practitioners Identified as Primary Care

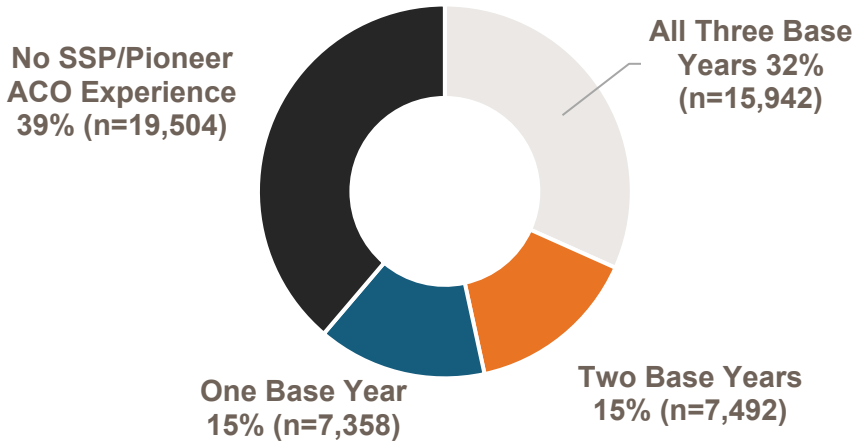


NOTES: Primary Care = MD-PPAS; Non-physicians = MD-PPAS; Specialists = includes MD-PPAS medical/surgical specialty, obstetrics/gynecology, hospital-based specialty, and psychiatry; Unknown = practitioner specialty unidentified.

SOURCE: NORC analysis of administrative and claims data. MD-PPAS categories were used to group the taxonomy code for individual practitioners reported on the National Plan and Provider Enumeration System into the broad specialty classification provided in CMS MD-PPAS documentation. See Appendix I for more information.

In recruiting independent practitioners, NGACOs reported that they attempted to consider the whole picture of practitioner performance, including quality, experience with value-based contracts, and EHR capacity. Many NGACO leaders indicated that they recruited independent practitioners with value-based experience under such programs as MA, Pioneer, SSP, or commercial ACOs. They believed that experience with value-based contracts indicated practitioners' readiness to participate (e.g., familiarity with CMS quality reporting) and to assume financial risk under the NGACO model. Based on our review of CMS's ACO provider files, almost two-thirds of participating practitioners across all NGACOs had experience in Pioneer or SSP ACOs in one, two, or all three baseline years before participating in an NGACO (Exhibit 2.7).

Exhibit 2.7. Provider Networks: In PY3, More than Half of Participating Practitioners Had Prior Experience in Pioneer or Shared Savings Program ACOs



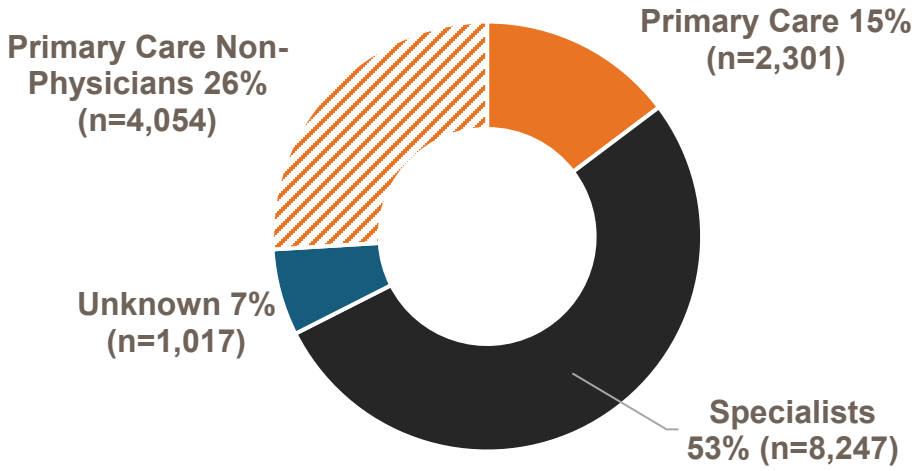
SOURCE: PY3 NGACO participating provider list linked to historical Shared Savings Program and Pioneer ACO participating provider lists (2013-2018) from CMS via National Provider Identifier (NPI), baseline years for 2016 cohort are 2013-2015, baseline years for 2017 cohort are 2014-2016, baseline years for 2018 cohort are 2015-2017. Appendix I provides a breakdown of the percent of participating providers with previous ACO experience by NGACO.

Preferred Providers

Our analysis of administrative data found that half of preferred practitioners were specialists (Exhibit 2.8). There was significant variation in the composition of preferred practitioner networks across NGACOs, with the percentage of specialists ranging from 0 to nearly 70 percent. The most common specialty categories among preferred practitioners were medical and surgical, followed by hospitalists.

Preferred Providers allow ACOs to provide a broader range of providers and suppliers along the care continuum. These providers have a formal relationship with the ACO, but the services they provide do not factor into the beneficiary alignment process.

Exhibit 2.8. Provider Networks: In PY3, Specialists Comprised More than Half of Preferred Individual Practitioners



NOTES: Primary care and non-physicians were defined in terms of MD-PPAS categories; Specialists = includes MD-PPAS medical/surgical specialty, obstetrics/gynecology, hospital-based specialty, and psychiatry; Unknown = practitioner specialty unidentified.

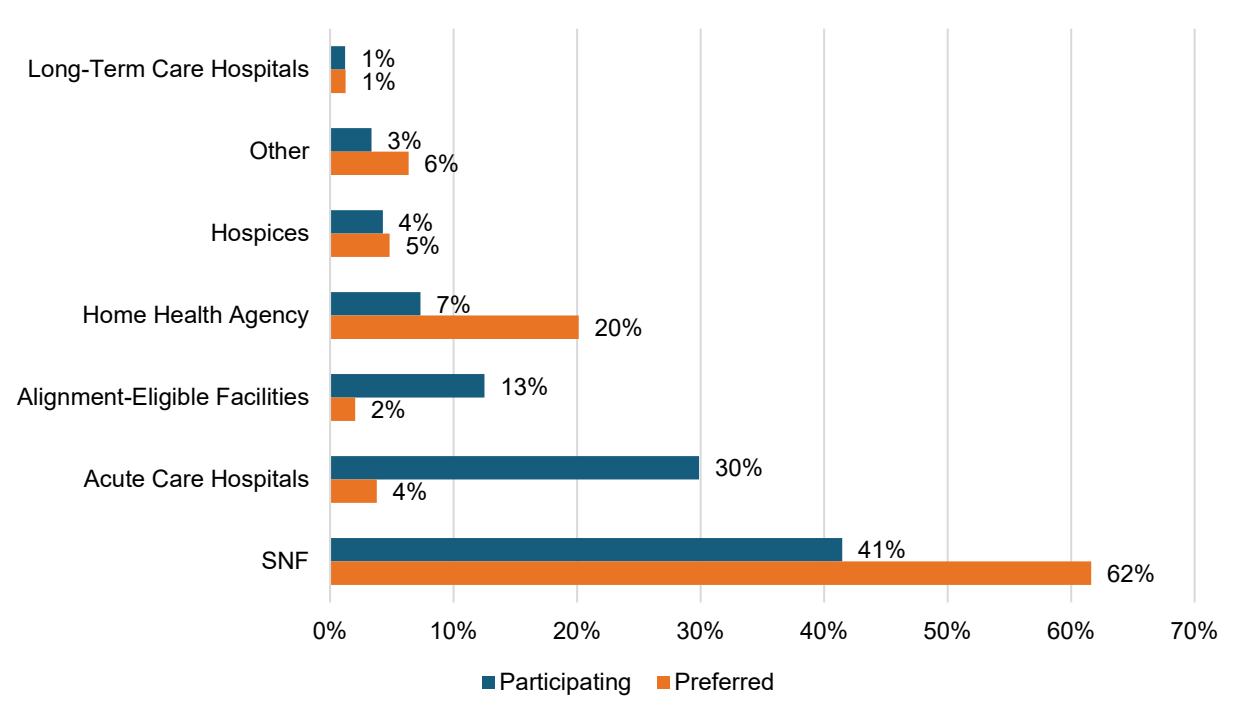
SOURCE: NORC analysis of administrative and claims data. MD-PPAS categories were used to group the taxonomy code for individual practitioners reported on the National Plan and Provider Enumeration System into the broad specialty classification.

Institutional Partners

In terms of institutional providers, NGACOs most commonly partnered with SNFs, which comprised 41 percent of participating and 62 percent of preferred institutional providers in PY3 (Exhibit 2.9). Many NGACO leaders viewed reducing SNF costs as one of the greatest opportunities to reduce the total cost of care for aligned beneficiaries for Medicare. All but one NGACO confirmed that they either had a SNF network in place or were working to put one in place. Common motivations for creating or expanding a SNF network were the implementation of the three-day SNF waiver, the opportunity to influence quality or cost of care, and the ability to share information.

Among the NGACOs that mentioned SNF partnering criteria, most either included or based inclusion criteria for building a SNF network on star ratings, per model requirements. However, the three-star criteria posed a challenge for several NGACOs, particularly those operating in rural regions, or where markets had fewer available partners. In addition, many SNFs' star ratings fluctuated, limiting their eligibility to participate in NGACO networks from one year to the next. NGACO leaders highlighted the importance of quality results in recruiting SNFs as participating institutional providers. One NGACO terminated a SNF participation contract mid-implementation when the SNF failed to meet quality standards. Some NGACOs used additional criteria when choosing to begin or continue a relationship with SNFs, including volume of NGACO beneficiaries; utilization (e.g., readmissions, length of stay); and qualitative assessments of the facilities' ability to work collaboratively and in alignment with NGACO objectives.

Exhibit 2.9. Provider Networks: In PY3, SNFs Accounted for the Highest Percentage of Both Participating and Preferred Institutions



NOTES: Alignment-eligible facilities are defined Critical Access Hospitals billing professional services for outpatient care, Federally Qualified Health Centers and Rural Health Clinics; SNF=Skilled Nursing Facility; Other=all other facility types.

SOURCE: NORC analysis of administrative and claims data for PY3 (2018). We used multiple data sources to summarize provider characteristics. We identified participating institutions using their taxpayer identification number (TIN), national provider identifiers, and/or their CMS Certification Number (CCN) at the beginning of each performance year. For participating institutions in the NGACO model, we obtained data from CMS, as compiled by the NGACO program analysis contractor. We linked these data on participating institutions to multiple CMS provider datasets and identify the institution type by the third digit of the CCN. See Appendix I for more information.

NGACO Beneficiary Characteristics

Exhibit 2.10 presents the NGACO aligned beneficiary characteristics alongside the average characteristics of the comparison FFS Medicare beneficiaries in NGACO market areas in PY3. The comparison FFS beneficiaries were prospectively attributed to non-NGACO providers using the NGACO model's attribution rules.[16] Of the 1.4 million beneficiaries aligned with NGACOs in PY3, the majority were female and white. Their average age was 73.6 years, and they had an average of 5.6 chronic conditions. A relatively smaller percentage of NGACO beneficiaries were eligible for Medicaid, classified as having a disability, or living in poverty or rural areas. To reduce the observed differences in these characteristics in multivariate models, we weight the comparison group so that the two groups are not statistically different from each other on these characteristics, and include these variables as covariates in our regression models, as explained in Chapter 5 and Appendix D.

[16] Non-NGACO providers excluded NGACO participating and preferred providers, as well as providers in SSP ACOs.

Beneficiary alignment can occur on the basis of care provided by the participating provider network or voluntary alignment. Voluntary alignment of beneficiaries to NGACOs was rare. In PY3, less than 1 percent of beneficiaries (0.6 percent) voluntarily aligned with an NGACO, with the 2016 class having more than twice as many voluntarily aligned beneficiaries compared with the 2017 class (1.1 percent versus 0.5 percent). No beneficiaries were voluntarily aligned from the 2018 cohort.

Exhibit 2.10. Beneficiary Characteristics: Comparing NGACO and Non-NGACO FFS Beneficiaries in PY3

Characteristic	NGACO Beneficiaries in PY3	Non-NGACO FFS Beneficiaries in NGACO Markets in PY3
Number of beneficiaries	1,399,398	29,261,115
Mean age in years (SD)	73.6 (11.2)	73.0 (12.2)
Gender (%)		
Male	42.2	43.1
Race/Ethnicity (%)		
White	82.0	80.1
Black	6.9	8.4
Hispanic	4.9	5.8
Asian	3.5	3.0
Other	2.7	2.7
Disability/End-Stage Renal Disease (ESRD; %)		
Disability	12.4	15.6
ESRD	1.0	1.1
Coverage (%)		
Any Medicaid dual eligibility	18.8	22.8
Any Part D coverage	77.5	77.4
Clinical Characteristics		
Mean number of chronic conditions (SD)	5.6 (3.8)	5.8 (4.0)
Mortality in reference period (%)	3.7	4.3
Community Characteristics (ZIP code level)		
Median income ($; SD)	68,950 (27,604)	64,552 (26,243)
Below poverty line (%; SD)	12.2 (8.1)	13.1 (8.2)
Bachelor's degree or higher (%; SD)	34.7 (17.2)	31.9 (17.2)
Rurality (%)	13.3	20.7
Alignment-eligible providers within 10-mile radius of beneficiary ZIP code (per 1,000 population; SD) ‡	2.3 (1.3)	2.1 (1.2)

NOTES: Community characteristics are at the beneficiaries' ZIP code level. ‡ Alignment eligible providers per 1,000 persons based on the total population (not restricted to the Medicare population). Non-NGACO providers excluded NGACO participating and preferred providers, as well as providers in SSP ACOs.

SOURCE: NORC analysis of Medicare enrollment, 2018 claims data, and ancillary data.

NGACO Market Characteristics

The markets in which NGACOs operate are likely to influence the composition of provider networks and the characteristics of beneficiaries aligned with the NGACO. In addition, market characteristics may influence where aligned beneficiaries seek care and, ultimately, NGACO performance.[17] Past research suggests that market characteristics associated with ACO formation and performance include the structure and composition of the local insurance and health care market, higher levels of market competition and managed care, presence and focus of local multi-stakeholder payment initiatives, and relevant state-level regulations.[18] Exhibits 2.11 and 2.12 display characteristics of the markets in which NGACOs operated in PY3.

On average, NGACOs formed in markets that had more FFS Medicare beneficiaries per HRR than non-NGACO markets. NGACOs that operated in PY3 formed in markets with an average of 151,305 beneficiaries per HRR, compared to 90,557 beneficiaries per HRR for non-NGACO markets. However, there was wide variation among NGACOs in PY3, with the number of aligned beneficiaries per HRR spanning 38,740 to 407,540 beneficiaries.

NGACOs tended to operate in less rural parts of the country compared with non-NGACO markets. We examined rurality of NGACOs' market areas by looking at the percentage of the population residing in rural areas, based on U.S. Department of Agriculture Rural Urban Commuting Area codes.[19] Markets in which NGACOs operated were less rural than non-NGACO markets (17 percent versus 29 percent of the population living in rural areas, respectively). In fact, NGACO markets became less rural with each new cohort of participating NGACOs. As of PY3, 19.3 percent of the 2016 cohort's markets were primarily rural, compared to 10.9 percent for the 2017 cohort and 9.4 percent for the 2018 cohort. Across all NGACOs in PY3, the percentage of NGACOs' market population residing in rural areas ranged from 0 to 59 percent.

Because of the differences between NGACO and non-NGACO markets and the impact these factors could have on outcomes, we selected comparison beneficiaries from the same market as the aligned beneficiaries for each NGACO.

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[17] Fisher ES, Shortell SM, Kreindler SA, Van Citters AD, Larson BK. A framework for evaluating the formation, implementation, and performance of accountable care organizations. *Health Aff*. 2012;31(11):2368-2378. doi:10.1377/hlthaff.2012.0544.

[18] Our review is based on the following articles: Fisher ES, Shortell SM, Kreindler SA, Van Citters AD, Larson BK. A framework for evaluating the formation, implementation, and performance of accountable care organizations. *Health Aff*. 2012;31(11):2368-2378. doi:10.1377/hlthaff.2012.0544; Lewis VA, Colla CH, Carluzzo KL, Kler SE, Fisher ES. Accountable care organizations in the United States: Market and demographic factors associated with formation. *Health Serv Res*. 2013;48(6 PART1):1840-1858. doi:10.1111/1475-6773.12102; Ouayogodé MH, Colla CH, Lewis VA. Determinants of success in shared savings programs: An analysis of ACO and market characteristics. *Healthcare*. 2017;5(1-2):53-61. doi:10.1016/j.hjdsi.2016.08.002; Yasaitis L, Pajerowski W, Polsky D, Werner RM. Physician participation in ACOs is lower in places with vulnerable populations compared to more affluent communities. 2016;35(8):1382-1390. doi:10.1186/s40945-017-0033-9; and Yeager VA, Zhang Y, Diana ML. Analyzing determinants of hospitals' accountable care organizations participation. *Med Care Res Rev*. 2015;72(6):687-706. doi:10.1177/1077558715592295.

[19] Cromartie J. USDA ERS - Rural-Urban Commuting Area Codes. Washington, DC: Economic Research Service of the US Department of Agriculture; 2001. https://www.ers.usda.gov/data-products/rural-urban-commuting-area-codes/. Accessed January 29, 2020.

Exhibit 2.11. Markets Served: NGACO Markets Had More Medicare FFS Beneficiaries and More Beneficiaries Living in Urban Areas

	Number of FFS Medicare Beneficiaries per HRR, 2015	Number of NGACO Aligned Beneficiaries per HRR, 2018	Percent of HRR Population in Rural Areas, 2014
Non-NGACO Markets (Average)	90,234	--	29
NGACO Markets (Average)	151,305	11,106	17
NGACO-Level Range			
Minimum	38,740	1,210	0
Maximum	407,540	25,623	59
25th Percentile	121,729	3,996	2
75th Percentile	260,047	9,179	22
Median	181,403	6,421	6

NOTE: HRR = hospital referral regions.

SOURCE: NORC analysis of CMS Geographic Variation Public Use File data, 2015; NORC analysis of NGACO beneficiary file 2018 from Program Analysis Contractor; NORC analysis of Rural Urban Commuting Area Codes data file, 2014.

While there was little variation in standardized risk-adjusted per-capita Medicare spending between NGACO and non-NGACO markets, there was variation across NGACO markets. The average standardized risk-adjusted per-capita Medicare spending in 2017 cohort markets ($9,279) was marginally lower than spending for the 2016 cohort ($9,626) and 2018 cohort ($9,781).

To characterize differences in hospital market structure between markets, we used the Herfindahl-Hirschman Index (HHI), which measures market concentration, or the market share of firms in a market. Higher HHI scores indicate higher concentration and less competition, while lower scores reflect more competitive markets. NGACOs formed in less concentrated hospital markets with HHIs ranging from 724 to 5179.[20]

[20] Herfindahl-Hirschman Index. https://www.justice.gov/atr/herfindahl-hirschman-index. Accessed January 29, 2020.

Exhibit 2.12. Markets Served: NGACOs Formed in Areas with More Active Commercial ACO Initiatives and Less Concentrated Hospital Markets

	Std. Risk-adjusted per-capita Medicare spending, 2015 (Average)	Medicare Advantage (MA) Penetration Rate, 2015 (Average)	Hospital Market Concentration, 2015 (HHI, Average)
Non-NGACO Markets	$9,635	29%	3,402
NGACO Markets	$9,506	33%	3,000
NGACO Market-Level Average Value or Rate			
Lowest NGACO Market	$7,868	12%	724
Highest NGACO Market	$11,153	58%	5,179
NGACO Market at 25th Percentile	$9,069	27%	2,018
NGACO Market at 75th Percentile	$9,862	43%	3,374
NGACO Market at Median	$9,245	35%	2,708

NOTES: HHI = Herfindahl-Hirschman Index. The HHI ranges from 0 to 10,000. Markets with an HHI from 1,500 to 2,500 are considered moderately concentrated. Markets with an HHI greater than 2,500 are highly concentrated.

SOURCE: NORC analysis of CMS Public Use File, 2015; Master Beneficiary Summary File, 2015; NORC analysis of American Community Survey, 2011–2015, 5-Year Estimates; and American Hospital Association Survey File, 2015.

Chapter 3: How NGACOs Responded to the NGACO Model

Key Findings

IT & Data Analytics

- NGACOs invested in health IT and data analytics through a combination of internal capacity building and vendor contracts to enhance the utility of prospective beneficiary alignment data and other clinical and administrative data sources.
- Increased data analytic capacity enabled NGACOs to take a population-based perspective and engage in risk stratification, identification of gaps in patient care, and financial forecasting.

Beneficiary Engagement

- Most NGACOs enhanced or expanded existing care management services, which were offered to patients based on need rather than NGACO alignment.
- NGACOs targeted patients for care management based on assessments of their health status, utilization, and expenditure risks.
- NGACO leadership perceived care management to be effective in reducing utilization, changing provider culture, and improving patient self-management and care transitions.

Physician Engagement

- NGACO leadership perceived that discrete payments or rewards based on quality and utilization measures would have more impact on physician behavior than the potential for shared-savings payments.
- When NGACOs earned shared savings, most arranged to share some of these gains with providers, but few asked providers to share in the losses the ACO incurred.
- NGACO leaders reported that sharing comparative performance data with providers was the most effective strategy for motivating behavior change.

Skilled Nursing Facility (SNF) Collaboration

- NGACOs invested in building collaborative relationships with SNFs and identifying a network of SNFs with shared performance goals for quality, spending, and utilization among attributed Medicare FFS beneficiaries.
- Nearly half (n=23) of NGACOs in PY3 instituted or expanded regular, in-person and/or virtual, meetings with SNFs to focus on improving quality and decreasing length of stay.

This chapter describes how NGACOs invested in four broad areas in response to the NGACO model: leveraging health information technology (IT) and data analytics to use prospective alignment data, engaging beneficiaries through care management and annual wellness visits (AWVs), engaging physicians through financial and non-financial incentives, and building relationships with SNFs.

Although NGACOs' performance is likely to be associated with multiple activities, NGACO leaders most commonly described data analytics, beneficiary engagement, physician engagement, and SNF collaborations as areas of focus to improve quality of care and decrease utilization and spending. Our analysis reflects two rounds of interviews with NGACO leadership from the 2016 and 2017 cohorts, and one round with NGACO leadership from the 2018 cohort. We also conducted interviews with care management leaders and staff, and health IT and data analytics staff from all three cohorts. Our analysis also draws on data collected from the NGACO leadership survey annually. (See Appendices E and F for additional detail on qualitative and survey data collection, respectively.) This longitudinal data collection approach allows us to capture programmatic changes over time. We also draw on a physician survey administered to the 2016 and 2017 cohorts in calendar year 2017.

Investments in IT Systems and Data Analytic Capacity Enabled NGACOs to Use CMS Prospective Alignment Data Strategically

Key Takeaways

Risk Stratification

- Most NGACOs described using risk stratification to identify high-cost, high-risk beneficiaries for more intensive care management. However, risk stratification methods and level of sophistication varied among NGACOs, with many indicating they only recently developed the ability to prospectively risk-stratify patients.

Identifying Gaps in Care and Facilitating Care Coordination

- Data warehousing and analytics investments enabled NGACOs to generate reports and other tools identifying gaps in care for clinicians and care managers, such as missing AWVs, preventive screenings, or medications.
- NGACOs with a single or dominant EHR system more easily identified gaps in care and resolved those gaps through improved care coordination.
- NGACOs lacking interoperable systems developed or planned to develop workarounds, including point-of-care tools, participation in health information exchanges (HIEs), and master patient indices to facilitate care coordination and information exchange with independent physicians.

Financial Forecasting

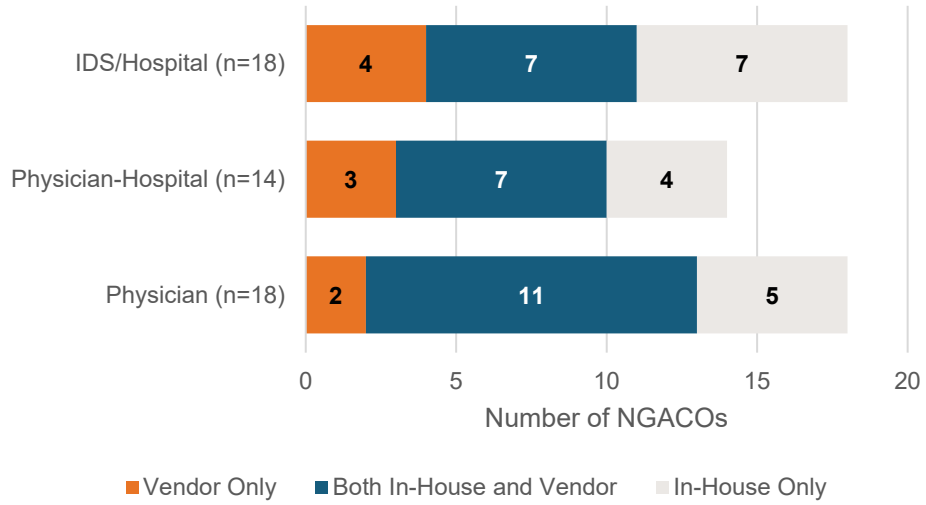
- NGACOs described using their in-house analytic capacity to produce financial forecasts and predictive models to project spending and savings.
- These financial projections helped NGACOs manage downside risk.

One key feature of the NGACO model is the prospective alignment of beneficiaries and sharing of associated claims data. The data CMS provides to NGACOs on aligned patient populations enable NGACOs to target resources more strategically. NGACOs reported a range of organizational investments and efforts to expand and/or increase IT systems and data analytic capacity. Regardless of whether the new technology was limited to NGACO beneficiaries, the NGACO model inspired a range of investments in both vendor contracts and building internal capacity to create smarter and more efficient information systems to support three key functions: risk stratification, identification of gaps in patient care with care coordination, and financial forecasting.

Almost all NGACOs (47, or 94 percent) reported having a data warehouse, which they leveraged for in-house claims analysis, financial forecasting, and *ad hoc* reporting. At the same time, a majority of NGACOs rely on vendors in whole or in part for data analytic capacity (Exhibit 3.1). NGACOs, like most providers, relied most commonly on the collection and integration of claims, electronic health records (EHRs), and admission, discharge, and transfer (ADT) feeds to generate comprehensive data on health services provided to aligned beneficiaries. CMS's prospective beneficiary alignment lists and updates throughout the year complemented these data sources. Vendors often aggregated provider-level data from such sources as HIEs, point-to-point web portals, Health Level 7 (HL7)-based feeds, and EHRs to a central data warehouse, and matched members across EHRs. Other data sources cited in interviews and leveraged by NGACOs included disease registries and pharmacy data, as well as information on behavioral health and social determinants of health.

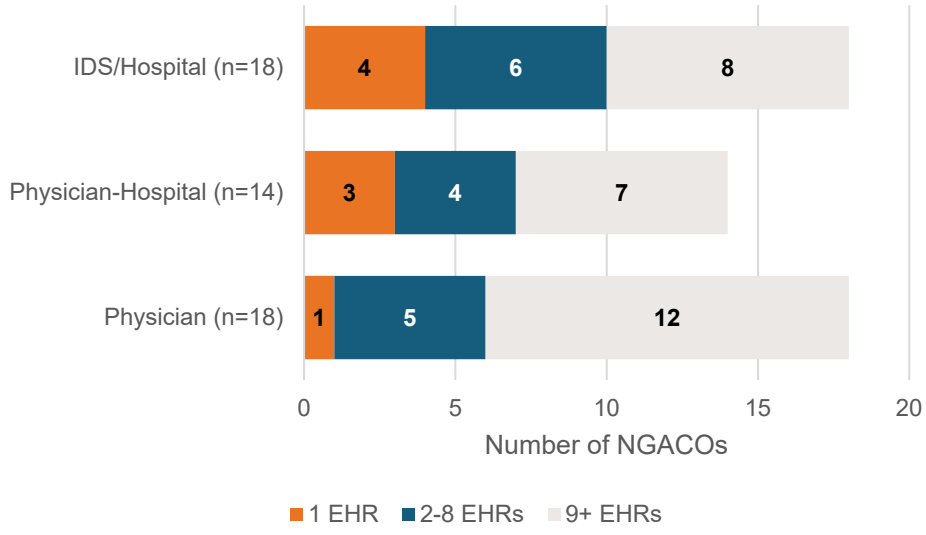
Interoperability varied across NGACOs. Only eight NGACOs of 50 have all providers on a single EHR system. Over half of the NGACOs (n=27) operate with nine or more EHR systems (Exhibit 3.2). One large multi-specialty independent practice association participating in the model described an exceptional case, reporting as many as 60 different EHR systems among its affiliated physicians. NGACOs that had either one dominant or only a few EHR systems typically built the provider network on an existing system of employed physicians, having long relied on fully interoperable IT and EHR systems. Several NGACOs reported that increasing interoperability was a priority and that their systems were investing in new IT solutions.

Exhibit 3.1. Many ACOs of All Organization Types Brought in Vendors to Lead or Supplement Their Analytic Activities: Source of Analytic Workforce by ACO Organizational Type



NOTE: NORC interviews with NGACO leaders and staff.

Exhibit 3.2. Across the 2016, 2017, and 2018 Cohorts, Only Eight NGACOs Had Participating Providers on a Single EHR System: Number of EHR Systems per NGACO, by ACO Organization Type



NOTE: NORC interviews with NGACO leaders and staff.
SOURCE: Survey and interview data.

In the remainder of this section, we discuss three main uses of data analytics among NGACOs—risk stratification, care coordination, and financial forecasting.

- Risk Stratification: Data analytic capacity for targeting patients by risk allowed for more efficient allocation of care management resources.
- Care Coordination: Information sharing and dissemination platforms highlighted gaps in care, supported care coordination, and supported clinician engagement through performance feedback.
- Financial Forecasting: Predictive modeling of financial performance informed NGACO executive leadership about the organization's financial risk.

When undertaking these new data analytic activities, most NGACOs were able to leverage experience as Medicare Pioneer or SSP ACOs or with other value-based contracts, as well as experience participating in MA networks. More experienced NGACOs used more advanced applications, beyond risk stratification, to support clinical decision making at the point of care.

> *"The ACO receives clinical and claims data that are stored and managed by their in-house analytics and data warehouse system. While there are approximately 30 EHR systems across the ACO's network, the command center pivots this data into a central repository as a means of promoting interoperability across all providers and practices, including in and out of network hospitals.… We have a care gap tool that measures all of those [Group Practice Reporting Option] GPRO measures from a clinical aspect to coordinate and aggregate all that data appropriately, so that they know where they're at on a monthly basis."*
>
> *—Senior IT Staff*

Risk Stratification

Most NGACOs described using risk stratification to identify high-cost, high-risk beneficiaries for more intensive care management. However, risk stratification methods and their level of sophistication varied among NGACOs, with many indicating they only recently developed the ability to risk-stratify patients prospectively. When surveyed, most NGACOs (43, or 87 percent) indicated that identifying high-risk beneficiaries was extremely useful in managing financial risk; however, many also noted that they only recently developed the ability to risk-stratify their aligned populations prospectively using predictive modeling. NGACOs reported specifically targeting beneficiaries for care management based on characteristics including past patterns of high utilization, recent inpatient stays, frequent emergency department (ED) visits, predicted high spending, risk of hospitalization, and having multiple chronic conditions.

Leadership from more than half of the NGACOs reported in interviews that they rely primarily on a vendor for risk stratification. The majority partnered closely with consultants and vendors that delivered information on patient risk levels, drawing on various data sources that included EHRs and claims data on utilization and cost, and often incorporating data from CMS on the aligned population's Hierarchical Condition Category (HCC) scores. In some cases, NGACOs with newly developed in-house data analytic capacity adapted or customized commercial algorithms. Some NGACOs that had this internal capacity still worked with a consultant for some roles. We also observed that several NGACOs evolved over the

course of the model in terms of developing new approaches or engaging new vendors, bringing capacity in-house, or switching vendors.

Identifying Gaps in Care and Facilitating Care Coordination

Data warehousing and analytics investments enabled NGACOs to generate reports and other tools identifying gaps in care for clinicians and care managers, such as missing AWVs, preventive screenings, or medications. Most NGACO leaders and staff among 34 NGACOs interviewed across the 2016, 2017, and 2018 cohorts described using data analytic capabilities and EHRs to identify and regularly report gaps in care. NGACOs described the process of integrating and analyzing multiple data sources to create physician reports and populate point-of-care tools. Reports identifying gaps in care were a common output from expanded data warehouses that NGACOs had invested in while under the model. One NGACO representative explained the process of data aggregation and analysis: "We pull all information we receive from CMMI, hospital information, employed physician information, and any data we receive electronically from the practices or through a portal … into that database…It's where all analytics are performed."

NGACOs with a single or dominant EHR system more easily identified gaps in care and sought to resolve those gaps through improved care coordination. NGACOs on a single EHR system reported being able to more easily link the care provided by care managers and physicians to gaps in care. These systems were less likely to require integration of data across disparate medical record systems, allowing for more timely exchange of information across care teams and settings. Some medical record systems also facilitated conveying information among a patient's clinicians. As one NGACO noted, "[Care managers] have a work flow that's built into...our EHR… It's good because we're on that singular system. Everyone can see a person's notes. We also have the ability to route notes to our doctors.... If there's something we want the doctor to see, we don't have to hope that the note [gets seen]." Leadership from NGACOs with fully interoperable networks and every participating provider on the same EHR attributed much of the NGACO's successful performance to these systems.

NGACOs lacking interoperable systems developed or planned to develop workarounds, including point-of-care tools, participation in HIEs, and master patient indices to facilitate care coordination and information exchange with independent physicians. For example, one NGACO had care managers document patient care from multiple EHRs in the system's most common EHR system and highlighted the capture of information on acute care and SNF stays. Care management and health IT staff from a few NGACOs also described creating point-of-care tools. One noted, "We update all of the membership [information]… which is provided to all of the offices [so] the office manager can go in there and get information on any of the patients that are assigned to our panel." Others concluded that the ability to view patient data from other organizations and to allow read-only access to their system decreased their concerns about achieving interoperability. Nine of the NGACOs that had multiple EHRs reported relying on HIEs to ensure that participating providers had access to patient data or could share information, and found it to be an effective strategy in the absence of a dominant EHR. Another strategy, reported by one NGACO, was member matching across systems; this NGACO planned to create a master patient index in the future to support information integration and exchange.

Financial Forecasting

NGACO leaders described using their in-house analytic capacity to produce financial forecasts and predictive models to project spending and savings. They also reported that these projections helped them manage downside risk. However, NGACOs that did not have internal capacity explained that they relied on their vendors to produce financial and actuarial reports. For example, NGACOs developed their own per member per month actuarial cost and savings projections against the benchmark to monitor internal progress and inform decisions about selection of the risk level and model participation. NGACOs reported varying ability to accurately forecast or benchmark expenditures, with challenges largely resulting from the lag in CMS data and discrepancies between preliminary and final benchmark reports, or between NGACO and CMS reports. One NGACO representative described leveraging opportunities to reconcile these differences, explaining, "The data analytics team has had success in replicating CMMI's formula used to determine performance, which has improved [our NGACO's] ability to accurately forecast medical expenses."

NGACOs Engaged Beneficiaries through Care Management and AWVs

Key Takeaways

NGACOs Enhanced Care Management Already Integral to Care Delivery

- The majority of NGACOs (37) built on existing care management approaches by hiring more care management staff or consultants, increasing the presence of care managers in primary care practices, and/or adding certain care management services.
- Leaders from over half of the NGACOs interviewed reported that care management was an integral part of general health care delivery and that care management services were delivered to patients based on need and not alignment with the model.

NGACO Approaches to Care Management Included In-Person Contact and Team-Based Care

- Though not independently verified, NGACO leadership reported care management was effective in reducing utilization, changing culture, and improving patient self-management and care transitions.
- Most of the NGACO leaders interviewed identified AWVs as an effective strategy for engaging beneficiaries. Perceptions of the Coordinated Care Reward (CCR) were mixed: some NGACO leaders said the feature was valuable in encouraging AWVs, and other NGACO leaders noted that the CCR was not associated with a large impact on AWV use.

As noted in the conceptual framework, NGACOs directly engage with beneficiaries in an effort to improve outcomes. Some beneficiary engagement activities are unique to the model, including voluntary alignment of beneficiaries and a $25 CCR linked to completion of an AWV. Others, like care management, may not be unique to NGACOs, but prospective alignment data enabled NGACOs to target care management resources more effectively for their Medicare beneficiaries. In this section, we offer findings on two common beneficiary engagement strategies: care management and activities to promote the AWV.

This analysis begins to explore the relationship between care management and evaluation outcomes by describing particular characteristics that could affect utilization, spending, and quality and by examining NGACOs' perceived effectiveness. Previous studies have mixed findings on the impact of care management on Medicare ACOs' spending and utilization.[21,22] Care management services vary and include management of patients who have high costs or utilization and/or multiple chronic conditions (i.e., complex care management), and management of patients transitioning from inpatient hospital stays to a home or a SNF, or between a SNF and home (i.e., care transitions management).[23] NGACOs rely on access to information about hospital admissions and the timing of discharge to facilitate strong transitional care management, as utilization of patient- and practice-specific reports by care managers has been associated with improved quality and cost metrics.[24,25,26,27]

Though we cannot definitively link particular care management activities to outcomes at this point in the evaluation, it is important to recognize that care management is at the discretion of the NGACO and is a key mechanism of interaction with their aligned beneficiaries. Moreover, AWVs and care management are among the primary mechanisms NGACOs use to encourage beneficiaries to seek high-value care. In the following section, we describe how NGACOs and affiliated providers target and provide care management.

NGACO's Enhanced Care Management Already Integral to Care Delivery

The majority of NGACOs (37) built on existing care management programs by hiring more care management staff, increasing the presence of care managers in primary care practices, and/or adding certain care management services. NGACOs perceived care management as a way to improve performance on quality, utilization, and spending measures. NGACO expansion of care management services often went beyond aligned beneficiaries. Examples of ways that NGACOs changed existing care management services included contracting with a care management organization; hiring additional care management staff (including medical assistants, pharmacy technicians, and other non-clinical staff); adding pre-discharge visits; adding community/outpatient palliative care; adding advance care planning; and increasing the presence of care managers in primary care practices. Some also changed risk-stratification methods or algorithms and care management enrollment strategies. Most reported making

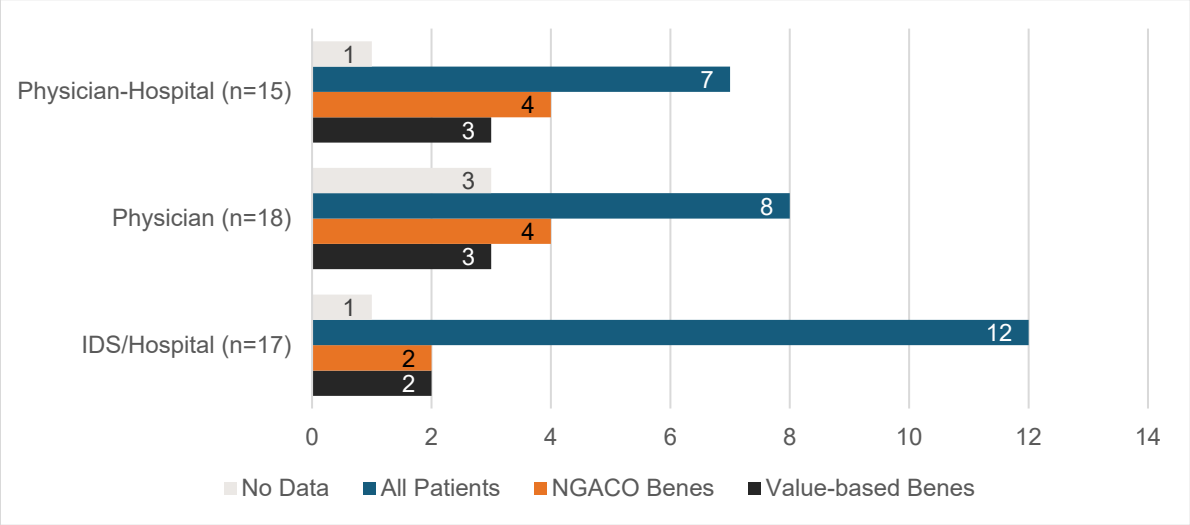
[21] Hsu J, Price M, Vogeli C, Brand R, Chernew ME, Chaguturu SK, Weil E, Ferris, TG. Bending the spending curve by altering care delivery patterns: The role of care management within a Pioneer ACO. *Health Aff*. 2017;36(5):876–84. https://doi.org/10.1377/hlthaff.2016.0922.
[22] Ouayogodé MH, Mainor AJ, Meara E, Bynum JPW, Colla CH. Association between care management and outcomes among patients with complex needs in Medicare accountable care organizations. *JAMA Network Open*. 2019. https://doi.org/10.1001/jamanetworkopen.2019.6939.
[23] Peck KA, Usadi B, Mainor A, Newton H, Meara E. How ACOs are caring for people with complex needs. 2018;1–21. https://www.commonwealthfund.org/sites/default/files/2018-12/Peck_ACO_Care_Complex_Needs_6F_final_v2.pdf.
[24] Lewis VA, Tierney KI, Fraze T, Murray GF. Care transformation strategies and approaches of accountable care organizations. *Medical Care Research and Review*. 2019;76(3):291–314. https://doi.org/10.1177/1077558717737841.
[25] Cross DA, Adler-Milstein J. Investing in post-acute care transitions: electronic information exchange between hospitals and long-term care facilities. *Journal of the American Medical Directors Association*. 2017;18(1):30–34. https://doi.org/10.1016/j.jamda.2016.07.024.
[26] Davidson GH, Austin E, Thornblade L, Simpson L, Ong TD, Pan H, Flum DR. Improving transitions of care across the spectrum of healthcare delivery: A multidisciplinary approach to understanding variability in outcomes across hospitals and skilled nursing facilities. *American Journal of Surgery.* 2017;213(5):910–14. https://doi.org/10.1016/j.amjsurg.2017.04.002.
[27] Salmon RB, Sanderson MI, Walters BA, Kennedy K, Flores RC, Muney AM. A collaborative accountable care model in three practices showed promising early results on costs and quality of care. *Health Aff.* 2012;31(11):2379–87.

changes to their care management program for the NGACO model, in some cases increasing focus on areas where they identified targeted opportunities for improvement through data analytics (e.g., PAC, end-of-life care). While there is no discernable pattern to how NGACOs enhanced care management services, it is clear that the majority saw enhancing care management as a potential way to improve performance on quality, utilization, and cost outcomes relative to their baseline and over time.

Leaders from over half of the NGACOs interviewed reported that care management was an integral part of general care delivery and that care management services were delivered to beneficiaries irrespective of whether they were aligned with the model. Most NGACO-affiliated health systems offered the same care management services to all patients determined as needing such services, regardless of whether the patients were aligned with NGACO providers. NGACO-affiliated health systems generally assessed patients' need for care management services at discharge from a hospitalization by mining EHR data and through physician referrals. As described previously, NGACOs used prospective alignment data to stratify NGACO beneficiaries by risk, supplementing results of algorithms with clinical referrals.

Hospital system-affiliated NGACOs were more likely to provide the same care management services to all patients compared to NGACOs that were affiliated with physician-hospital partnerships and physician practices. Among the 17 hospital system-affiliated NGACOs, 12 had care management programs that served all patients and four had programs that served only NGACO beneficiaries or patients covered by value-based contracts. Physician-hospital partnerships and physician practice-affiliated NGACOs were evenly split between those offering care management services only to NGACO beneficiaries or beneficiaries in other value-based contracts (n=15) and those offering care management services to all patients (n=14).

Exhibit 3.3. The Majority of NGACOs and Affiliated Health Systems Provided Care Management Services by Patient Type: Number of NGACOs by ACO Organization Type



SOURCE: NORC interviews with NGACO leaders and staff.

Some NGACOs reported assigning specific care management staff only to NGACO beneficiaries or giving NGACO beneficiaries special attention, even if they also offered care management services to other populations. Regardless of their reach, care management programs were a critical component of NGACO efforts to manage population health under value-based care models.

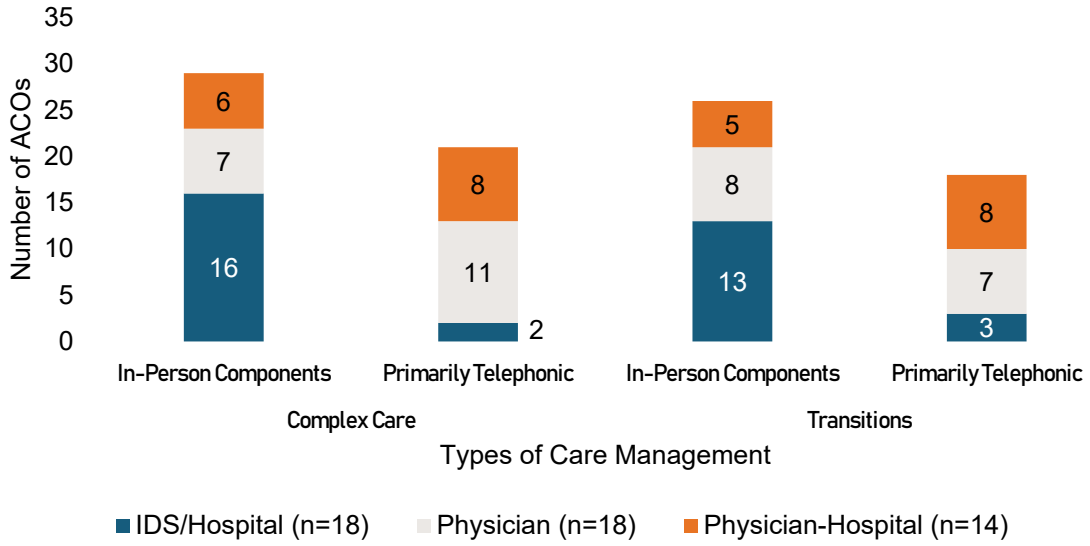
NGACO Approaches to Care Management Included In-Person Contact and Team-Based Care

We have found that the majority of NGACOs provided at least some in-person care coordination services for patients with complex conditions in primarily outpatient settings (58 percent) and during transitions in care (52 percent). NGACOs affiliated with an IDS or hospital were more likely to offer some in-person care management services for both complex care management (mostly outpatient) and during transitions (mostly inpatient) than physician practice-affiliated NGACOs or physician-hospital partnerships (Exhibit 3.4).

In this section, we describe differences in the mode and type of care management by NGACOs. Research shows that high-performing ACOs in SSP routinely employed on-site care coordinators in primary care settings.[28] We cannot infer from prior studies that in-person care management is necessarily better than telephonic, or that team-based care management is better than care management provided by a discrete number of care managers. At this stage of the evaluation, we cannot describe how the mode and type of care management relate to the overall reach or amount of care management offered by the NGACO or affiliated health systems, though we may explore this in future reports.

[28] D'Aunno T, Broffman L, Sparer M, Kumar SR. Factors that distinguish high-performing accountable care organizations in the Medicare shared savings program. *Health Serv Res*. 2018;53(1):120-137. doi:10.1111/1475-6773.12642.

Exhibit 3.4. Use of In-Person or Telephonic Care Management for Complex Care Patients versus Care Transition Patients: Number of ACOs by ACO Organization Type

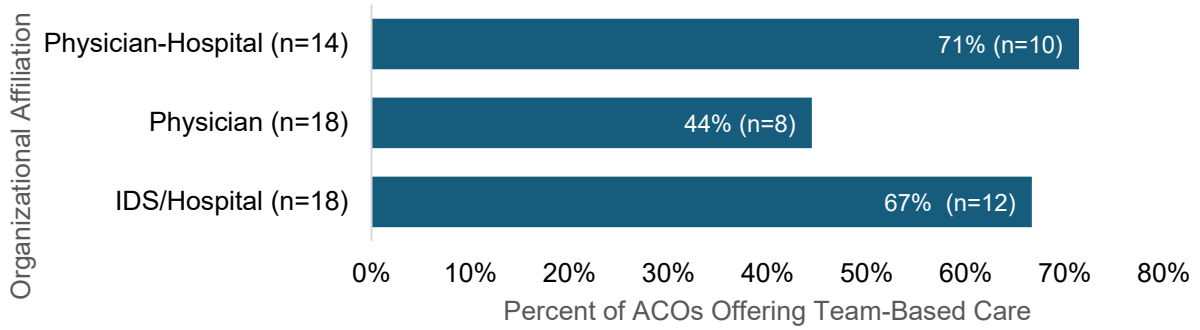


SOURCE: NORC interviews with NGACO leadership and staff.

In addition, most NGACOs reported using team-based care, or a multidisciplinary team that includes some combination of a nurse care manager, physician, social worker, pharmacist, and care coordinators/non-clinical staff coordinating care on behalf of beneficiaries in addition to or instead of a nurse care manager. Literature suggests that team-based care is critical to meeting the demands of value-based care models, and some evidence suggests that team-based care management programs have a positive impact on outcomes and utilization measures among patients with complex chronic health needs.[29,30,31,32,33] Most IDS/hospital and physician-hospital NGACOs offered team-based care management. More NGACOs affiliated with physician-hospital partnerships attested to using care management provided through team-based care (Exhibit 3.5).

[29] Nester J. The importance of interprofessional practice and education in the era of accountable care. *N C Med J*. 2016;77(2):128-132. doi:10.18043/ncm.77.2.128.
[30] Berry LL, Beckham D. Team-based care at Mayo Clinic: A model for ACOs. *J Healthc Manag*. 2014;59(1):9-13. doi:10.1097/00115514-201401000-00003.
[31] Hale GM, Joseph T, Moreau C, et al. Establishment of outpatient rounds by an interprofessional chronic care management team. *Am J Heal Pharm*. 2018;75(10):598-601. doi:10.2146/ajhp170106.
[32] VanEeghen CO, Littenberg B, Kessler R. Chronic care coordination by integrating care through a team-based, population-driven approach: A case study. *Transl Behav Med*. 2018;8(3):468-480. doi:10.1093/tbm/ibx073.
[33] Gaglioti AH, Barlow P, Thoma KDC, Bergus GR. Integrated care coordination by an interprofessional team reduces emergency department visits and hospitalisations at an Academic Health Centre. *J Interprof Care*. 2017;31(5):557-565. doi:10.1080/13561820.2017.1329716.

Exhibit 3.5. Most NGACOs Offer Team-Based Care



SOURCE: NORC interviews with NGACO leadership and staff.

NGACO leadership perceived care management to be effective in reducing utilization, changing provider culture toward proactive prevention, and improving patient self-management and care transitions. Many NGACOs reported positive impacts of establishing a complex care management program based on their own data analysis or observations. In particular, NGACOs routinely reported their own perceptions of improvements in readmission rates, ED utilization, and total cost of care following the implementation of care management programs.

Another critically important aspect of care management, albeit one that is difficult to measure, is impact on provider culture. NGACOs routinely reported that care management programs shifted how clinicians and others think about patient care, bringing preventive care to the forefront and challenging the preconceptions of diagnostic care that many providers have traditionally relied on.

NGACO leadership noted that having dedicated staff on hand to monitor care can in and of itself improve patient self-management. For instance, NGACO leadership reported that regular check-ins with patients and stronger alignment of patients' goals and care plans have a positive effect on medication adherence, as well as the downstream benefit of reducing likelihood of readmission. Moreover, leadership shared that patients who strengthen self-management skills improve their quality of life and satisfaction. Provider quality metrics also improve.

Often NGACOs have dedicated non-clinical staff who foster ongoing relationships with patients and assist with coordinating care across settings (e.g., "care navigators" or "health coaches"). According to NGACO leaders, these relationships facilitate more effective care transitions and help create a shared discharge plan and easier patient handoffs across care settings.

While most NGACOs reported positive impacts of care management programs, many did not report on any particular outcomes associated with their care management program. One NGACO in the 2018 cohort reported positive anecdotal evidence on the value of care management for population health, but indicated it was too early to see any impacts of care management in terms of quality, cost, and utilization. Some NGACOs that contracted with an external entity to provide care management services did not have ready access to data. Other NGACOs found that the cost of an external entity limited the spending reductions from care management. They then chose to create internal care management services, sometimes replicating those provided by the contractor, if resources allowed.

Using the CCR and AWVs to Engage Beneficiaries

AWVs have been a feature of Medicare for almost a decade, but have generally been underutilized. Medicare covers an AWV for beneficiaries to talk with a provider about their health concerns and develop or update a personalized prevention plan. In addition to a health risk assessment, AWVs may include a review of the beneficiary's medical history and current medications and providers, routine measurements, a cognitive assessment, personalized advice, and discussion of risk factors, treatment options, and preventive care screenings. However, AWVs do not include physical exams. Under the model, beneficiaries were eligible to receive a $25 payment from CMS, known as the CCR, for receiving an AWV. The model incorporated this benefit to incentivize beneficiaries to receive coordinated care from an NGACO. The CCR was a time-limited benefit, only available to beneficiaries in 2017 and 2018.

> *"[I]n aggressively and properly doing AWVs, we're not doing a physical, but a comprehensive review of the systems—collecting information, and then acting on that information…in the long run it gives PCPs [primary care physicians] a better relationship with the patient and it increases patient compliance. A PCP can better manage co-morbidities than specialists... If the office is on top of it, we can bend the quality curve and that will bend the cost curve."*
>
> *—NGACO Executive*

> *"[An] AWV is very helpful and providers utilize the [AWV]… to make sure they're asking all the [necessary] questions. The feedback we get from the patients is that they feel that the provider's visit was thorough and that the provider listened to them, provider was engaged. Basically, from their perspectives, they're being paid attention to and all their needs are being cared for."*
>
> *—NGACO Performance Director*

Most of the NGACO leaders interviewed identified AWVs as an effective strategy for engaging beneficiaries. Perceptions of the CCR were mixed, with some NGACO leaders saying the feature was valuable in encouraging AWVs, and other NGACO leaders saying the CCR was not associated with a large impact on AWV use. One respondent noted, "Patients really like it. It's a longer visit for them, and the provider takes time to go over both chronic and preventive care." Other NGACO staff commented that the AWV can be leveraged not only to identify or confirm gaps in care, but also to improve the identification of chronic conditions through coding and risk scoring. Several NGACO leaders and physicians described how the AWV promoted a direct dialogue between patient and primary care clinician, facilitating relationships with previously disengaged patients.

Some NGACO leaders also indicated in interviews that, while modest, the $25 CCR was a valuable incentive for beneficiaries. One NGACO leader noted, "[The CCR] makes it easier for [physicians] to get patients into the office so I think they've been receptive to it. Our numbers have increased since that

incentive…." Another noted that a $25 incentive can be key for some of the most vulnerable beneficiaries: "I think having a reward for patients for doing the right thing—$25 or even more for high-risk patients—I think it's very important because sometimes this may be the difference between…visiting the doctor or not." Other NGACO leaders did not find that the CCR had a big impact in terms of influencing patient uptake of AWVs, noting that beneficiaries found letters describing the AWV to be confusing and delayed CCR payment to be frustrating.

NGACO staff reported that many beneficiaries still do not understand why an AWV does not include a physical exam. A medical director commented, "I think it's a confusing benefit…most patients don't understand the difference between the [AWV] and an annual physical." NGACOs used nurses, created new workflows and EHR tools to facilitate effective administration of these visits, and clarified the purpose of preventive care to their beneficiaries.

Engaging Physicians in Population Health Management

Key Takeaways

Financial Incentives

- While the NGACO model enabled stronger financial incentives, NGACO leadership perceived the impact of incentives from shared savings distributions to be limited.
- Incentives tied to performance on quality and utilization measures had a more direct impact on physician behavior than shared-savings payments, according to some NGACO leaders.

Non-Financial Approaches to Engaging Physicians

- NGACOs provided infrastructure and workflow support to facilitate adoption of population-based care.
- NGACO leaders reported that sharing data with providers was the most effective strategy for motivating behavior change.
- NGACO leaders found that in-person physician-to-physician networking and peer-to-peer learning encouraged buy-in.

Physician buy-in is essential to success in value-based payment models. Physicians can influence care coordination, quality of care, and patients' use of appropriate, non-duplicative care.[34,35] Hence, improving

[34] Berwick DM, Nolan TW. Physicians as leaders in improving health care: A new series in Annals of Internal Medicine. *Ann Intern Med*. 1998;128(4):289-292. doi:10.7326/0003-4819-128-4-199802150-00008.
[35] Colla CH, Lewis VA, Shortell SM, Fisher ES. First national survey of ACOs finds that physicians are playing strong leadership and ownership roles. *Health Aff*. 2014;33(6):964-971. doi:10.1377/hlthaff.2013.1463.

performance in the cost and delivery of care relies heavily on physicians' active participation and engagement.[36,37,38,39]

NGACOs may motivate behavior change among physicians using both financial incentives and nonfinancial strategies.[40] Financial incentives such as shared savings and bonuses often reward physicians for achieving performance targets. To date, evidence of the impact of financial incentives on physician performance has been inconclusive.[41,42,43] Some studies suggest that financial incentives alone are insufficient to engage physicians in improvement efforts.[44,45,46,47] Nonfinancial engagement strategies, such as physician education, training, infrastructure support, and practice transformation support, are intended to support physicians and to minimize administrative burden associated with model participation and sharing performance data. Approaches include communicating goals of new programs; providing opportunities for interaction, learning, and collaboration; providing feedback and performance data; aligning personal and professional values with those of the organization; and fostering buy-in through physician leaders.[48,49,50]

In this section, we offer findings on the financial and nonfinancial incentives that NGACOs are using to encourage physicians to change their behavior. First, we discuss use of financial incentives, including shared savings, assumption of upside *and* downside risk among physicians in the model, and financial incentives linked to quality and utilization measures. Second, we describe nonfinancial strategies

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[36] Caverzagie KJ, Bernabeo EC, Reddy SG, Holmboe ES. The role of physician engagement on the impact of the hospital-based practice improvement module (PIM). *J Hosp Med*. 2009;4(8):466-470. doi:10.1002/jhm.495.
[37] Taitz JM, Lee TH, Sequist TD. A framework for engaging physicians in quality and safety. *BMJ Qual Saf*. 2012;21(9):722-728. doi:10.1136/bmjqs-2011-000167.
[38] Kreindler SA, Larson BK, Wu FM, et al. The rules of engagement: Physician engagement strategies in intergroup contexts. *J Heal Organ Manag*. 2014;28(1):41-61. doi:10.1108/JHOM-02-2013-0024.
[39] Larson BK, Van Citters AD, Kreindler SA, et al. Insights from transformations under way at four Brookings-Dartmouth accountable care organization pilot sites. *Health Aff*. 2012;31(11):2395-2406. doi:10.1377/hlthaff.2011.1219.
[40] Phipps-Taylor M, Shortell SM. More than money: Motivating physician behavior change in accountable care organizations. *Milbank Q*. 2016;94(4):832-861. doi:10.1111/1468-0009.12230.
[41] Conrad DA, Christianson JB. Penetrating the "black box": Financial incentives for enhancing the quality of physician services. *Medical Care Research and Review*. 2004;61. doi:10.1177/1077558704266770.
[42] Scott A, Sivey P, Ait Ouakrim D, et al. The effect of financial incentives on the quality of health care provided by primary care physicians. *Cochrane Database Syst Rev*. September 2011. doi:10.1002/14651858.cd008451.pub2.
[43] Roland M, Dudley RA. How financial and reputational incentives can be used to improve medical care. *Health Serv Res*. 2015;50:2090-2115. doi:10.1111/1475-6773.12419.
[44] Phipps-Taylor M, Shortell SM. More than money: Motivating physician behavior change in accountable care organizations. *Milbank Q*. 2016;94(4):832-861. doi:10.1111/1468-0009.12230.
[45] Herzer KR, Pronovost PJ. Physician motivation: Listening to what pay-for-performance programs and quality improvement collaboratives are telling us. *Jt Comm J Qual patient Saf*. 2015;41(11):522-528. doi:10.1016/s1553-7250(15)41069-4.
[46] Berenson RA, Rice T. Beyond measurement and reward: Methods of motivating quality improvement and accountability. *Health Serv Res*. 2015;50:2155-2186. doi:10.1111/1475-6773.12413.
[47] Skillman M, Cross-Barnet C, Singer RF, et al. Physician engagement strategies in care coordination: Findings from the Centers for Medicare & Medicaid Services' Health Care Innovation Awards program. *Health Serv Res*. 2017;52(1):291-312. doi:10.1111/1475-6773.12622.
[48] Herzer KR, Pronovost PJ. Physician motivation: Listening to what pay-for-performance programs and quality improvement collaboratives are telling us. *Jt Comm J Qual patient Saf*. 2015;41(11):522-528. doi:10.1016/s1553-7250(15)41069-4.
[49] Berenson RA, Rice T. Beyond measurement and reward: Methods of motivating quality improvement and accountability. *Health Serv Res*. 2015;50:2155-2186. doi:10.1111/1475-6773.12413.
[50] Skillman M, Cross-Barnet C, Singer RF, et al. Physician engagement strategies in care coordination: Findings from the Centers for Medicare & Medicaid Services' Health Care Innovation Awards program. *Health Serv Res*. 2017;52(1):291-312. doi:10.1111/1475-6773.12622.

NGACOs are using to engage physicians, such as sharing performance data, using in-person physician-to-physician networking, and providing infrastructure and workflow support.

Financial Incentives

While the NGACO model enabled stronger financial incentives, NGACO leadership perceived the impact of incentives from shared savings distributions to be limited. Of NGACOs that reported using financial incentives to motivate improved physician performance, all intended to distribute some shared savings among their participating and preferred provider networks. However, multiple NGACOs reinforced the viewpoint that shared-saving payments were small and delays in receiving shared savings made it challenging to use the payments to engage providers. In the words of one NGACO leader, "NGACO is a very small percentage of the overall pay. This has been a frustration point for a lot of people." In the NGACO leadership surveys, fewer than half of NGACOs reported sharing risk with providers: 46 percent (n=21) of NGACOs shared downside risk with participating providers (out of 46 NGACOs reporting), and 14 percent (n=6) of NGACOs shared downside risk with preferred providers (out of 44 NGACOs reporting).

Incentives tied to performance on quality and utilization measures had a more direct impact on physician behavior than shared-savings payments, according to some NGACO leaders. In addition to using shared savings to engage primary care providers, NGACOs also distributed such performance-based financial incentives as rewards, bonuses, or discrete payments tied to performance measures. Although each NGACO's compensation model was distinct, they typically were based on a combination of quality; participation in reporting and NGACO activities (e.g., educational opportunities and meetings); and, less often, utilization measures. Most NGACOs reported tying financial incentives to outcomes and participation in the NGACO activities. Fewer NGACOs linked incentives to following care guidelines and/or process improvement activities, such as in-network referrals (i.e., use of preferred providers); completing AWVs; closing gaps in care; and proper HCC coding (Exhibit 3.6). For example, one NGACO provided varying financial incentives to participating primary care providers to update their practices' after-hours processes, including changing voice messages that referred patients to the ED. This NGACO asked practices to attest to how they were changing processes in their office to reduce ED admissions, and leadership discussed introducing a reward if providers decreased ED rates.

Exhibit 3.6. NGACOs Used Various Types of Financial Incentives to Engage Primary Care Practitioners

	To a great or moderate extent % (n)	To a small extent % (n)	Not currently using % (n)	Total NGACOs reporting
Financial incentives linked to outcomes (e.g., quality improvement, patient satisfaction)	74 (37)	6 (3)	14 (7)	47
Financial incentives linked to participation in NGACO-wide activities (e.g., participating in meetings/forums, teaching others, organizational management activities, recruiting new members to the network, collaborating with care coordinators)	50 (25)	16 (8)	28 (14)	47
Financial incentives linked to following care guidelines and/or process improvement	42 (21)	12 (6)	38 (19)	46

SOURCE: NGACO leadership survey. See Appendix F for more information.

Leadership from many NGACOs reported that engaging specialists in the model was particularly difficult compared to engaging primary care providers. Specialists were more often preferred over participating providers and were less likely to receive shared savings. Second, the focus of NGACO initiatives and activities on primary care may not align with how specialists perceive their role in delivering care to beneficiaries. Third, strategies to reduce utilization may also reduce FFS-based reimbursement to specialty care providers. To offset concerns about reduced reimbursement, NGACOs sometimes described potential volume incentives for participating in the model through increased referrals, engaged specialists' expertise on specific conditions, and established interpersonal relationships.

> *"Engaging specialists has been difficult; the reason is because they are the last frontier in value-based medicine because they have been doing extremely well compared to PCPs in terms of FFS. RVUs [relative value units] have been good to them. The other thing with specialists, if they didn't get financial incentives, we wouldn't be able to attract them. Again though, their pay is high enough where they could probably 'do one more knee' to match any type of incentive that they would get."*
>
> *—ACO Executive*

Nonfinancial Approaches to Engaging Physicians

NGACOs provided infrastructure and workflow support to facilitate adoption of population-based care. According to the 2016, 2017, and 2018 leadership surveys, most NGACOs (78 percent) reported engaging primary care providers by investing in systems and workflow processes that support care management (e.g., tools and infrastructure to support care coordination). Most/some representatives of NGACO leadership described how these systems facilitated new processes for seamless handoffs, created better workflows for scheduling follow-up visits, and supported provision of screenings and assessments. Particularly for smaller practices, NGACOs provided resources that practices otherwise would not have to support patient care. A participating physician said, "We have a lot of high-risk patients, [so] we have a [NGACO] social work case manager assigned…. [It is] incredibly helpful to have a point person who can

facilitate their care…We've definitely had examples where one social worker prevented many ER visits [via performing patient] check-ins."

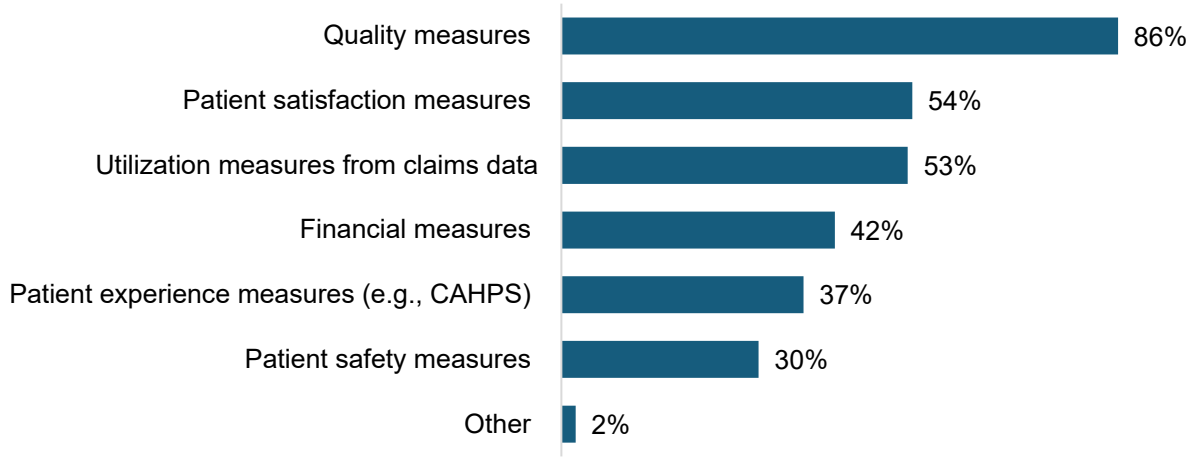
Of clinicians responding to NORC's survey, 63 percent agreed or strongly agreed that additional resources to support practice changes contributed to making their day-to-day work easier. In addition to support for managing patient care, NGACOs provide support for CMS reporting requirements. As noted earlier, NGACOs also provide IT tools to aim to make it easier for physicians to see the most important information and metrics. One NGACO explained, "We deliver and relieve the administrative burden. If we expect physicians to go out and find gaps in care data because we put gaps in care [data] out on a server, it's not [going to] happen. However, if we integrate that into the EHR and we follow up the visit with the provider, [they engage]." For example, some NGACOs built out their EHRs to support delivery of the AWV, adding specific questions on health risks and conditions to prompt and assist physicians.

> *"What we're doing is highlighting care gaps at the point of care for providers and the care teams when they're seeing patients. It's passive, but it's something we built into the workflow to show on their screens when they're seeing patients. They use it both for pre-visit planning as well as during the visit itself. With the content that we have built in right now, we've seen consistent improvement in care gap closure across the board with our care teams, so it's certainly getting utilized well. That drives our protocols for our staff to order needed lab tests, cancer screening, immunizations, before the providers get in the room, which has been very successful. It's helping ease workflows in the clinics and gain efficiencies."*
>
> *—ACO Executive*

NGACO leaders perceived that sharing data with providers was the most effective strategy for motivating behavior change. Virtually all NGACOs shared performance information with providers, typically through reports, dashboards, scorecards (electronic and print), and portals embedded in EHR systems. Data that enabled providers to compare themselves to other providers particularly motivated behavior changes, sparking healthy competition among providers.

NGACO leaders also commented on the importance of giving physicians "actionable" data rather than the "dollars and cents" of the NGACO operation. In addition to supplying data on metrics such as clinical gaps in care, NGACO beneficiaries seeking care outside the network of NGACO providers (leakage), and risk stratification, several NGACOs tried to focus providers on quality metrics. One NGACO medical director discussed selecting 18 quality measures across value-based arrangements that the NGACO then incentivized physicians to focus on and improve. Exhibit 3.7 displays the types of performance data physicians reported receiving from NGACOs. Quality measures (e.g., depression screening, medication reconciliation, breast or colon cancer screening, AWV rates) were the most common (86 percent), followed by patient satisfaction measures (54 percent), and utilization measures (e.g., inpatient utilization, ED utilization, preventable readmissions; 53 percent).

Exhibit 3.7. Physicians Most Frequently Reported Receiving Data on Quality Measures, Patient Satisfaction Measures, and Utilization Measures from Claims Data



NOTE: n=1,793 reporting physicians.
SOURCE: NORC analysis of NGACO Clinician Survey. See Appendix F for more information.

Some NGACOs reported that data sharing was initially a challenge due to physicians' lack of trust in data quality, as well as timeliness. Although not a common sentiment across all NGACOs, some noted that physicians were initially skeptical of new data and had questions about their validity, such as whether they truly reflected the patients in their care. One way in which NGACOs overcame this challenge was by meeting face-to-face with clinicians to share performance data, using the in-person opportunity to further engage, educate, and build trust among physicians (or practices) and the NGACO.

NGACO leaders found that in-person physician-to-physician networking and peer-to-peer learning encouraged buy-in. One major strategy that NGACOs used to engage physicians was convening in person or virtual physician forums. These forums provided opportunities for networking and were a place for physicians to discuss performance data, trouble-shoot challenges, and share success stories. The forums also provided an opportunity for NGACOs to provide standardized information on model features, IT, and new NGACO initiatives. Additionally, NGACOs delivered lectures and trainings on quality improvement and clinical care, or "internal learning networks." These educational opportunities provided guidance on improving physician performance on quality measures and appealed to physicians' desire to continuously acquire new knowledge and skills. Specific examples

"I think the first thing that we're doing is getting data because engaging doctors without data is not very effective."
—NGACO Medical Director

"I think the most effective [approach] is transparency of data. So that is measuring, demonstrating to the provider and their colleagues their individual, collective, distribution of performance. We do attach financial incentives to quality improvement, quality achievement. You could argue [the role of financial incentives is] minor, it's more of a pat on the back rather than a true driving financial incentive, and it's mostly transparency of data and a desire to improve, to be the best."
—ACO Executive

included implementing strategies to address social determinants of health to reduce unnecessary ED visits; identifying referrals for palliative care and advanced directives; monitoring prescriptions around opioid use; and improving colorectal cancer screenings.

While the majority of individual practitioners in PY1, PY2, and PY3 previously participated in SSP or Pioneer ACOs, for some physicians, participation in the NGACO model was their first exposure to value-based care. As the leadership of one 2016 cohort NGACO said, "There are a lot of assumptions that most providers have an awareness of what they have signed up for, which is not always the case. We have learned to not make the assumption that they know the details of the NGACO [model] and contract as well as the responsibilities, benefits, risks, etc." Staff at a 2018 cohort NGACO likewise reported, "[There were] challenges to get the providers to start thinking differently—thinking with a value-based mentality and quality outlook.… It's been challenging to educate them about everything."

NGACOs Focused on Collaborating with SNFs

Key Takeaways

- Many NGACOs indicated instituting new processes for communicating across sites of care was a challenge.
- Approximately half (n=23) of the NGACOs instituted regular—often quarterly—in-person or virtual forums or meetings with a subset of participating SNFs, whether or not ACO staff were embedded.
- Most NGACOs (n=31) have staff on the ground in SNFs to manage and coordinate care. NGACOs with staff embedded in SNFs receive more timely updates on their patients and report improved communication with SNFs.

Close coordination of care between ACOs and SNFs has been associated with lower rates of readmission, reduced SNF Medicare spending, and reduced length of stay within SNFs.[51] Other ACO programs (i.e., SSP) demonstrated reductions in overall PAC spending stemming in part from decreased lengths of stay in SNFs, which in turn were due to within-SNF care changes specific to ACO patients—a pattern similar to that reported by participating NGACOs.[52] Hospitals that developed preferred SNF networks as part of care management efforts saw relative reductions in readmission rates for patients discharged to SNFs that exceeded reductions seen by hospitals without formal networks.[53] Recognizing the importance of PAC as an influence on cost, NGACOs have invested in building relationships with SNF networks and coordinating care across settings.

Many NGACOs noted that instituting new processes for communicating across sites of care was a challenge. NGACOs that were developing or growing a SNF network noted that communication can be a challenge, particularly with respect to tracking patient discharges. Institutionally, staff turnover at SNFs creates discontinuity for implementing new processes or relationships. In addition, many SNFs use

[51] Agarwal D, Werner RM. Effect of hospital and post-acute care provider participation in accountable care organizations on patient outcomes and Medicare spending. *Health Serv Res*. 2018;53(6):5035-5056. doi:10.1111/1475-6773.13023.
[52] McWilliams JM, Chernew ME, Landon BE. Medicare ACO program savings not driven by fewer hospitalizations for ambulatory care-sensitive conditions or concentrated among high-risk patients. 2017;36(12):2085-2093. doi:10.1186/s40945-017-0033-9.
[53] McHugh JP, Foster A, Mor V, et al. Reducing hospital readmissions through preferred networks of skilled nursing facilities. *Health Aff*. 2017;36(9):1591-1598. doi:10.1377/hlthaff.2017.0211.

floating nurses, who may be unaware of new processes or policies for sharing information with NGACOs. For patient care, many NGACOs do not have access to bidirectional EHRs. The burden to track patient progress and location then fell on the NGACO staff to follow up with the SNF. However, despite the challenge, many NGACOs have created new processes for regular communication, meeting, and staff coordination.

Approximately half of the NGACOs (n=23) instituted regular—often quarterly—in-person or virtual forums or meetings (independent of whether they embed staff) with a subset of participating SNFs. These meetings were a mechanism for NGACOs to develop tighter relationships with certain SNFs, namely to share data, review performance, reiterate the importance of coordination of services in driving quality, utilization, and spending. One NGACO representative stated, "We had a lot of SNFs at one point, we are SNF rich in our area, so becoming an ACO in [the] NGACO [model], we really wanted to zero in on a small group that we would be able to have a better relationship [with], talk about quality and other things. So we really narrowed down to five preferred SNFs, and our relationship changed because we became more intimate with them, we met with them..." In some cases, NGACOs adopted aggressive risk-sharing arrangements with their preferred SNFs to enforce greater accountability for quality metrics. In one case, a SNF cited this risk-sharing arrangement as the specific reason for its reluctance to cooperate.

Most NGACOs (n=31) have NGACO staff on the ground in SNFs to manage and coordinate care. NGACOs reported that embedding ACO staff in SNFs provided more timely updates about NGACO patients and improved communication with SNFs. Some NGACOs (n=15) employ physicians, nurse practitioners, or physician assistants, sometimes referred to as "SNFists," who work within a subset of participating and preferred SNFs with the highest volume of NGACO patients to manage beneficiary care, including seeing beneficiaries and coordinating with SNF staff. In other cases, NGACO nurse care managers play a similar role. These staff serve as liaisons between the NGACO and the SNF, participating in meetings with SNF staff and family meetings, and helping to keep the NGACO informed about the patient's situation and the SNF's approach to care. NGACO staff embedded or rounding in SNFs are able to input patient information directly into EHRs. As staff from one NGACO put it, "They're boots on the ground to work closely with those SNFs to help manage those patients." Staff from another NGACO described a mixed approach of embedded care management staff and frequent EHR data check-ins to monitor beneficiary status. A second NGACO noted that after moving to an embedded staff model, NGACO and SNF leadership began having more in-depth conversations on how to improve outcomes, and the SNF "started to feel like a true partner." One NGACO's PAC director indicated that collaboration and length of stay outcomes improved notably with embedded staff who have more frequent contact with the NGACO, explaining that it has been more challenging to decrease length of stay in SNFs without embedded staff.

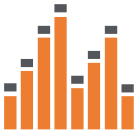
Chapter 4: NGACO Model Impacts on Spending, Utilization, and Quality of Care

Key Findings

Impact on Cumulative Spending

- NGACOs reduced gross Medicare Parts A and B spending by $112 per beneficiary per year (PBPY) or $348.6 million overall, representing a reduction of 0.87 percent.
- After accounting for $466.1 million in shared savings and Coordinated Care Rewards (CCRs) paid out over performance years one, two, and three, net Medicare spending increased by a statistically non-significant $117.5 million (0.28 percent increase).
- The 2017 cohort reduced gross and net Medicare spending, the 2016 cohort increased net spending, and the 2018 cohort decreased gross spending.

Impact on PY3 Spending



- In PY3, NGACOs reduced gross Medicare Parts A and B spending by $159.4 PBPY and $227.1 million overall, representing a reduction of 1.2 percent.
- After accounting for $235 million in shared savings and CCRs paid out in PY3, net Medicare spending increased by a statistically non-significant $11.9 million (0.06 percent increase).
- The 2017 and 2018 cohorts reduced gross Medicare spending by 1.5% and 1.4% percent respectively, while the 2016 cohort increased net Medicare spending by 1.3%.

Impact on Categories of Medicare Spending

- There were no model-wide reductions in acute care hospital spending, which accounted for one third of total gross Medicare spending, both cumulatively and in PY3.
- Spending for professional services, which accounted for 27 percent of total gross Medicare spending, declined cumulatively by $17.26 PBPY (0.56 percent reduction) and in PY3 by $37.35 PBPY (1.2 percent reduction).
- Cumulatively, SNF and PAC facility spending each declined by $13.3 PBPY (representing reductions of 1.3 percent and 3.1 percent, respectively).

Impact on Utilization and Quality of Care Measures

- NGACOs had statistically significant and substantial increases in utilization of AWVs, model-wide cumulatively (16%) and in PY3 (20%).
- There were no significant improvements or declines in quality of care measures, model-wide cumulatively and in PY3.

This chapter presents impact estimates of the NGACO model on Medicare spending, categories of spending, utilization, and quality of care. We describe cumulative findings model-wide and for each cohort, followed by PY3 results model-wide and for each cohort. Results are presented PBPY and by percent change for all outcomes. We also exhibit total Medicare part A and B spending outcomes in aggregate terms and by gross impact, as well as net impact after taking shared savings payments and CCR payments into account. We report impact estimates as statistically significant at 0.1 significance level or lower.

For related analyses, see:

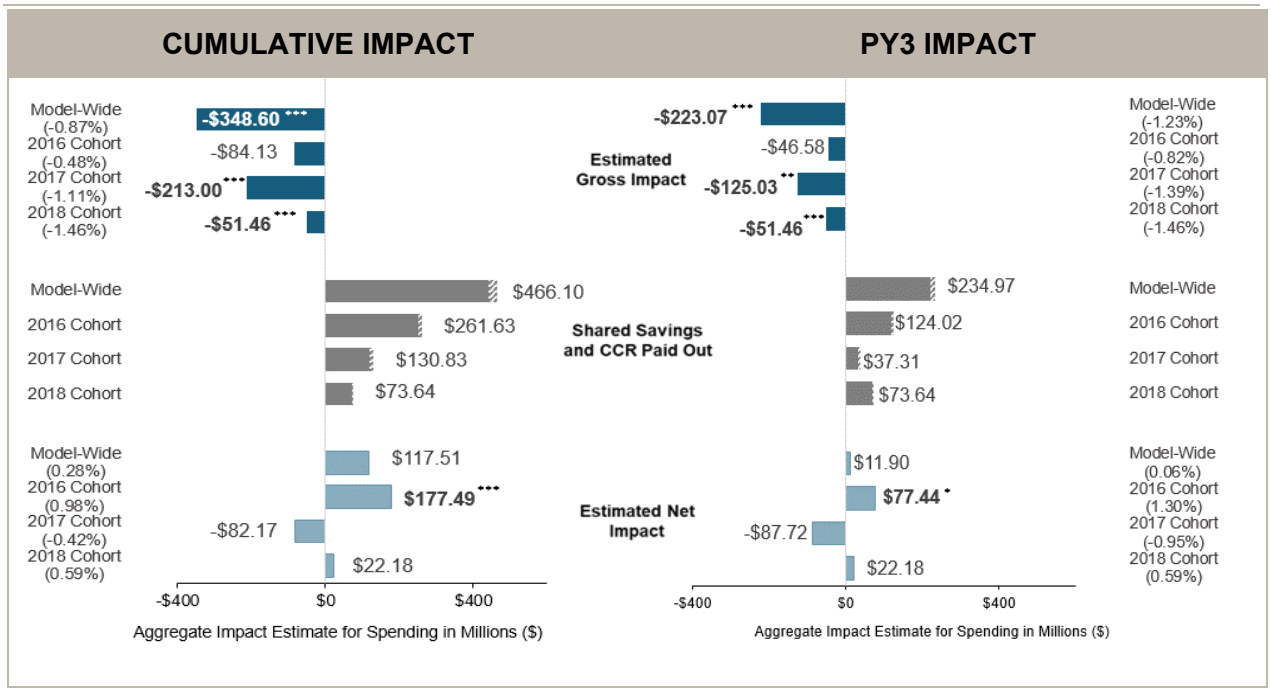
- Impact on spending at the NGACO-level
- Comparison of NGACOs' evaluation spending impacts and financial benchmark performance in PY3
- Impact on spending for subgroups of NGACOs

Impact on Gross and Net Medicare Spending

Based on the activities NGACOs reported to manage population health and improve efficiency in care, we expected to see reductions in total cost of care for beneficiaries aligned with NGACO providers relative to the comparison group. Gross spending impacts were consistent with this hypothesis. Cumulatively as of PY3, the NGACO model statistically significantly reduced Medicare Parts A and B gross spending by $112 PBPY and $348.6 million overall relative to the comparison group, representing a reduction of 0.87 percent. However, when accounting for shared savings and CCR payments to NGACOs of $466.1 million over three years, the model generated a net-spending increase of $117.5 million (0.28 percent), which was statistically non-significant. We present detailed findings below and suggest possible reasons for the lack of net savings for the NGACO model.

Exhibit 4.1 displays aggregate gross and net impacts on Medicare part A and B spending, cumulatively and in PY3. Exhibit 4.2 presents the same estimates in PBPY terms. Impacts are displayed model-wide and for the three cohorts. In Exhibit 4.3, we present a detailed breakdown of the impact estimates, 95 percent confidence intervals, adjusted mean Medicare spending for the NGACO and comparison groups in the baseline and performance years, and shared savings estimates. Characteristics of NGACO beneficiaries and their propensity score weighted comparison beneficiaries in PY3 and the baseline years are presented in Appendix H, Exhibits H.1, H.2, and H.3. Because two-thirds of NGACO providers and their attributed beneficiaries in the baseline period were in other Medicare ACOs, the estimated NGACO impacts represent the marginal impact relative to their impacts in the previous ACO models.

Exhibit 4.1. Estimated Aggregate Impacts on Gross and Net Medicare Spending, Cumulatively and in PY3 Only, Model-Wide and by Cohort



NOTES: Estimated aggregate impact in millions significant at p<0.1*, p<0.05**, p<0.01***. Estimated aggregate gross impact is the difference-in-differences (DID) estimate multiplied by the number of NGACO-aligned beneficiaries in performance year(s). Estimated aggregate net impact is the aggregate gross impact minus shared savings payments to NGACOs and coordinated care payouts to aligned beneficiaries. The reported net impacts include CCR payments made by CMS to NGACO beneficiaries in PY2 and PY3. Percentage impact in parentheses is the impact relative to expected average Medicare spending for NGACO beneficiaries in performance year(s) absent the model. Dark blue bars denote gross impact on Medicare spending, stacked grey bars denote shared savings (solid) and CCR payouts (dashed), and light blue bars denote net impact on Medicare spending.

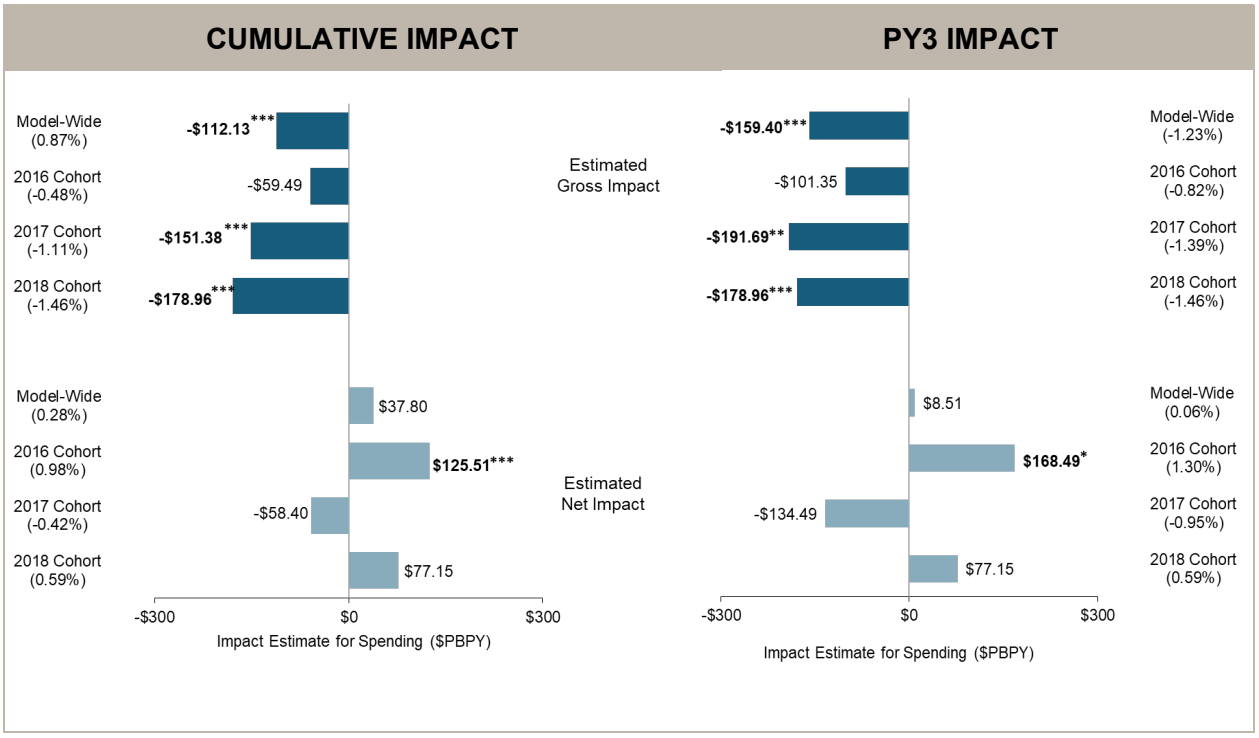
In PY3, NGACOs reduced gross Medicare Parts A and B spending by $159.4 PBPY or $223 million overall, for a reduction of 1.2 percent. After accounting for $235 million in shared savings and CCRs paid out in PY3, net Medicare spending increased by a statistically non-significant $11.9 million (0.06 percent).

Gross spending impacts varied across cohorts across the first three years of the model. The 2017 cohort accounted for most of the aggregate gross spending reductions ($213 million out of $349 million) realized in the model over time. The 2016 and 2018 cohorts were associated with smaller cumulative gross spending reductions totaling $84 million and $52 million respectively. In percentage and PBPY terms, the 2016 cohort's spending reductions were smaller and non-significant in both PY3 (0.82 percent, $101 PBPY) and cumulatively (0.48 percent, $60 PBPY) across its three years in the model. By contrast, the 2017 cohort, which had the largest number of beneficiaries, had significant gross spending reductions cumulatively (1.11 percent, $151 PBPY) and in PY3 (1.39 percent, $192 PBPY). With the fewest beneficiaries among the three cohorts, the 2018 cohort exhibited a significant spending decline of 1.46 percent or $179 PBPY in PY3.

Differences in net impacts among cohorts were due to differences in their gross spending impacts, shared savings payments, and CCR payments. Among the three cohorts, the 2016 cohort

received the largest shared savings and CCR payouts, totaling approximately $262 million across three years. After considering these payouts, the 2016 cohort had a significant increase in net Medicare spending in PY3 (1.3 percent, $169 PBPY), and cumulatively (0.98 percent, $126 PBPY), totaling a $177 million net spending increase. The 2017 cohort's shared savings and CCR payouts were roughly half of the 2016 cohort, totaling $131 million over two years. This cohort had non-significant reductions in net Medicare spending in PY3 (0.95 percent, $134 PBPY), and cumulatively (0.42 percent, $58 PBPY), totaling a net spending decline of $82 million. Comparatively, the 2018 cohort's shared savings and CCR payouts were moderate, smaller than the annual payout to the 2016 cohort but larger than the 2017 cohort's. The 2018 cohort had non-significant increases in net Medicare spending in PY3 (0.59 percent, $77 PBPY), totaling a net spending increase of $22 million.

Exhibit 4.2. Estimated PBPY Impacts on Gross and Net Medicare Spending, Cumulatively and in PY3 Only, Model-Wide and by Cohort



NOTES: Estimated PBPY impact significant at p<0.1*, p<0.05**, p<0.01***. Estimated gross impact is the DID estimate PBPY. Estimated net impact is the gross impact less shared savings payments to NGACOs and CCR payouts to aligned beneficiaries in PBPY terms. The reported net impact includes the CCR payments made to NGACO beneficiaries in PY2 and PY3. Percentage impact in parentheses is the impact relative to expected average Medicare spending for NGACO beneficiaries in performance year(s) absent the model. Dark blue bars denote gross impact on Medicare spending, and light blue bars denote net impact on Medicare spending.

Discrepancies between gross spending estimates and shared savings payments to cohorts reflect the different methodologies for calculating shared savings versus evaluation impacts. The evaluation impacts were estimated retrospectively using a three-year baseline and a local comparison group unique to each NGACO, employing DID regressions to account for secular trends (see Appendix D). In contrast, the approach to calculating NGACOs' shared savings used prospective spending benchmarks from a one-year baseline, applying national spending trend projections and standardizing

Medicare's geographic price adjustments. No local comparison group was used to determine the prospective spending benchmark. Each NGACO's prospective benchmark, per the model's financial methodology, was risk-adjusted actuarially. It included discount factors that adjusted the benchmark for the relative costliness of an ACO's local market and allowed larger rewards for ACOs that improved overall quality by a greater extent.[54]

Model-wide and cohort-level net impact estimates were robust to including shared savings payouts to SSP ACOs. We conducted sensitivity analysis accounting for Shared Savings Program (SSP) payouts made to providers that served beneficiaries in the comparison group in the performance years. A small proportion of comparison group beneficiaries in the performance years (~9 percent) were retroactively assigned to SSP ACOs, even though they were prospectively aligned to non-ACO providers (Appendix H, Exhibits H.1, H.2, and H.3). As demonstrated in Appendix H, Exhibit H.7, the overall findings around the model-wide and cohort level net impacts did not change substantively.

Two-thirds of the cumulative gross spending decline in the NGACO model over the first three years occurred in PY3 ($223 million out $349 million), with the decline in that year (1.23 percent, $112 PBPY) notably larger than in PY2 (0.57 percent, $72 PBPY). This is likely a result of two factors. First, new model entrants in 2018 showed greater spending reductions (1.46 percent) than the 2016 and 2017 cohorts did in their respective first performance years in the model (1.03 percent for 2016 cohort, 0.87 percent for 2017 cohort). Second, the investments and experience the 2016 and 2017 cohorts gained may have allowed them to more successfully reduce spending, contributing to larger savings for both cohorts in PY3 relatively to PY2.[55,56] We will continue to track changes in impacts over time quantitatively and explore potential reasons for these changes qualitatively.

In the subsequent sections of this chapter, we present cumulative and PY3 impact estimates for Medicare spending categories, utilization measures for various care settings and for professional services, and quality of care measures.[57] Exhibit 4.15 presents a comprehensive summary of all of these outcomes model-wide and at the cohort level. We consider impact estimates for outcome measures uninterpretable if trends are not parallel between the NGACO and comparison groups in the baseline; these measures are indicated with the § symbol and their impact estimates are not reported. If any of the cohort-level impact estimates are uninterpretable for a measure in a PY, the model-wide estimate in the PY, model-wide cumulative estimate, and the cohort's cumulative estimate also become uninterpretable. Lack of parallel trends may be due to the participation of two-thirds of NGACO providers in Medicare SSP and Pioneer ACOs during the baseline period. See Appendix D for more information about the parallel trends assumption and tests.

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[54] Center for Medicare & Medicaid Innovation. "Next Generation ACO Model Benchmarking Methods." December 2015.

[55] The 2016 cohort did not reduce gross Medicare spending in PY2 relative to comparators, even though its NGACOs reshaped their provider networks after PY1 by dropping participating specialists and adding participating primary care practitioners. The 2016 cohort's gross Medicare spending reduction in PY3 (-0.82 percent) was greater than PY2 (+0.43 percent), suggesting that its NGACOs and providers may have reduced spending with greater experience in the model.

[56] The increase in spending impacts in PY3 was likely not due to the exit of 10 NGACOs from the model between 2017 and 2018. Four of these 10 had non-significant increases in spending in PY2, while six had non-significant decreases.

[57] The impact estimates for Medicare spending categories do not add up to the estimate for total Medicare spending because of differences in the models used for different spending outcomes based on the distribution of both zero and high spenders in the data. Please see Appendix D for details of models for the Medicare spending outcomes.

In reviewing spending categories, it is important to consider the relative contribution of each category to total Medicare Parts A and B spending. For beneficiaries in our study, the spending categories contributing to total Medicare Parts A and B spending, on average, were acute care hospital facility (32 percent); professional services (27 percent); outpatient facility (18 percent); SNF (9 percent); home health (6 percent); other PAC facilities (3 percent); hospice (3 percent); and DME (2 percent; see Appendix H, Exhibit H.9).

Exhibit 4.3. Estimated Gross and Net Impacts of NGACO Model on Medicare Spending, Cumulatively and in PY3 Only

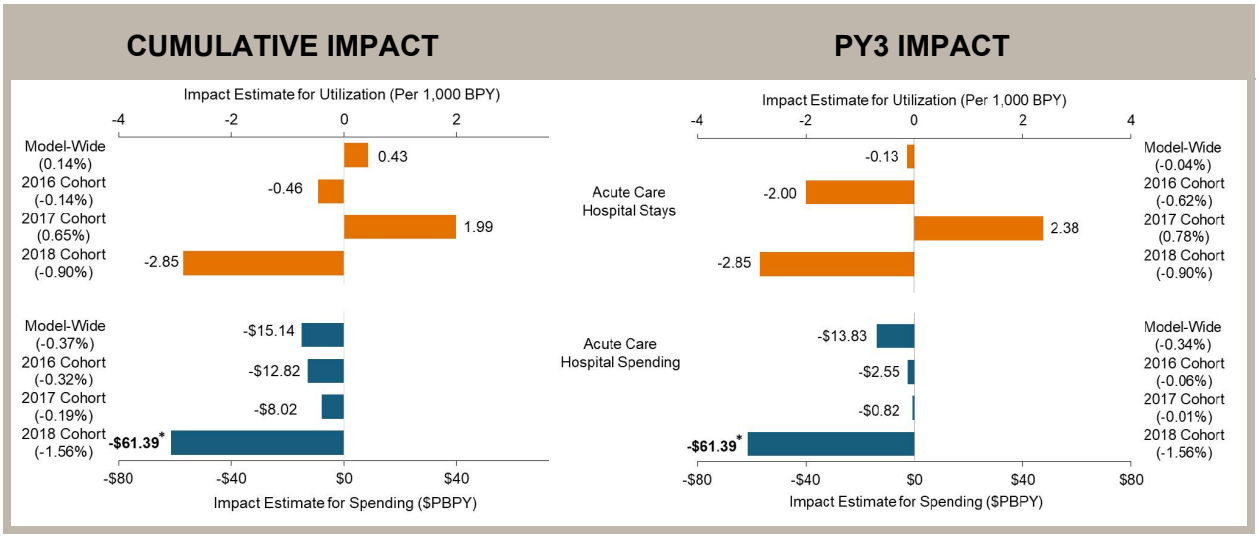
Total Medicare Parts A and B Spending	Cumulative Impact in PY1, PY2, and PY3 (2016-2018)			Impact in PY3 (2018)			
	Model-Wide PY1, PY2, PY3	2016 Cohort PY1, PY2, PY3	2017 Cohort PY2, PY3	Model-Wide	2016 Cohort	2017 Cohort	2018 Cohort
Number of NGACO beneficiaries	3,108,792	1,414,208	1,407,033	1,399,398	459,603	652,244	287,551
Mean Adjusted Spending (PBPY)							
NGACO Group							
Performance year(s)	$13,241.7	$12,737.5	$13,829.0	$13,406.3	$12,891.3	$14,015.3	$12,848.1
Baseline years	$13,371.5	$12,808.3	$14,042.0	$13,462.6	$12,763.5	$14,220.5	$12,860.9
Comparison Group							
Performance year(s)	$13,609.4	$13,018.7	$14,303.2	$13,788.4	$13,197.5	$14,499.5	$13,119.8
Baseline years	$13,627.1	$13,030.0	$14,364.8	$13,685.3	$12,968.4	$14,513.0	$12,953.7
Estimated Gross Impact (DID Estimate)							
PBPY estimate	-$112.13***	-$59.49	-$151.38***	-$159.40***	-$101.35	-$191.69**	-$178.96***
(PBPY 95% confidence interval)	-171.03, -53.24	-142.00, 23.01	-249.00, -53.77	-259.96, -58.84	-271.73, 69.04	-363.97, -19.40	-291.32, -66.61
Aggregate estimate	-$348.60M***	-$84.13M	-$213.00M***	-$223.07M***	-$46.58M	-$125.03M**	-$51.46M***
(Aggregate 95% confidence interval)	-531.69 M, -165.51M	-200.81M, 32.55M	-350.35M,-75.65M	-363.79M, -82.34M	-124.89M, 31.73M	-237.4M, -12.65M	-83.77M, -19.15M
Percentage impact	-0.87	-0.48	-1.11	-1.23	-0.82	-1.39	-1.46
Shared Savings and Coordinated Care Reward Paid Out							
Total Shared Savings and CCR Paid Out	-$466.10M	-$261.63M	-$130.83M	-$234.97M	-$124.02M	-$37.31M	-$73.64M
Estimated Net Impact							
PBPY estimate	$37.80	$125.51***	-$58.40	$8.51	$168.49*	-$134.49	$77.15
(PBPY 95% confidence interval)	-21.10, 96.69	43.00, 208.01	-156.01, 39.22	-92.06, 109.07	-1.90, 338.87	-306.77, 37.80	-35.21, 189.50
Aggregate estimate	$117.51M	$177.49M***	-$82.17M	$11.90M	$77.44M*	-$87.72M	$22.18M
(Aggregate 95% confidence interval)	-65.59M, 300.60M	60.81M, 294.17M	-219.52M, 55.18 M	-128.82M, 152.63M	-0.87M, 155.75M	-200.1M, 24.65M	-10.13M, 54.49M
Percentage impact	0.28	0.98	-0.42	0.06	1.30	-0.95	0.59

NOTES: Impact estimates significant at *p<0.1, **p<0.05, and ***p<0.01. Estimated gross impact is DID estimate, or the difference between the NGACO and comparison mean adjusted spending in the performance year(s) and baseline years. Mean adjusted spending for the NGACO and comparison groups in the baseline and performance years(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 performance years. Significant impacts at the p<0.1 level appear in shaded cells. Favorable impact estimates are shaded in green; the darker green shade refers to model-wide impacts while the lighter green refers to cohort impacts. Unfavorable estimates are shaded in orange. PBPY estimate is the impact estimate per beneficiary per year. Aggregate estimate is impact estimate for all aligned beneficiaries in performance year(s). Percentage impact is relative to expected average Medicare spending for NGACO beneficiaries in performance year(s) absent the model.

Acute Care Hospital Spending and Utilization

NGACOs described efforts to risk-stratify beneficiaries to identify those most likely to be hospitalized. They also engaged in care management to address beneficiary needs across the continuum of care. We hypothesized that we would see these activities reflected in lower rates of hospitalization and lower hospital spending. However, as shown in Exhibit 4.4, the NGACO model had a minimal, non-significant impact on acute care hospital spending cumulatively (-0.37 percent) and in PY3 (-0.34 percent). As hospital spending represents a third of total gross Medicare spending on average, the lack of impact in this category was likely a factor in the lack of net savings.[58] NGACOs also did not have an effect on reducing hospital stays.

Exhibit 4.4. Estimated Impacts on Acute Care Hospital Spending and Stays, Cumulatively and in PY3 Only



NOTES: Estimated impacts PBPY for spending and per 1,000 beneficiaries per year (per 1,000 BPY) for utilization significant at *p<0.1, **p<0.05, and ***p<0.01 and bolded. Impact estimates are the DID estimates for acute care hospital stays and Medicare spending for acute care hospital facilities. Percentage impact in parentheses is the impact relative to expected average Medicare spending for NGACO beneficiaries in performance year(s) absent the model. The data bars are shaded based on the measure category: acute care hospital spending (blue) and acute care hospital stays (orange).

[58] Appendix H, Exhibit H.9

The 2018 cohort was the exception, achieving both significantly lower acute care hospital spending (-1.56 percent) and a non-significant decline in acute care hospital stays in its first PY (-0.9 percent).[59] The 2018 cohort had the highest percentage share of physician practice-affiliated NGACOs and lowest percentage share of hospital system-affiliated NGACOs compared to the other two cohorts.[60] Hospital system-affiliated NGACOs may have less incentive to reduce acute care hospital stays because fewer admissions cut into their revenue streams. In future reports we plan to examine impacts for these measures for NGACOs based on their organizational affiliation. We may also see an impact on hospitalizations and hospital spending in later years of the model as NGACOs hone their population health analytics capability to proactively identify beneficiaries at risk of hospitalizations.

SNF and Other PAC Spending and Utilization

Recognizing the importance of care in PAC settings influencing total Medicare spending, NGACOs invested in building relationships with their SNF networks to coordinate care for their beneficiaries transitioning across PAC settings. We therefore expected to see more SNF placements but fewer SNF days and lower SNF spending, as NGACOs shifted care from more expensive PAC settings and developed efficient processes for managing care during SNF stays. As shown in Exhibit 4.5, we observed model-wide declines in the categories of SNF and other PAC facility spending, which includes inpatient rehabilitation facilities (IRFs) and long-term care hospitals (LTCHs). Model-wide reductions in SNF expenditures were statistically significant cumulatively (1.30 percent) and in PY3 (2.20 percent). Influencing these model-wide reductions were significant reductions for the 2016 cohort (2.25 percent cumulatively, 3.55 percent in PY3) and the 2017 cohort (1.97 percent in PY3).

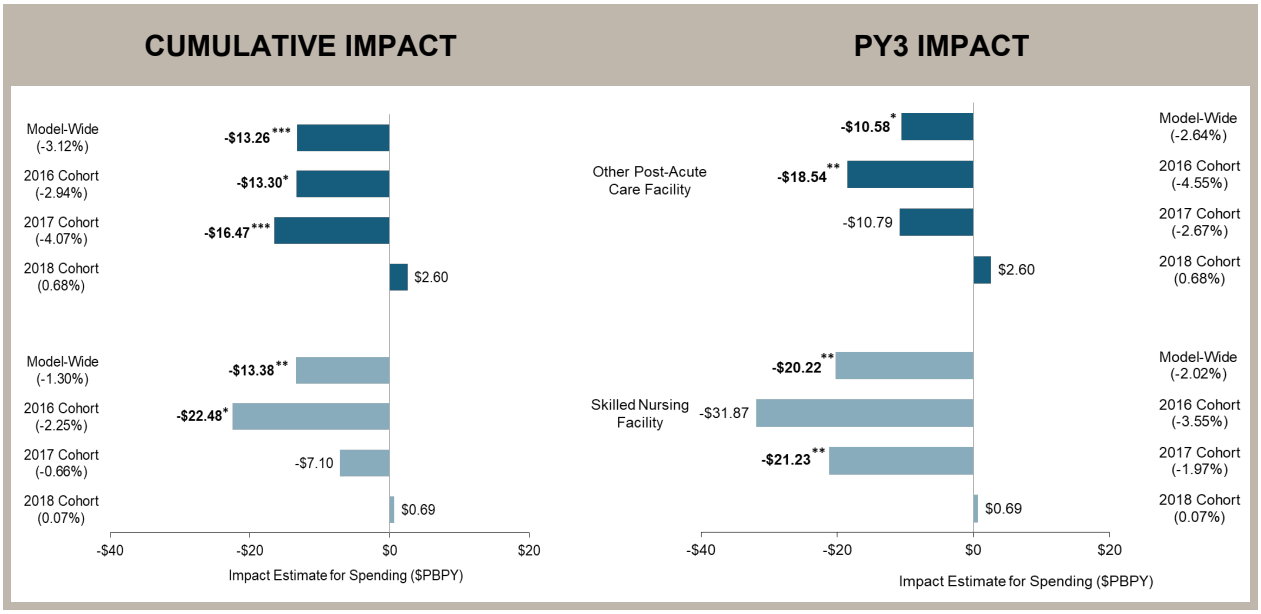
As demonstrated in Exhibit 4.6, SNF stays *increased* significantly for the 2016 cohort both cumulatively (3.76 percent) and in PY3 (5.03 percent), while SNF days *declined* cumulatively (1.08 percent) and in PY3 (1.8 percent). Model-wide impacts for SNF stays were uninterpretable. The 2016 and 2017 cohorts had more experience to improve upon their coordination efforts with their SNF networks, and both showed declines in SNF spending and stays in PY3, while the 2018 cohort did not show any impacts on these measures in their first year. Both 2016 and 2017 cohorts showed greater reduction in SNF spending and days in PY3 compared to PY2.[61]

[59] The 2018 cohort significantly reduced the likelihood of hospital stays for all its beneficiaries but did not significantly reduce the number of hospital stays for beneficiaries with one or more hospital stays. Similarly, the cohort reduced likelihood of acute care hospital spending for all its beneficiaries but did not significantly reduce the level of acute care hospital spending for beneficiaries with acute care hospital expenditures.

[60] In PY3, 50 percent of NGACOs in the 2018 cohort were physician practice-affiliated, in contrast to 15 percent in the 2016 cohort and 38 percent in the 2017 cohort; only 12.5 percent of NGACOs in the 2018 cohort were hospital system-affiliated, in contrast to 53 percent in the 2016 cohort and 31 percent in the 2017 cohort.

[61] In PY2, the 2016 cohort *reduced* SNF spending by 2.96 percent (3.55 percent reduction in PY3) and SNF days by 1.55 percent (1.8 percent reduction in PY3), while the 2017 cohort *increased* SNF spending by 0.4 percent (1.97 percent reduction in PY3) and SNF days by 1.97 percent (1.27 percent reduction in PY3).

Exhibit 4.5. Estimated Impacts on Other PAC and SNF Spending, Cumulatively and in PY3 Only



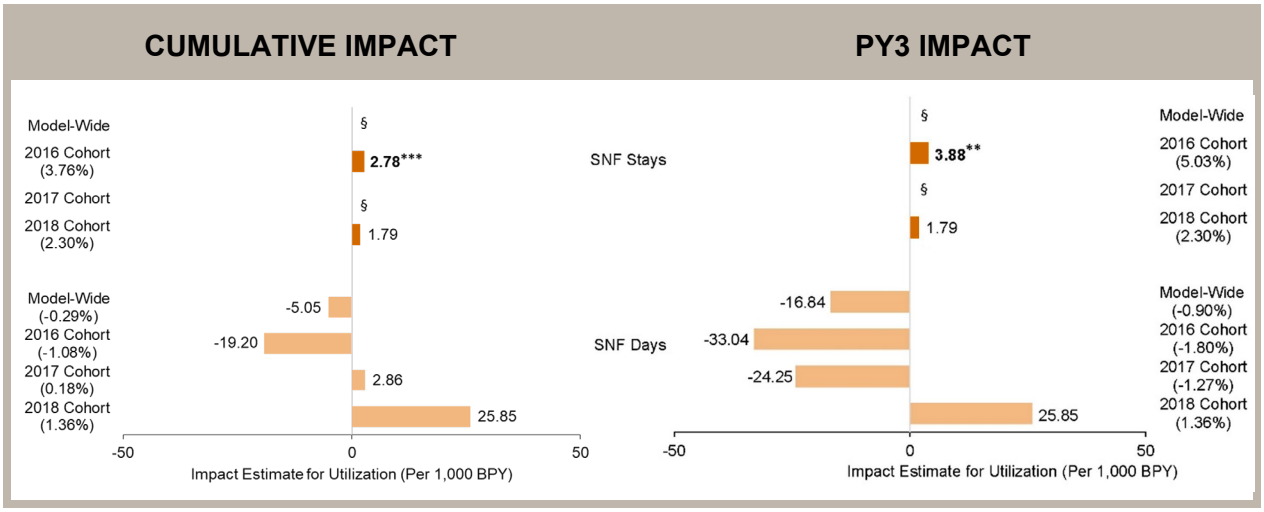
NOTES: Estimated impacts PBPY significant at *p<0.1, **p<0.05, and ***p<0.01 and bolded. Impact estimates are the DID estimates for Medicare spending towards SNFs and other post-acute care facilities. Other post-acute care facilities include inpatient rehabilitation facilities and long-term care hospital facilities. Percentage impact in parentheses is the impact relative to expected average SNF or other post-acute care facility spending for NGACO beneficiaries in performance year(s) absent the model. The data bars are shaded based on the measure category: other post-acute care facility spending (dark blue) and SNF spending (light blue).

In interviews, NGACO leadership indicated their preference to place their beneficiaries in SNFs instead of other PAC facility settings such as IRFs or LTCHs, which are more expensive. Consistent with this preference, model-wide reductions in other PAC facility expenditures were statistically significant both cumulatively (3.12 percent) and in PY3 (2.65 percent). Influencing these model-wide impacts were larger reductions for the 2017 cohort cumulatively (4.07 percent), for the 2016 cohort cumulatively (2.94 percent), and in PY3 (4.55 percent). These cohorts reduced both the probability of other PAC facility use, and the level of other PAC facility spending among users.[62]

As partnerships between NGACOs and SNFs mature, NGACOs can have a stronger effect on SNF and other PAC facility spending and utilization over time. The choice of PAC setting is more discretionary[63] on the part of providers and is therefore an easy target for interventions to improve efficiency. However, as SNF and other PAC spending collectively represent just 15 percent of Medicare expenditures, the overall effect of reducing spending and utilization in these areas is unlikely to have a substantial impact on total spending.

[62] This evidence is from the coefficients for the two-part models for other PAC facility spending for the 2016 and 2017 cohorts.
[63] McWilliams JM, Gilstrap LG, Stevenson DG, Chernew ME, Huskamp HA, Grabowski DC. Changes in post-acute care in the Medicare shared savings program. *JAMA Intern Med*. 2017;177(4):518-526. doi:10.1016/j.physbeh.2017.03.040.

Exhibit 4.6. Estimated Impacts on SNF Stays and Days, Cumulatively and in PY3 Only



NOTES: Estimated impacts per 1,000 BPY significant at *p<0.1, **p<0.05, and ***p<0.01 and bolded. Impact estimates are the DID estimates for SNF stays and SNF days. Percentage impact in parentheses is the impact relative to expected average Medicare spending for NGACO beneficiaries in performance year(s) absent the model. The data bars are shaded based on the measure category: SNF days (dark orange) and SNF stays (light orange).

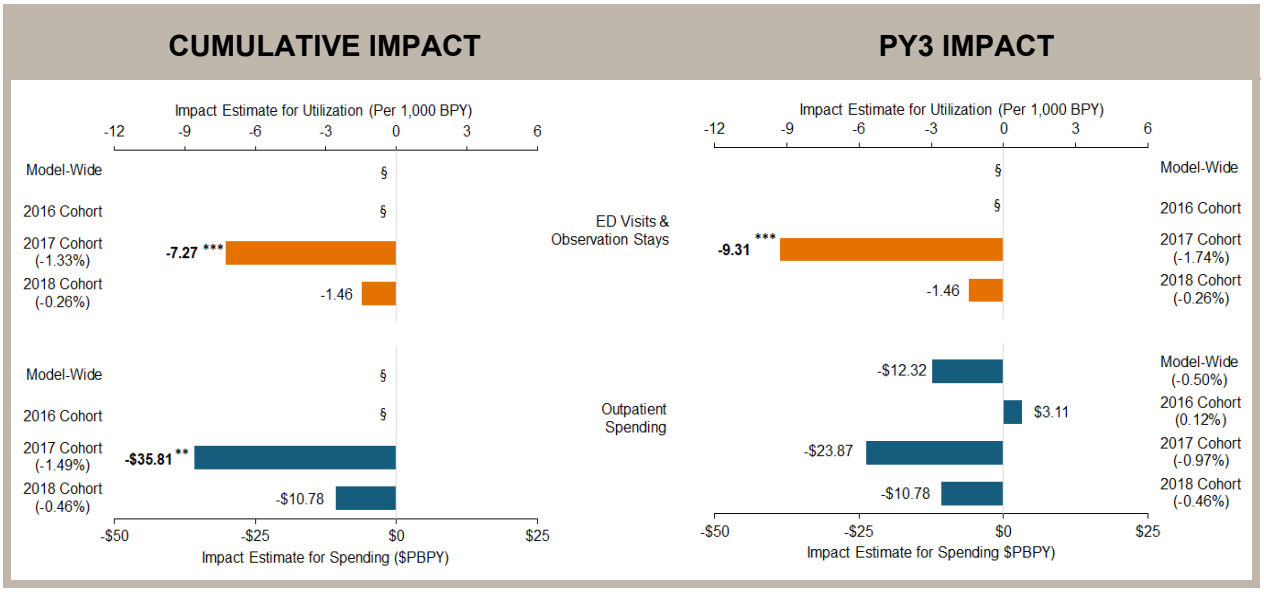
Outpatient Facility Spending and ED Utilization

In this section we present model-wide and cohort-level impacts for outpatient facility spending and ED use, and discuss them in the context of NGACOs' activities in the outpatient setting. The majority of hospital system-affiliated NGACOs employed care management approaches in outpatient settings to address the needs of complex patients. While physician practice-affiliated NGACOs have less flexibility in implementing care management in outpatient facility settings, they are less encumbered than hospital system-affiliated NGACOs in their ability to substitute office-based care for more costly outpatient facility care where possible.

We hypothesized that ED visits and outpatient facility spending would decline as NGACOs increasingly addressed the needs of patients in lower acuity settings. However, as depicted in Exhibit 4.7, model-wide cumulative and PY3 outcomes for ED visits were uninterpretable. Yet, the 2017 cohort significantly reduced ED visits and observation stays cumulatively (1.33 percent) and in PY3 (1.74 percent). For outpatient facility spending, which comprised 18 percent of total gross Medicare spending on average, model-wide impacts were uninterpretable cumulatively, and were non-significant in PY3 (0.5 percent). The 2017 cohort had statistically significant reductions in outpatient facility spending cumulatively (1.49 percent) and non-significant reductions in PY3 (0.97 percent). We expect NGACO approaches for influencing outpatient facility spending and ED use to differ among hospital system-affiliated and physician practice-affiliated NGACOs.[64]

[64] Hospital system-affiliated NGACOs may have more flexibility facilitating care coordination in hospital outpatient facilities, while physician practice-affiliated NGACOs may substitute outpatient facility care with care in the practice-setting, where possible.

Exhibit 4.7. Estimated Impacts on Outpatient Facility Spending and ED Visits Including Observation Stays, Cumulatively and in PY3 Only



NOTES: Estimated impacts PBPY for spending and per 1,000 BPY for utilization significant at *p<0.1, **p<0.05, and ***p<0.01 and bolded. Impact estimates are the DID estimates for ED visits and observation stays and Medicare spending towards outpatient facilities. Percentage impact in parentheses is the impact relative to expected average Medicare spending for NGACO beneficiaries in performance year(s) absent the model. The data bars are shaded based on the measure category: outpatient facility spending (blue) and ED visits and observation stays utilization (orange).

Professional Services Spending and Utilization

In this section, we present model-wide and cohort-level impacts for professional services spending and utilization, and discuss them in the context of NGACOs' activities for engaging providers and beneficiaries. Spending for professional services, which include physician fees, non-physician fees, and ancillary services (e.g., tests, imaging, ambulance services, Part B drugs administered in physician offices), accounted for 27 percent of gross Medicare spending. In terms of utilization measures tied to professional services, we examined evaluation and management (E&M) visits, procedures, tests, imaging services, and beneficiaries with AWVs.

NGACOs focused on developing participating provider networks with PCPs to deliver preventive and coordinated care for their beneficiary populations, combined with feedback and financial incentives to encourage practitioners to deliver value-based care. We hypothesized that these strategies may have led to reduced professional services spending and utilization, including E&M visits (Exhibit 4.8), as well as fewer imaging services, tests, and procedures (Exhibit 4.9). Spending for professional services was the only outcome to follow this expected trend. As shown in Exhibit 4.8, the model as a whole reduced professional spending cumulatively (0.56 percent) and in PY3 (1.21 percent), with significant declines in the 2017 cohort cumulatively (0.92 percent) and in PY3 (1.67 percent) and the 2018 cohort (1.37 percent). The impact on professional services spending may have been limited model-wide because few NGACOs shared down-side risk with their practitioners. The limited ability of NGACOs to engage specialists may have also contributed to the model's modest impact on reducing spending for professional services.

Impact estimates for E&M visits were uninterpretable model-wide and for most cohorts, except for the 2017 cohort that reduced E&M visits both cumulatively (1.07 percent) and in PY3 (1.32 percent). Model-wide impacts for volume of imaging services, tests, and procedures were uninterpretable cumulatively and in PY3 (Exhibit 4.9). However, most interpretable cohort-level effects showed non-significant reductions in these services. NGACO providers in cohorts with uninterpretable effects were using E&M visits and other services at a different rate than the comparison group even prior to the NGACO model (i.e., when they were in SSP and Pioneer ACOs).

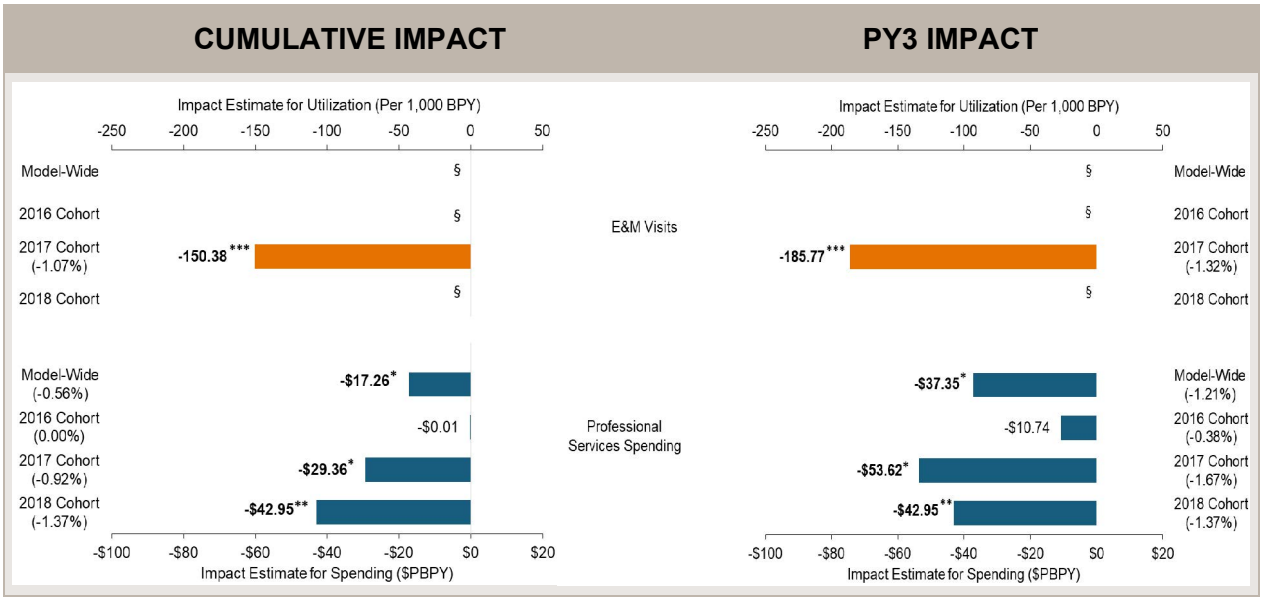
The NGACOs' strategy to engage beneficiaries through AWVs as reported in qualitative interviews and surveys is reflected in a statistically significant and substantial increase in AWV utilization (Exhibit 4.10). All three cohorts had an increase in AWVs of at least 12 percent in PY3, with the 2016 cohort seeing a 33.55 percent increase from the baseline years. Model-wide and cumulative effects on AWVs were similarly strong. The CCR for NGACO beneficiaries receiving AWVs from their providers in PY3 and PY2 likely played a role in the surge in AWV uptake.

Impact estimates for E&M visits were uninterpretable model-wide and for most cohorts, except for the 2017 cohort that reduced E&M visits both cumulatively (1.07 percent) and in PY3 (1.32 percent).

We *hypothesize* two mechanisms by which NGACOs likely reduced spending for professional services, based on our qualitative work and evidence from literature. These mechanisms reflect the collective effects of multiple NGACO activities influencing provider decision-making (supply side focus) or patient decisions and self-management (demand side focus). On the supply side, NGACOs specifically recruited primary care practitioners to their networks of participating providers. Additionally, many NGACO activities are designed to improve communication and coordination among providers and settings, provide resources and clinical decision support for providers, and align incentives for efficient and evidence based care. Changes in the mix of primary and specialty care clinicians combined with care management and clinician feedback could change utilization patterns for professional services, as NGACOs direct patients towards the most appropriate least cost settings, reducing spending.[65] On the demand side, activities directed towards patients included the care management activities of NGACOs (e.g., phone follow-ups by care coordinators, patient education) and encouraging use of AWVs. The collective effect of these activities may have improved patient adherence to clinical protocols and reduced the use of some professional services, including follow-up E&M visits. We plan to continue to investigate these mechanisms by which NGACOs affected professional services spending reductions in future reports.

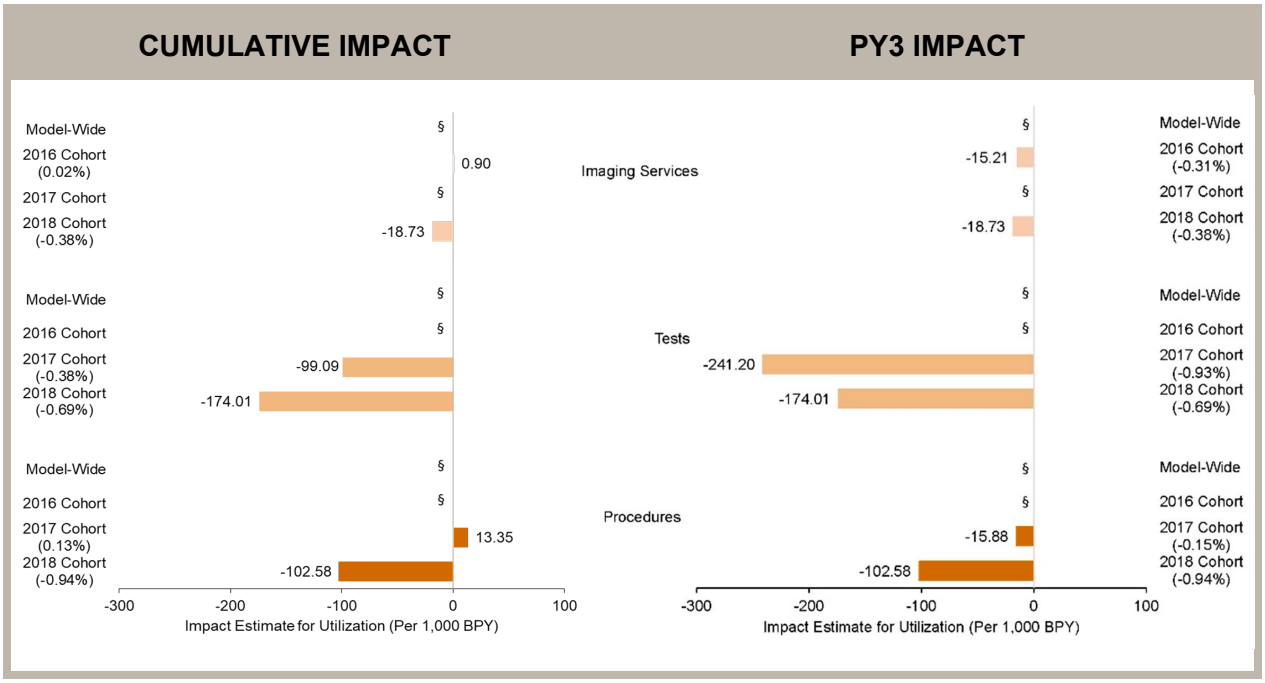
[65] Shetty VA, Balzer LB, Geissler KH, Chin DL. Association between specialist office visits and health expenditures in accountable care organizations. *JAMA Netw Open*. 2019;2(7):e196796. doi:10.1001/jamanetworkopen.2019.6796.

Exhibit 4.8. Estimated Impacts on Professional Services Spending and E&M Visits, Cumulatively and in PY3 Only



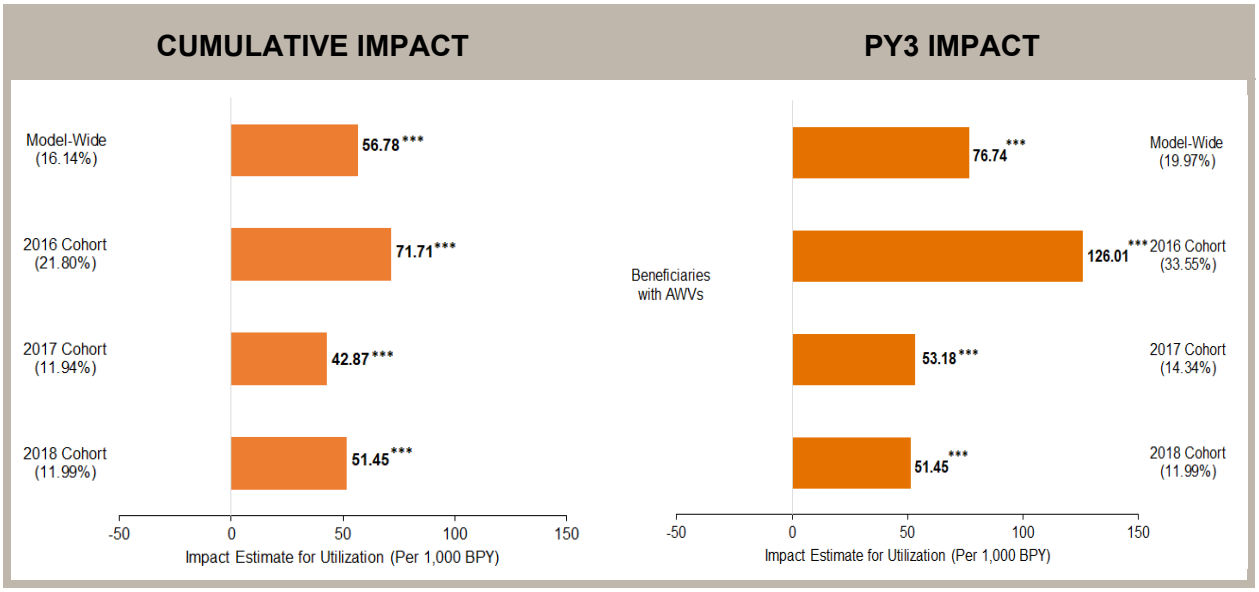
NOTES: Estimated impacts PBPY for spending and per 1,000 BPY for utilization significant at *p<0.1, **p<0.05, and ***p<0.01 and bolded. Impact estimates are the DID estimates for E&M visits and Medicare spending towards professional services. Percentage impact in parentheses is the impact relative to expected average Medicare spending for NGACO beneficiaries in performance year(s) absent the model. The data bars are shaded based on the measure category: professional services spending (blue) and E&M visits utilization (orange).

Exhibit 4.9. Estimated Impacts on Procedures, Tests, and Imaging Services, Cumulatively and in PY3 Only



NOTES: Estimated impacts per 1,000 BPY significant at *p<0.1, **p<0.05, and ***p<0.01 and bolded. Impact estimates are the DID estimates for procedures, tests, and imaging. Percentage impact in parentheses is the impact relative to expected average Medicare spending for NGACO beneficiaries in performance year(s) absent the model. The data bars are shaded based on the measure category: procedures (dark orange), tests (light orange), and imaging services (light orange).

Exhibit 4.10. Estimated Impacts for Beneficiaries with Annual Wellness Visits, Cumulatively and in PY3 Only



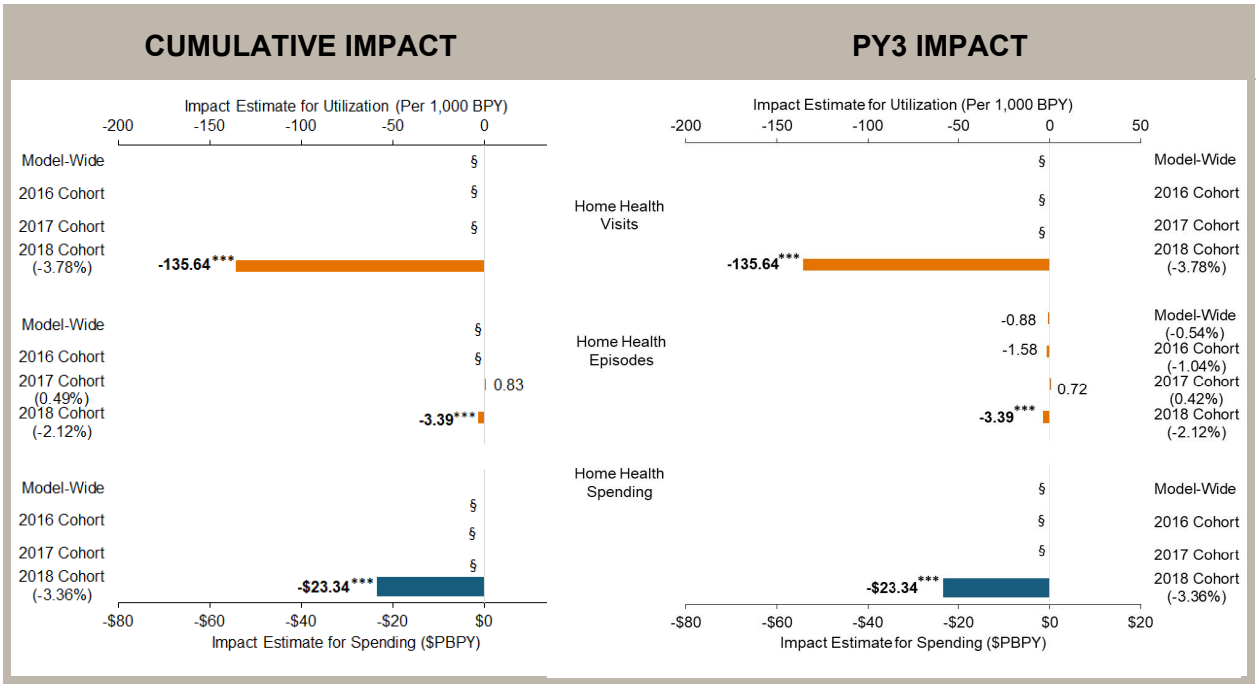
NOTES: Estimated impacts per 1,000 BPY significant at *p<0.1, **p<0.05, and ***p<0.01 and bolded. Impact estimates are the DID estimates for beneficiaries with annual wellness visits (AWVs). Percentage impact in parentheses is the impact relative to expected average Medicare spending for NGACO beneficiaries in performance year(s) absent the model. The data bars are shaded based on the measure category: beneficiaries with AWV (orange)

Home Health Spending and Use

In this section we present model-wide and cohort-level impacts for home health spending and utilization, and discuss them in the context of NGACOs' activities in this care setting. Several NGACOs in markets with inefficient use of home health focused on improving efficiency when they joined the model, including reviewing the length of home health episodes, increasing referrals for home health, improving the process of recertification for eligibility, and becoming aware of fraud and abuse among home health care providers. While the majority of NGACOs focused on SNF networks and outcomes, a few NGACOs have focused on collaboration with home health agencies.

Model-wide and cohort-level impacts for home health visits, episodes, and spending, both cumulatively and PY3, were uninterpretable in most cases (Exhibit 4.11). The 2018 cohort had statistically significant reductions in all three measures in their first performance year. Visits, episodes, and spending declined by 3.78 percent, 2.12 percent, and 3.36 percent, respectively. Both the 2018 cohort and its comparison group saw declines in home health spending, episodes, and visits between the baseline years and PY3, with larger declines for the 2018 cohort. We will continue to assess the impacts of the model on home health spending and use and explore why the 2018 cohort has had an effect in this category while no trends could be detected in other cohorts.

Exhibit 4.11. Estimated Impacts for Home Health Spending, Episodes, and Visits, Cumulatively and in PY3 Only



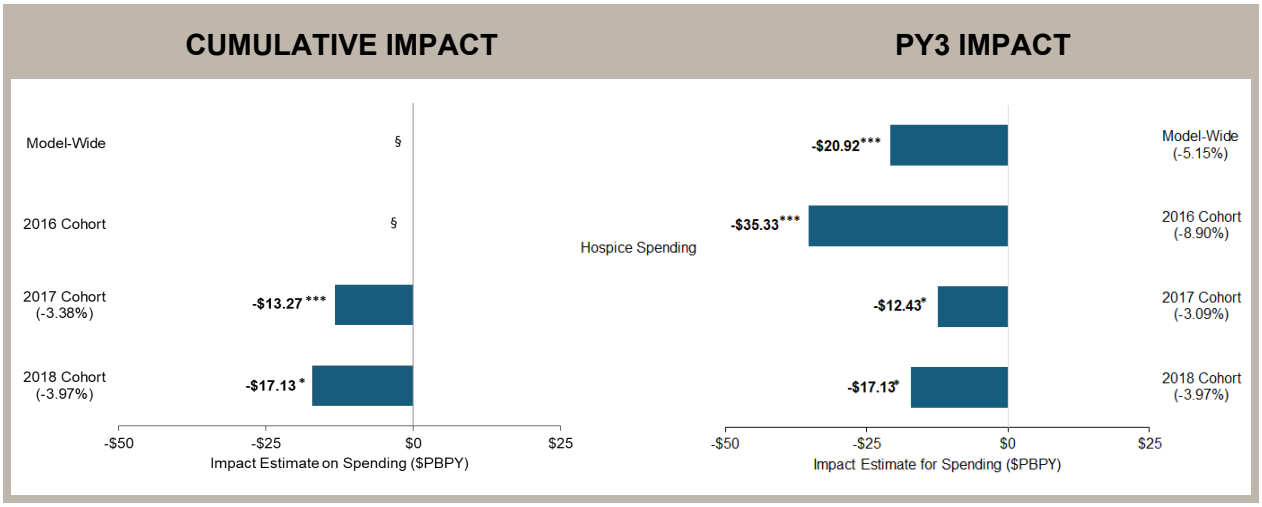
NOTES: Estimated impacts PBPY for spending and per 1,000 BPY for utilization significant at *p<0.1, **p<0.05, and ***p<0.01 and bolded. Impact estimates are the DID estimates for home health visits, home health episodes, and Medicare spending towards home health care. Percentage impact in parentheses is the impact relative to expected average Medicare spending for NGACO beneficiaries in performance year(s) absent the model. The data bars are shaded based on the measure category: home health spending (blue), home health episodes (orange), and home health visits.

Hospice Spending

While ACOs increasingly focus on advance care planning and palliative care, few have fully established programs. We therefore did not anticipate any discernable impact on hospice spending or utilization. Model-wide impacts on hospice spending were uninterpretable cumulatively, as evidenced in Exhibit 4.12. In PY3, all three cohorts had larger hospice spending changes relative to the comparison group (-8.90 percent for 2016 cohort; -3.09 percent for 2017 cohort; -3.97 percent for 2018 cohort), leading to a model-wide reduction in PY3 of -5.15 percent. Cumulatively, the 2017 and 2018 cohorts had lower hospice spending changes of 3.38 percent and 3.97 percent, respectively. NGACOs that implement more effective palliative care programs may ensure timely hospice placement, reducing inappropriate hospice use and spend. It is important to recognize, however, that both the comparison group and NGACO group increased hospice spending consistent with national trends, as demonstrated in Appendix J, Exhibit J.2. The DID estimate thus represents a lower increase in hospice spending among NGACOs. We will

continue to gather more evidence on the implementation of palliative care programs by NGACOs and monitor their effect on hospice spending.[66]

Exhibit 4.12. Estimated Impacts for Hospice Spending, Cumulatively and in PY3 Only



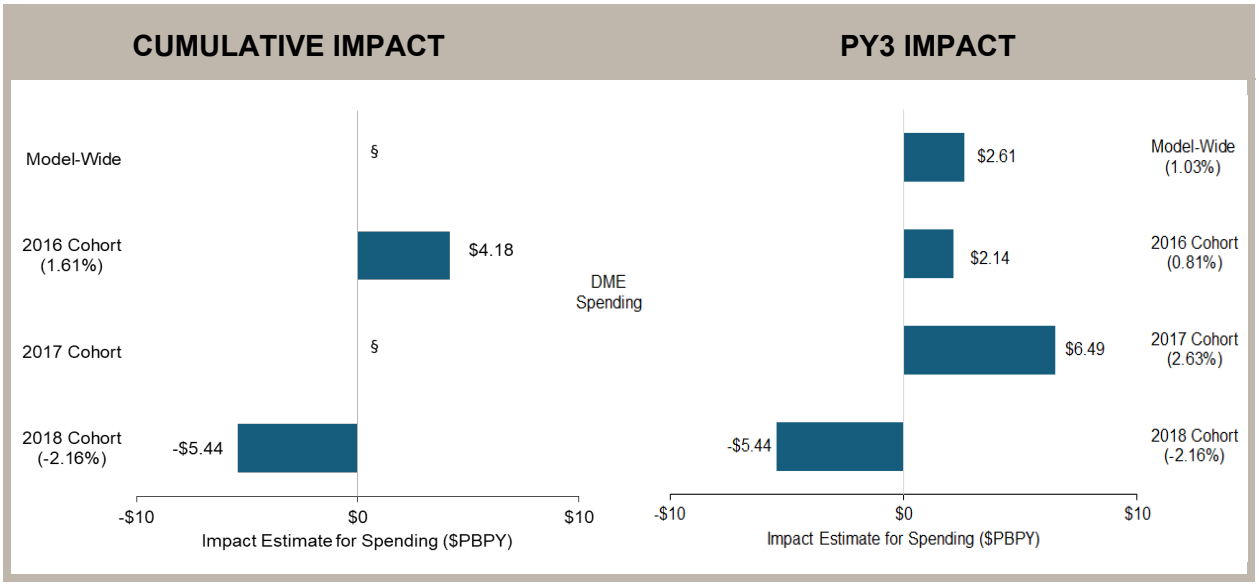
NOTES: Estimated impacts PBPY significant at *p<0.1, **p<0.05, and ***p<0.01 and bolded. Impact estimate is the DID estimate for Medicare spending towards hospice care. Percentage impact in parentheses is the impact relative to expected average Medicare spending for NGACO beneficiaries in performance year(s) absent the model. The data bars are shaded based on the measure category: hospice spending (blue).

Durable Medical Equipment Spending

NGACOs did not report any particular efforts to influence durable medical equipment (DME) spending. Not surprisingly, we observed no significant impact of the NGACO model on DME spending in any of the cohorts, either in PY3 or cumulatively (Exhibit 4.13). Interpretable findings for the 2016 and 2017 cohorts showed modest but non-significant increases in spending, while the 2018 cohort showed similarly non-significant decreases in spending.

[66] Roiland R, Bleser WK, Muhlestein D, Saunders RS. How are ACOs prioritizing palliative care and other serious illness strategies?" *Health Aff. Blog*. January 7, 2020. doi: 10.1377/hblog20191230.51481.

Exhibit 4.13. Estimated Impacts for Durable Medical Equipment Spending, Cumulatively and in PY3 Only



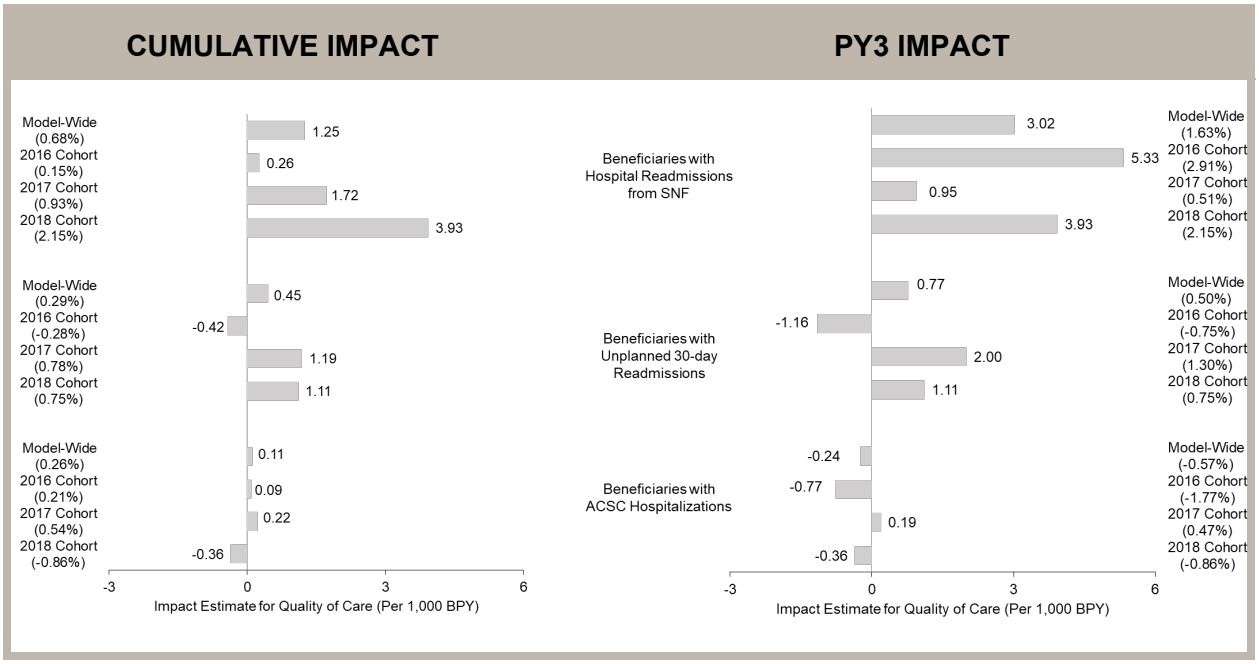
NOTES: Estimated impacts PBPY significant at *p<0.1, **p<0.05, and ***p<0.01 and bolded. Impact estimate is the DID estimate for Medicare spending towards DME. Percentage impact in parentheses is the impact relative to expected average Medicare spending for NGACO beneficiaries in performance year(s) absent the model. The data bars are shaded based on the measure category: DME spending (blue).

Quality of Care Measures

Implementation of the NGACO model emphasizes care management and preventing unnecessary hospitalizations, as well as efforts to improve transitions in care. For these reasons, we hypothesized that the model would reduce hospital and SNF readmissions and reduce hospitalizations for ambulatory care sensitive conditions.

Model-wide and for each cohort, we observe modest but non-significant impacts for the NGACO group across all three quality of care measures (Exhibit 4.14). 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, which may explain why we did not detect any impact in the first three years of the model.

Exhibit 4.14. Impacts for Quality of Care Measures, Cumulatively and in PY3 Only



NOTES: Estimated impacts per 1,000 BPY significant at *p<0.1, **p<0.05, and ***p<0.01 and bolded. Impact estimates are the DID estimates for beneficiaries with hospital readmissions from SNF, unplanned 30-day readmissions, and hospitalizations for ambulatory care sensitive conditions (ACSC). Percentage impact in parentheses is the impact relative to expected average Medicare spending for NGACO beneficiaries in performance year(s) absent the model. The data bars are shaded based on the measure category: utilization (grey),

Exhibit 4.15. Impact of the NGACO Model on Spending Categories, Utilization, and Quality of Care, Cumulatively and in PY3 Only

Outcome	Cumulative Impact in PY1, PY2, and PY3 (2016-2018)						Impact in PY3 (2018)							
	Model-Wide PY1, PY2, PY3		2016 Cohort PY1, PY2, PY3		2017 Cohort PY2, PY3		Model-Wide		2016 Cohort		2017 Cohort		2018 Cohort	
	Impact Estimate	% Impact	Impact Estimate	% Impact	Impact Estimate	% Impact	Impact Estimate	% Impact	Impact Estimate	% Impact	Impact Estimate	% Impact	Impact Estimate	% Impact
Spending ($ Per Beneficiary Per Year)														
Acute care hospital facility	-15.14	-0.37	-12.82	-0.32	-8.02	-0.19	-13.83	-0.34	-2.55	-0.06	-0.82	-0.01	-61.39*	-1.56
SNF	-13.38**	-1.30	-22.48*	-2.25	-7.1	-0.66	-20.22**	-2.02	-31.87	-3.55	-21.23**	-1.97	0.69	0.07
Other post-acute care facility	-13.26***	-3.12	-13.30*	-2.94	-16.47***	-4.071	-10.58*	-2.64	-18.54**	-4.55	-10.79	-2.67	2.6	0.68
Outpatient facility	§	-	§	-	-35.81**	-1.49	-12.32	-0.50	3.11	0.12	-23.87	-0.97	-10.78	-0.46
Professional services	-17.26*	-0.56	-0.01	0	-29.36*	-0.92	-37.35**	-1.21	-10.74	-0.38	-53.62*	-1.67	-42.95**	-1.37
Home health	§	-	§	-	§	-	§	-	§	-	§	-	-23.34***	-3.36
Hospice	§	-	§	-	-13.27 ***	-3.38	-20.92***	-5.15	-35.33***	-8.9	-12.43*	-3.09	-17.13*	-3.97
DME	§	-	4.18	1.61	§	-	2.61	1.03	2.14	0.81	6.49	2.63	-5.44	-2.16
Utilization (Per 1,000 BPY)														
Acute care stays	0.43	0.14	-0.46	-0.14	1.99	0.65	-0.13	-0.04	-2.00	-0.62	2.38	0.78	-2.85	-0.9
SNF stays	§	-	2.78***	3.76	§	-	§	-	3.88**	5.03	§	-	1.79	2.30
SNF days	-5.05	-0.29	-19.2	-1.08	2.86	0.18	-16.84	-0.90	-33.04	-1.8	-24.25	-1.27	25.85	1.36
ED visits & observation stays	§	-	§	-	-7.27***	-1.33	§	-	§	-	-9.31***	-1.74	-1.46	-0.26
E&M visits	§	-	§	-	-150.38***	-1.07	§	-	§		-185.77***	-1.32	§	-
Procedures	§	-	§	-	13.35	0.13	§	-	§	-	-15.88	-0.15	-102.58	-0.94
Tests	§	-	§	-	-99.09	-0.38	§	-	§	-	-241.2	-0.93	-174.01	-0.69

Outcome	Cumulative Impact in PY1, PY2, and PY3 (2016-2018)						Impact in PY3 (2018)							
	Model-Wide PY1, PY2, PY3		2016 Cohort PY1, PY2, PY3		2017 Cohort PY2, PY3		Model-Wide		2016 Cohort		2017 Cohort		2018 Cohort	
	Impact Estimate	% Impact	Impact Estimate	% Impact	Impact Estimate	% Impact	Impact Estimate	% Impact	Impact Estimate	% Impact	Impact Estimate	% Impact	Impact Estimate	% Impact
Imaging services	§	-	0.9	0.02	§	-	§	-	-15.21	-0.31	§	-	-18.73	-0.38
Beneficiaries with AWV	56.78***	16.14	71.71***	21.80	42.87***	11.94	76.74***	19.97	126.01***	33.55	53.18***	14.34	51.45***	11.99
Home health episodes	§	-	§	-	0.83	0.49	-0.88	-0.54	-1.58	-1.04	0.72	0.42	-3.39***	-2.12
Home health visits	§	-	§	-	§	-	§	-	§	-	§	-	-135.64***	-3.78
Quality of Care (Per 1,000 BPY)														
Beneficiaries with ACSC hospitalizations	0.11	0.26	0.09	0.21	0.22	0.54	-0.24	-0.57	-0.77	-1.77	0.19	0.47	-0.36	-0.86
Beneficiaries with Unplanned 30-day Readmissions	0.45	0.29	-0.42	-0.28	1.19	0.78	0.77	0.50	-1.16	-0.75	2	1.3	1.11	0.75
Beneficiaries with Hospital Readmissions from SNF	1.25	0.68	0.26	0.14	1.72	0.93	3.02	1.63	5.33	2.90	0.95	0.51	3.93	2.15

NOTES: Impact estimates significant at *p<0.1, **p<0.05, and ***p<0.01. Impact estimate is the DID estimate. Percentage impact is relative to expected average outcome for the NGACO group in performance year(s) absent the model. Significant and interpretable percent impacts at p<0.1 level appear in **bold** in shaded cells. The spending, utilization, and quality of care impact estimates and their corresponding percent impacts are shaded green based on the level of favorability within the referenced cohort; the most favorable impact is shaded the darkest green; the second most favorable is green; the third favorable is light green; the forth somewhat favorable is pale green; the lowest favorable is the lightest green. Unfavorable estimates are shaded in orange. § Denotes uninterpretable impact estimate due to failure of parallel trends assumption across baseline years. ACSC = ambulatory care sensitive conditions; AWV = annual wellness visit; ED = emergency department; E&M = evaluation and management; PBPY = per beneficiary per year; SNF = skilled nursing facility. "Other post-acute care facility" includes inpatient rehabilitation facilities and long-term care hospital facilities. Outpatient facility includes hospital outpatient, ED, and comprehensive outpatient rehabilitation facilities. Other post-acute care facility includes inpatient rehabilitation facility and long-term care hospital facility. Procedures, Tests, and Imaging Services include counts of services rendered by professionals and outpatient facilities.

Summary

Cumulatively (as of PY3), the NGACO model showed modest reductions in gross Medicare spending but did not reduce net Medicare spending. The lack of reduction in net spending reflects shared savings and CCR payouts surpassing gross spending reductions. In PY3, model-wide gross spending reductions were larger than in prior years but of limited size, and net spending reductions were not realized.

Despite NGACOs' efforts to risk-stratify and provide care management for beneficiaries, the model showed minimal impact in reducing acute care hospital spending and stays that account for the largest percentage of Medicare Parts A and B spending. In part, this may be due to the fact that NGACOs often do not identify beneficiaries as higher risk until they have been hospitalized. However, the focus of NGACOs on improving transitions in care, especially building relationships with SNFs, was evident in reduced spending for SNF and other PAC facilities. Spending reductions in these settings were greater for cohorts with more time in the model, which may reflect the additional time these NGACOs had to develop relationships with SNFs in their networks. Consistent with NGACO efforts to engage physicians and provide care management services, the model reduced spending for professional services but not utilization. One possible explanation is that most NGACOs did not share financial risk with participating practitioners.

There are important caveats for considering how to interpret our estimated impacts of the NGACO model:

- Two-thirds of participating NGACO practitioners in PY3 were previously in Pioneer or SSP ACOs**.** Impacts of the NGACO model presented reflect *the incremental effect of the NGACO model over other Medicare ACO initiatives* in which the NGACO practitioners participated during the model's baseline years.
- NGACOs were responsible for all Medicare spending for their beneficiary population, yet on average, over half of parts A and B spending for NGACO beneficiaries in the performance years was from providers outside of their NGACOs (Appendix H, Exhibit H.4). NGACOs noted that they are less able to influence spending and services for beneficiaries who obtain care outside of the NGACOs' networks of participating and preferred providers. This phenomenon of *leakage* likely contributes to modest model-wide impacts.[67]
- Comparison group beneficiaries may benefit from care they receive from NGACO providers. In Appendix H, Exhibit H.5, we measure this *direct spillover* from NGACO participating providers to the comparison group. Model-wide in PY3 and cumulatively, NGACO providers contributed to only 10 to 15 percent of the comparison group's Medicare Part B spending in the performance years.

[67] Lin SC, Yan PL, Moloci NM, Lawton EJ, Ryan AM, Adler-Milstein J, Hollingsworth JM. Out-of-network primary care is associated with higher per beneficiary spending in Medicare ACOs. *Health Aff.* 2020;39(2):310-318.

- A small proportion of comparison beneficiaries in PY3 (9 percent) was retrospectively assigned to SSP ACOs and received most of their qualifying care during the performance years from SSP ACO providers. Program rules do not permit the assignment of NGACO beneficiaries to SSP ACOs. We observe that both the comparison and NGACO groups received similar levels of care from SSP ACO providers in their markets in the performance years (about 20 percent of the Part B spending for both groups; Appendix H, Exhibit H.6). Our evaluation design uses prospective attribution to determine NGACO and comparison groups; for this reason, we do not adjust for the proportion of the comparison group assigned retrospectively to SSP ACOs. Rather, this proportion is captured in the differing intercepts for both groups in our DID study design.
- Similar proportions of NGACO and comparison beneficiaries participated concurrently in overlapping episodic CMMI initiatives (Appendix H, Exhibits H.1-H3). These initiatives included Bundled Payments for Care Improvement, Comprehensive Care for Joint Replacement, and Oncology Care Model. The proportion of beneficiaries in these initiatives differed in the NGACO performance and base years. Because our evaluation uses a prospective approach to risk-adjustment, we do not adjust for the concurrent participation of beneficiaries in episodic CMMI initiatives. For this reason, our estimate of NGACO model impacts reflect *the incremental effect of the NGACO model over that of other overlapping initiatives in the NGACO markets.*
- The gross impacts model-wide and on the cohorts reflect the wide variation in impacts for individual NGACOs cumulatively and in PY3; the following chapter will explore this variation in impacts by NGACO. Observed effects for the three cohorts likely vary by subgroups of NGACOs based on how they are structured, where they are located, and how they approached care transformation under the model. For this report, we conducted early analyses of impacts by structure, specifically organizational affiliation, risk arrangements, and payment mechanisms. In future reports, we plan to examine whether changes in NGACO markets and aspects of care transformation are associated with impacts on spending.

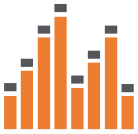
Chapter 5: Variation in Impact by NGACO on Spending, Utilization, and Quality of Care

Key Findings

Impacts on Cumulative Spending

- Ten NGACOs achieved statistically significant, cumulative Medicare spending reductions. They accounted for $186.6 million in gross savings—54 percent of the model-wide reduction.
- Most with lower cumulative spending elected full risk and higher risk caps, opted for population-based payments (PBPs), and were in markets where the comparison group also showed spending declines.

Impacts on PY3 Spending



- Eight NGACOs had statistically significant reductions in Medicare spending in PY3, reducing gross Medicare spending by $134.7 million.
- Most of these eight NGACOs elected full risk and higher risk caps, opted for PBPs, and had prior Medicare ACO experience.

Cumulative Spending Impacts by Model Feature: Levels of Risk

- NGACOs taking 100 percent risk with risk cap greater than 5 percent had significantly larger spending reductions than those taking 80 percent risk: 1.6 percent versus 0.5 percent reduction.
- Relative to their comparison groups, NGACOs taking 100 percent risk significantly reduced Medicare spending, while those taking 80 percent risk had non-significant reductions.

Cumulative Spending Impacts by Model Features: Payment Mechanisms

- NGACOs electing PBP or all-inclusive population-based payment (AIPBP) mechanisms had non-significantly larger spending reductions than those electing fee-for-service (FFS) payments: 1.4 percent versus 0.7 percent reduction.
- Relative to their comparison groups, NGACOs electing either PBP/AIPBP or FFS payment mechanisms significantly reduced Medicare spending.

Cumulative Spending Impacts by NGACO Organization Type

- Medicare spending reductions were similar for NGACOs that were hospital system-affiliated, physician-hospital partnerships, and physician practice-affiliated: 0.8 percent versus 0.9 percent versus 1 percent reduction.
- Relative to their comparison groups, all three NGACO organization types significantly reduced Medicare spending.

In this chapter, we explore this evaluation's fourth research question regarding variation in impact across the 50 individual NGACOs active in PY3. We present findings for estimated spending impacts both cumulatively through PY3 and in PY3 alone.[68] We report findings as statistically significant at 0.1 significance level or lower. We then compare the evaluation spending impacts to the shared savings results for each cohort (and for each NGACO in the three cohorts in PY3 in Appendix I). We also explore spending impacts for subgroups of NGACOs cumulatively as of PY3 based on:

- financial risk level elected by NGACOs (80 percent or 100 percent with cap at or above 5 percent);
- payment mechanism elections (FFS with/without infrastructure payments [ISP] or PBP/AIPBP); and
- NGACO organization type (hospital system-affiliated, physician-hospital partnership, physician practice-affiliated).

We then describe common features among NGACOs showing significant spending reductions cumulatively as of PY3. The findings presented in this chapter lay the groundwork for future reports, where we plan to conduct rigorous mixed-methods analyses to better understand how Medicare spending may vary as a function of how NGACOs are structured, where they are located, and how they have implemented the model.

Impact on Spending at the NGACO Level

The 50 NGACOs active in PY3 varied in their estimated impact on Medicare spending, cumulatively and in PY3 alone. See Appendix J for mean-adjusted spending in baseline years (BY) and performance years (PY) for each NGACO and comparison group, as well as impacts for spending categories, utilization, and quality of care measures for each NGACO.

Cumulative Spending Impacts, Through PY3

Exhibit 5.1 summarizes our findings for the cumulative impact on gross Medicare spending, expressed as per beneficiary per year (PBPY) through PY3 for each of the 50 NGACOs active in PY3. [69]

- **Ten out of 50 NGACOs had statistically significant reductions in cumulative Medicare spending.** Three NGACOs from the 2016 cohort, five from the 2017 cohort, and two from the 2018 cohort lowered spending, with effect sizes ranging from -$590.1 to -$137.3 PBPY (5.7 percent to 1.3 percent reduction). Together, these 10 NGACOs reduced gross Medicare spending by $186.6 million. Twelve additional NGACOs (two from the 2016 cohort, four from the 2017 cohort, and eight from the 2018 cohort) showed non-significant relative declines in Medicare spending of at least 1 percent (4.8 percent to 1 percent reduction).
- Cumulatively, NGAGOs that achieved reductions in overall Medicare spending had reductions of at least 1 percent in acute care hospital or outpatient facility spending, and 8 out of 10 NGACOs had

[68] Where significance is noted in the narrative, it was observed at $p<0.1$. Chapter tables show p-values at three levels.

[69] Cumulative impacts as of PY3 reflect impacts across PY1, PY2, and PY3 for the thirteen 2016 cohort NGACOs; across PY2 and PY3 for the twenty-one 2017 cohort NGACOs, and PY3 for the sixteen 2018 cohort NGACOs. These impacts are estimated from NGACO-level difference-in-differences (DID) regression models described in Appendix D.

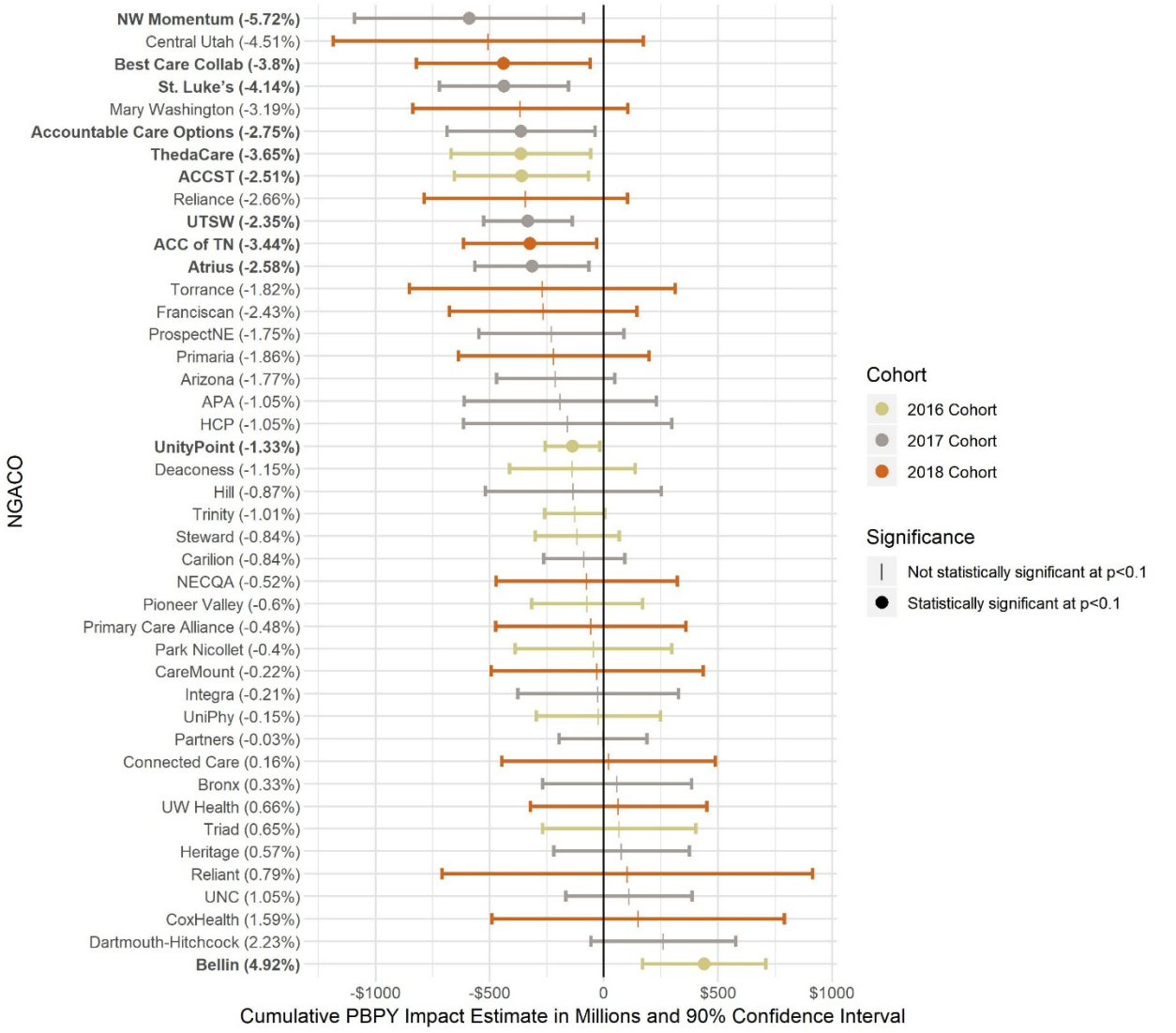
greater than 1 percent reductions in either of these spending categories. Nine of these NGACOs were also able to achieve spending reductions of greater than 1 percent in either the skilled nursing facility (SNF) or other post-acute care (PAC) facility settings.

One NGACO had a statistically significant increase in cumulative Medicare spending ($p<0.1$). This NGACO from the 2016 cohort had an effect size of $439.6 PBPY (4.9 percent increase), while spending among its comparison group declined. Three additional NGACOs (two from the 2017 cohort and one from the 2018 cohort) showed non-significant relative increases in Medicare spending of 1 percent or more (1 percent to 2.2 percent increase).

For seven NGACOs, effect sizes for spending could not be interpreted due to the absence of parallel trends across the baseline years; these included two NGACOs from the 2016 cohort, four from the 2017 cohort, and one from the 2018 cohort.

The ten NGACOs that significantly reduced spending shared several characteristics. Most elected full risk and higher risk caps, opted for PBPs, and were in markets where the comparison group also showed reductions in spending. They were equally likely to be hospital- or physician practice-affiliated. We present a more detailed analysis of the common characteristics among these ten NGACOs later in this chapter.

Exhibit 5.1. Cumulative Impact (in PY3) on Gross Medicare Spending PBPY, by NGACO



NOTES: Cumulative impact estimates as of PY3 and 90% confidence intervals for gross Medicare spending PBPY displayed for 11 NGACOs from 2016 cohort (in beige), 17 NGACOs from 2017 cohort (in gray), and 15 NGACOs from 2018 cohort (in orange) that were active in PY3. Cumulative impacts not displayed for seven NGACOs (two from 2016 cohort, four from 2017 cohort, and one from 2018 cohort) that failed the parallel trends tests for gross Medicare spending. Impact estimates and confidence intervals to the left of the zero line denote NGACOs with reductions in gross Medicare spending, and those to the right denote NGACOs with increases in gross Medicare spending. NGACOs ordered in increasing order of their impact estimates, with those reducing spending on top and those increasing spending at the bottom. ACO names that significantly reduced/increased spending are bolded.

Exhibit 5.2 summarizes our findings for impacts on gross Medicare spending in PY3, expressed as PBPY, for each of the 50 NGACOs active in PY3.

Eight NGACOs had statistically significant reductions in Medicare spending in PY3 ($p<0.1$). Two NGACOs in the 2016 cohort, four in the 2017 cohort, and two in the 2018 cohort showed effect sizes that ranged from -$672.9 to -$323.3 PBPY (reductions of 5 percent to 3.4 percent). These eight NGACOs reduced gross Medicare spending by $134.7 million in the aggregate, accounting for 60.4 percent of the model-wide savings in PY3. Six of these eight NGACOs also saved cumulatively[70]; four NGACOs that saved cumulatively but not in PY3 saw reductions in spending that were not significant.[71] Sixteen additional NGACOs (five each in the 2016 and 2017 cohorts, and six from the 2018 cohort) showed non-significant relative declines in Medicare spending of at least 1 percent (reductions of 5 percent to 1.2 percent).

NGACOs that achieved reductions in overall Medicare spending had reductions of at least 1 percent in acute care hospital use and spending, professional services spending, and outpatient spending and use. These three categories represent the largest sources of spending and utilization for Medicare. In addition, these NGACOs had reductions exceeding 1 percent in one or more of the following discretionary utilization and spending categories: SNF days and spending, other PAC spending, and home health spending.

Two NGACOs saw significant increases in spending in PY3 ($p<0.1$). Both these NGACOs were from the 2016 cohort, and had effect sizes of $588.6 and $727 PBPY (4.4 percent and 8.3 percent increases), while spending in their comparison group declined.[72] Five additional NGACOs (two each in the 2016 and 2017 cohorts, and one from the 2018 cohort) were associated with non-significant relative increases in Medicare spending of at least 1 percent (1.3 percent to 2 percent increase). Of these five additional NGACOs, three had non-significant cumulative increases in spending.

For five NGACOs, effect sizes could not be interpreted in PY3 due to the absence of parallel trends across the baseline years; these included four NGACOs from the 2017 cohort and one from the 2018 cohort.

NGACOs that significantly reduced spending in PY3 shared several characteristics. They included NGACOs with a range of Medicare ACO experience: three of the eight had six years of Medicare ACO experience, while two were new ACOs. These eight were more likely than NGACOs that did not have significant reductions in PY3 to have assumed 100 percent financial risk and opt for PBPs.

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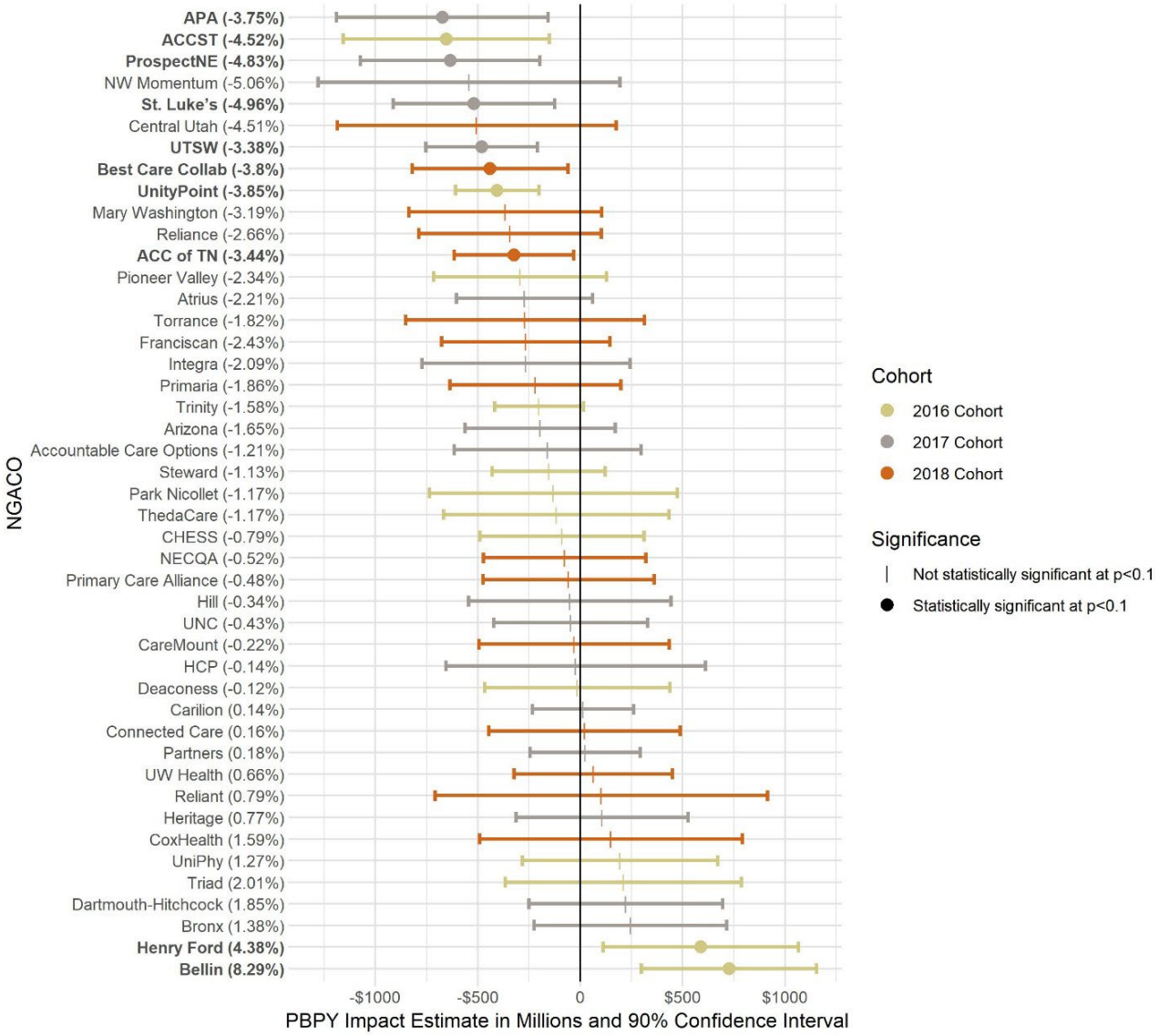
[70] These included ACCST, St. Luke's, UTSW, Unity Point, ACC of TN, and Best Care Collaborative.
[71] These included Accountable Care Options, NW Momentum, Atrius, and ThedaCare.
[72] These included Bellin and Henry Ford. Bellin also had a significant cumulative increase in spending, while cumulative results for Henry Ford are not interpretable (due to lack of parallel trends in earlier performance years).

We noted no clear association between spending impacts for NGACOs and beneficiary leakage, direct spillover effects for comparison beneficiaries, or the extent to which care was delivered by SSP providers in either group.[73] These patterns of care measures varied widely across NGACOs in PY3 (shown in Appendix I). However, the effect of leakage and spillover may vary based on market and beneficiary characteristics. For example, beneficiary leakage in an expensive market may result in higher spending being attributed to the NGACO, and provider spillover to beneficiaries with higher spending may drive down spending in the comparison group. We will explore how market and beneficiary characteristics interact with organizational and provider-level factors in future reports.

For select NGACOs that significantly reduced cumulative Medicare spending, we present NGACO Snapshots that capture their organization type, market context, and approaches under the model as a supplement to this report.

[73] Care from SSP ACO providers reflects part of the NGACO group's leakage and the comparison group's spillover from SSP ACOs.

Exhibit 5.2. For PY3, Impact on Gross Medicare Spending PBPY by NGACO



NOTES: Impact estimates in PY3 and 90% confidence intervals for gross Medicare spending PBPY displayed for 2016 cohort NGACOs (13) in beige; 2017 cohort NGACOs (17) in gray; and 2018 cohort NGACOs (15) in orange. Impacts not displayed for five NGACOs (four from 2017 cohort, one from 2018 cohort) that failed the parallel trends tests for gross Medicare spending. NGACOs listed in increasing order of their impact estimates, with those reducing spending on top and those increasing spending at the bottom. Bolded impact estimates statistically significant at p<0.1. Impact estimates with § and confidence intervals with dashed lines are uninterpretable due to failure of parallel trends assumption. Impact estimates and confidence intervals to the left of the zero line denote NGACOs with reductions in gross Medicare spending, and those to the right denote NGACOs with increases in gross Medicare spending. ACO names that significantly reduced/increased spending are bolded.

Variation in Evaluation's Gross Spending Impacts and the Model's Shared Savings and Losses for NGACOs in PY3

We compared evaluation spending impacts against earned shared savings or losses determined actuarially, and provide a summary of the variation in NGACO performance across cohorts in PY3. Net spending impacts differed among cohorts in PY3 because of differences in the spending impact determined by NGACO's evaluation relative to shared savings or losses determined by the model's financial benchmark. The reasons for the divergence between an NGACO's evaluation spending impact and shared savings or losses are related to differences in how the two approaches determine counterfactual spending for beneficiaries aligned to the model.[74]

Individual NGACOs were grouped into four categories based on whether the sign of an NGACO's evaluation gross spending impact estimate was the same (congruent) or different (divergent) from its sign for its shared savings/losses. Congruent NGACOs were then divided based on whether evaluation spending impact and shared savings/losses both reflected increases or decreases. Divergent NGACOs were then divided by the differences in the directionality of the two methods (evaluation and benchmark). NGACOs whose findings were divergent included ACOs that realized spending reductions relative to comparison in the evaluation but had to pay shared losses, and those that increased spending relative to comparison group in the evaluation, but were paid shared savings. Exhibit 5.3 presents the number of NGACOs in each of these categories. We then graphically depict the magnitude of the congruence and divergence for PY3 NGACOs in Exhibit 5.4, and provide additional exhibits for each cohort in Appendix I. As shown in Exhibit 5.3:

- About three-quarters (37) of the NGACOs in PY3 showed congruence between the sign of their evaluation spending impact relative to a comparison group and shared savings/losses.
- Of these, 30 NGACOs reduced spending relative to their comparison group in the evaluation and shared savings by reducing spending relative to their financial benchmark. Twelve of the 30 NGACOs received shared savings payments that exceeded spending declines associated with their organization (denoted by points above the diagonal in the lower left quadrant in Exhibit 5.4).
- The remaining seven NGACOs increased spending relative to their comparison group in the evaluation, and paid shared losses to CMS. Two of these seven NGACOs paid shared losses that did not cover the amount of their spending increase in PY3.
- For one-quarter (13) of NGACOs, the sign of evaluation spending impacts diverged from the sign of their financial shared savings/losses. Of these NGACOs, five increased spending relative to a comparison group but earned shared savings, and eight paid shared losses but lowered spending relative to their comparison group.

[74] There are several technical differences in these methods that are due to differences in their intended purposes; discussion of these differences is outside the scope of this report.

Exhibit 5.3. Four Categories of Gross Spending Impacts and Shared Savings Results in PY3

	Congruent: Evaluation Spending Impact and Shared Savings/Loss Have Same Sign		Divergent: Evaluation Spending Impact and Shared Savings/Loss Have Opposite Sign	
	Realized Shared Savings and Decreased Spending Relative to Comparison	Realized Shared Losses and Increased Spending Relative to Comparison	Realized Shared Losses and Decreased Spending Relative to Comparison	Realized Shared Savings and Increased Spending Relative to Comparison
	# NGACOs	# NGACOs	# NGACOs	# NGACOs
Model-Wide	30	7	5	8
2016 Cohort	8	0	1	4
2017 Cohort	12	6	3	0
2018 Cohort	10	1	1	4

NOTE: Analysis includes all 50 NGACOs in PY3, including those that passed (45 NGACOs) and failed the parallel trends test (five NGACOs) for gross Medicare spending.

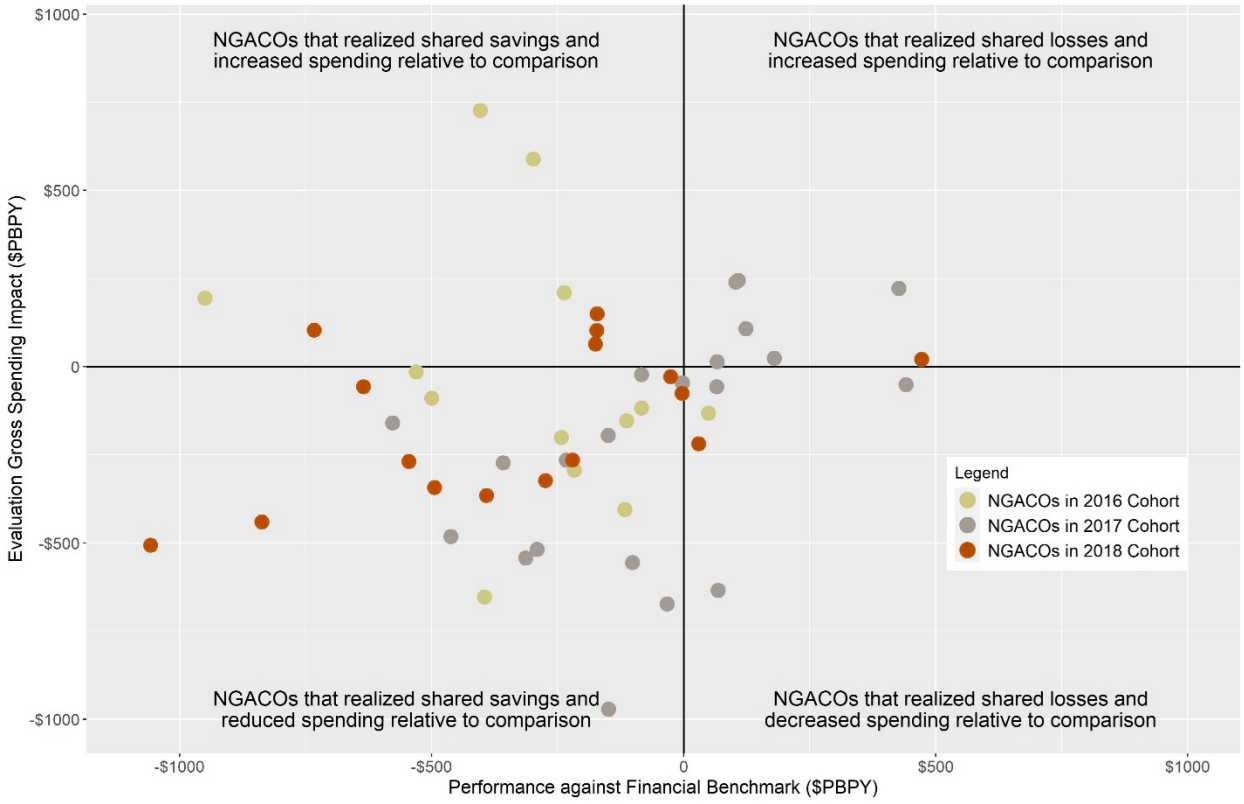
There were several reasons why the 2016 and 2018 cohorts realized increases in net spending compared to the net decreases found for the 2017 cohort. In PY3, the 2016 and 2018 cohorts earned more shared savings than the 2017 cohort, even though the latter had greater gross spending reductions in aggregate relative to a comparison group. Compared to their counterparts in the 2017 cohort, more NGACOs in the 2016 and 2018 cohorts earned shared savings relative to a financial benchmark, even when spending increased relative to a local comparison group. Shared savings payouts to the 2016 and 2018 cohorts were larger than the gross spending reductions these cohorts realized in PY3, resulting in net spending increases. Total shared savings payouts to the 2017 cohort were smaller than total gross spending reductions, resulting in statistically non-significant reductions in net spending.

Exhibit 5.4 illustrates these differences among cohorts in terms of concordance between evaluation impacts and shared savings/losses. The quadrants correspond to four categories:

- **NGACOs in the lower left quadrant realized shared savings and decreased spending relative to a comparison group**. Eight NGACOs from the 2016 cohort, 12 from the 2017 cohort, and 10 from the 2018 cohort fell in this category.
- **NGACOs that realized shared savings and increased spending relative to a comparison group are located in the upper left quadrant.** Eight NGACOs in this category contributed to *increased net spending*; they included four from the 2016 cohort and four from the 2018 cohort. No NGACOs in the 2017 cohort fell in this category.
- **The upper right quadrant comprises NGACOs that realized shared losses and increased spending relative to a comparison group.** The quadrant includes seven NGACOs: six from the 2017 cohort, one from the 2018 cohort, and none from the 2016 cohort.

- **NGACOs that realized shared losses and decreased spending relative to a comparison group are located in the lower right quadrant.** Five NGACOs in this category contributed to *lower net spending*. Three NGACOs came from the 2017 cohort; by comparison, one NGACO from the 2016 cohort and one from the 2018 cohort were in this category.

Exhibit 5.4. In PY3, One-Quarter of NGACOs Diverged in Their Spending Impacts and Shared-Savings Payouts, and This Divergence Varied by Cohort



NOTES: For 50 NGACOs in PY3, point estimate for gross spending impacts (relative to comparison group) and shared savings/losses (relative to financial benchmark) displayed PBPY. Values shown for 2016 cohort NGACOs (13) in beige; 2017 cohort NGACOs (21) in gray; and 2018 cohort NGACOs (16) in orange. Lower-left quadrant shows NGACOs that realized shared savings and reduced gross spending relative to comparison. Upper-left quadrant shows NGACOs that realized shared savings and increased gross spending relative to comparison. Upper-right quadrant shows NGACOs that realized shared losses and increased gross spending relative to comparison. Lower-right quadrant shows NGACOs that realized shared losses and reduced gross spending relative to comparison.

Variation in Cumulative Gross Spending Impact by NGACO Risk Level, Payment Mechanism, and Organization Type

We examined whether election of model features determining risk or payment flow were associated with spending impact, and whether an NGACO's organization type was associated with spending impact. We selected these three subgroups for closer examination based on their importance to the NGACO model and prior empirical evidence from the ACO literature (Exhibit 5.5). Two of these subgroups were defined by model features that NGACOs may choose each performance year: level of financial risk and payment mechanism. The third subgroup was defined by the type of organization with which the NGACO was affiliated: an integrated delivery system (IDS) or hospital system, physician-hospital partnership, or physician-led (such as an association of independent physicians or a physician practice).

The numbers and percentages of NGACOs falling into each subgroup are summarized in Exhibit 5.5, as are the numbers of NGACO-performance years reflected in each group. We analyzed Medicare spending impacts for each model or organizational-level feature at a time, and our findings were robust to the inclusion of NGACOs that failed the parallel trends in sensitivity analyses (shown in Appendix I).[75] We estimated impacts for subgroups from NGACO-level impacts, and then tested for significant differences in impacts across subgroups by model or organizational feature (see Appendix D for additional details). The number of NGACOs in each subgroup and the variability in their impact estimates contributed to whether differences across subgroups were significant.

In forthcoming reports we plan to assess variation in impacts for NGACOs, considering combinations of factors associated with their performance in the model.

Exhibit 5.5. Percent of NGACOs and Percent of Aligned Beneficiaries by Model Features Selected and NGACO Organizational Affiliation, Cumulative

Subgroup Based on NGACOs' Elected Model Feature or Organization Feature	Cumulatively as of PY3	
	Percent of NGACOs in Subgroup (# of NGACO-PYs)	Percent of Aligned Beneficiaries in Subgroup
Model Feature: Financial Risk (Higher to Lower)		
100% Risk level, Cap > 5%	30% (31)	28.6%
100% Risk level, Cap = 5%	15% (16)	18.9%
80% Risk level, Cap > 5%	15% (16)	14.6%
80% Risk level, Cap = 5%	39% (41)	37.9%
Model Feature: Payment Mechanism		
Fee-for-Service (with or without ISP)	74% (77)	72.0%

[75] We estimated Medicare spending impacts for the NGACO subgroups from NGACO-level impact estimates, excluding those NGACOs that failed the parallel trends test for Medicare spending. We included impacts for all NGACOs across all PYs, in our estimation of the cumulative impacts for subgroups. We summarize our approach for estimating impacts for the NGACO subgroups in Appendix D.

Subgroup Based on NGACOs' Elected Model Feature or Organization Feature	Cumulatively as of PY3	
	Percent of NGACOs in Subgroup (# of NGACO-PYs)	Percent of Aligned Beneficiaries in Subgroup
Population-Based Payments (PBP or AIPBP)	26% (27)	28.0%
Organizational Feature: Organizational Affiliation		
Hospital System-Affiliated	44% (46)	54.7%
Physician-Hospital Partnership	24% (25)	20.2%
Physician Practice-Affiliated	32% (33)	25.1%

NOTES: We estimated total spending impact for NGACO subgroups by weighting the total spending impacts for each NGACO in a performance year by the proportion of beneficiaries it contributed to the subgroup. Cumulatively as of PY3, we considered total spending impacts for 104 of 112 NGACO performance years, excluding impacts for eight NGACOs due to failure of parallel trends.

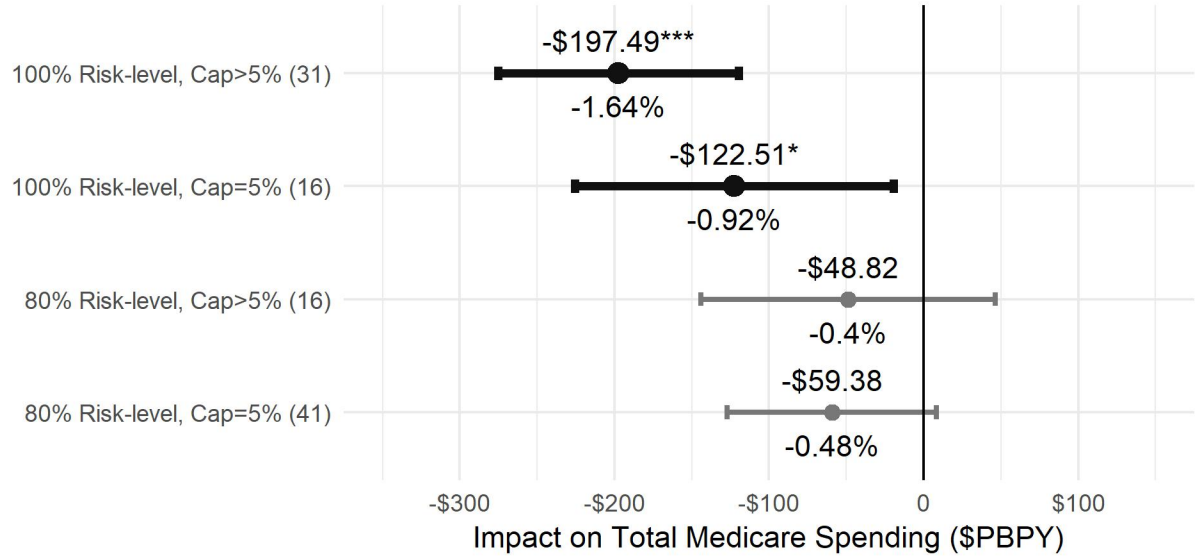
Level of Financial Risk

The NGACO model allows NGACOs to elect varying levels of financial risk; they may change their elections each performance year. We estimated the annual impact on Medicare spending for NGACOs electing different levels of financial risk in the model, cumulatively as of PY3. In Exhibit 5.6, we present spending impacts for four subgroups of NGACOs based on the level of financial risk (higher to lower) determined by the risk level and cap on shared savings or losses.[76]

NGACOs with 100 percent risk and risk cap > 5 percent had significantly larger annual Medicare spending reductions than NGACOs with 80 percent risk. Relative to their comparison groups, NGACOs taking 100 percent risk significantly reduced annual Medicare spending, while those taking 80 percent risk reduced spending non-significantly. NGACOs electing 100 percent risk and risk cap greater than 5 percent achieved a 1.64 percent significant annual Medicare spending reduction, followed by those electing 100 percent risk and risk cap of 5 percent (0.92 percent reduction).[77] NGACOs electing 80 percent risk had smaller and non-significant reductions in annual Medicare spending relative to their comparison groups (0.5 percent reduction). Compared to NGACOs taking 80 percent risk, those taking 100 percent risk and risk cap greater than 5 percent had significantly larger annual Medicare spending reductions, while those taking 100 percent risk and risk cap of 5 percent had non-significantly larger annual Medicare spending reductions.

[76] NGACOs that elected higher caps on their shared savings or losses could earn greater savings or incur greater losses based on how they fared against their financial benchmark.
[77] In subgroup analyses, we adjusted p-values for false discovery rates for all subgroups and model-wide at the 0.1 level.

Exhibit 5.6 Medicare Spending Impact by NGACO Risk Selection, PY1-PY3



NOTES: Impact estimates and 90% confidence intervals displayed for NGACO subgroups on total gross Medicare spending PBPY cumulatively as of PY3. Significant estimates are bolded; *p<0.1, ***p<0.01. All p values for subgroups are adjusted for false discovery rate using the Benjamini-Hochberg procedure. Cumulatively as of PY3, we considered total spending impacts for 104 of 112 NGACO performance years, excluding impacts for five NGACOs due to failure of parallel trends. Approach to estimating impacts for NGACO subgroups summarized in Appendix D.

As described in Chapter 2, NGACO leaders noted that three factors influenced the level of financial risk they elected in a performance year. First, NGACOs considered their own projections in keeping their aligned beneficiary population's spending below the model's benchmark in the performance year. Second, the NGACO's performance in a prior performance year (or a prior model) influenced decisions to take on higher or lower financial risk in a subsequent performance year. Third, NGACOs took on greater or lower risk depending on how changes to the model's financial methodology influenced their projections, with uncertainty motivating election of lower risk.

Payment Mechanism

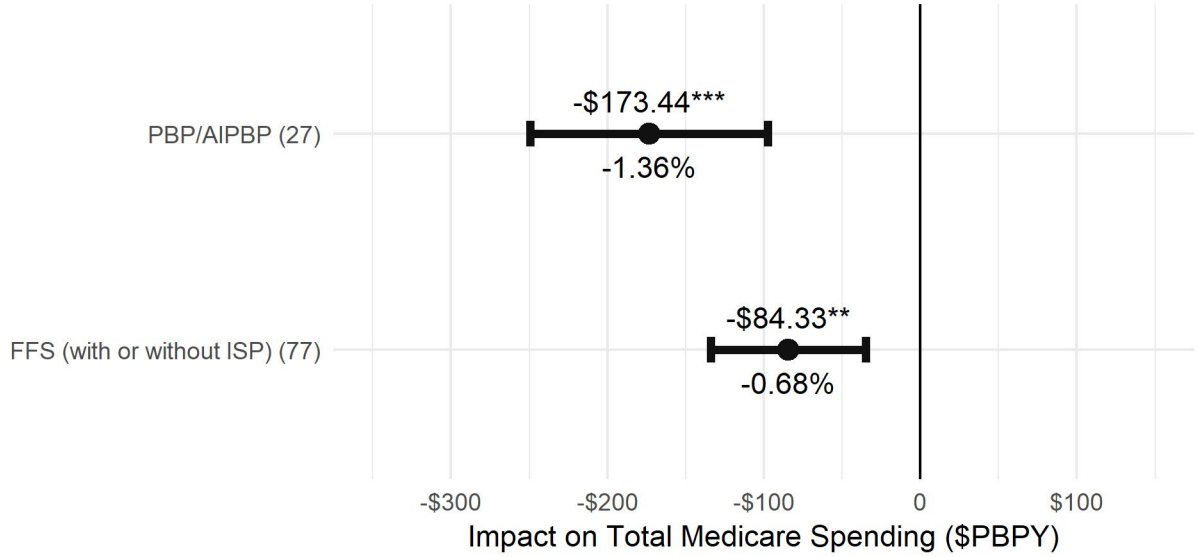
The NGACO model allows NGACOs to elect alternative payment mechanisms such as PBP or AIPBP.[78] While NGACOs could elect to offer their providers PBP or AIPBP, not every provider in the NGACO had to be paid by that mechanism. Exhibit 5.7 displays findings about whether NGACOs that opted for PBP or AIPBP averaged greater annual Medicare spending reductions compared with NGACOs electing FFS payments (with or without ISP).

NGACOs electing PBP or AIPBP had larger annual spending reductions than those electing FFS payment mechanisms, though the difference was not statistically significant. NGACOs electing

[78] The PBP/AIPBP payment options also give NGACOs regular financial inflows during the year to invest in improving infrastructure for managing their beneficiary populations. These options provide monthly financial payments that ACOs may use to improve infrastructure. These approaches do not transfer risk from CMS to ACOs or their providers, but some ACOs have used these payments as withholds for their providers.

PBP or AIPBP and those NGACOs electing FFS payment mechanisms both had significant annual Medicare spending reductions, relative to their comparison groups. NGACOs using PBP or AIPBP achieved a statistically significant 1.36 percent reduction in spending relative to their comparison groups. NGACOs electing FFS payments had lower, but still statistically significant, reductions of 0.68 percent, relative to comparison groups. Although spending impacts for NGACOs electing PBP/AIPBP were almost twice that of FFS, differences in spending impacts between the two subgroups were non-significant due to a smaller proportion of NGACOs that elected PBP/AIPBP (26 percent) and variability within this subgroup.

Exhibit 5.7. Medicare Spending Impact by NGACO Payment Mechanism, PY1-PY3



NOTES: ISP = infrastructure payment. Impact estimates and 90% confidence intervals displayed for NGACO subgroups on total gross Medicare spending PBPY cumulatively as of PY3. Significant estimates are bolded; **p<.05, ***p<.01. All p values for subgroups are adjusted for false discovery rate using the Benjamini-Hochberg procedure. Cumulatively as of PY3, we considered total spending impacts for 104 of 112 NGACO performance years, excluding impacts for five NGACOs due to failure of parallel trends. Approach to estimating impacts for NGACO subgroups summarized in Appendix D.

The election of PBP mechanisms by NGACOs likely reflects a willingness to shift from FFS toward value-based payment and potentially share risk with their practitioners and provider institutions.

Organizational Affiliation

Previous research finds that with accumulated experience, ACOs with financial independence from hospitals have greater potential to reduce total Medicare spending.[79] Physician practice-affiliated NGACOs may be more likely to reduce spending for hospital inpatient and outpatient services, especially by substituting the latter with lower-cost office-based services. However, hospital system-affiliated NGACOs may be better positioned than physician practice-affiliated NGACOs to manage a prospectively

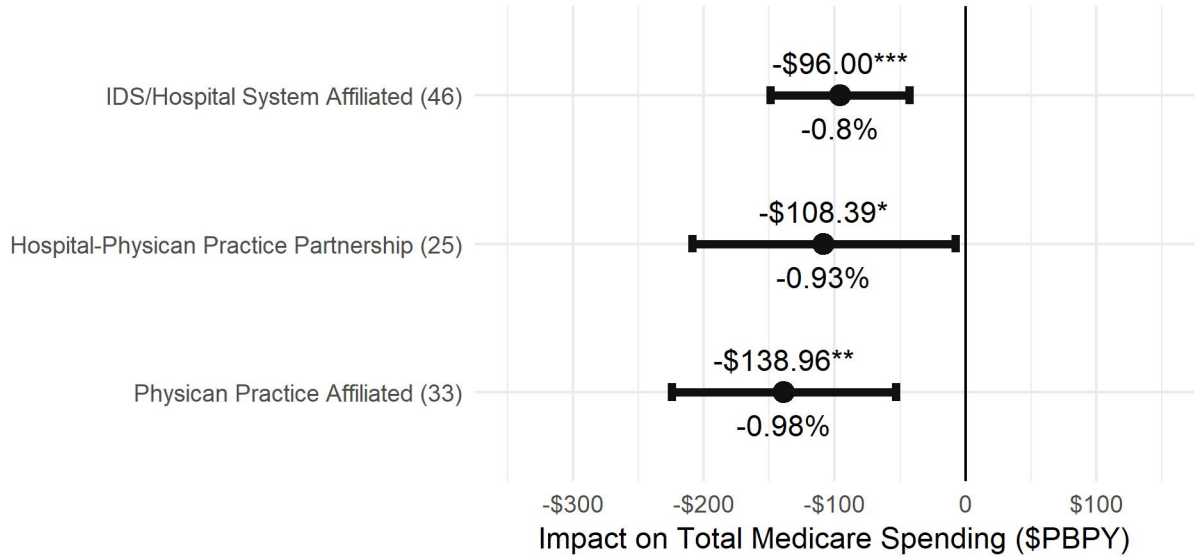
[79] McWilliams JM, Hatfield LA, Landon BE, Hamed P, Chernew ME. Medicare spending after 3 years of the Medicare shared savings program. *N Eng J Med.* 2018;379(12):1139-1149.

aligned population, through the use of care integrated across provider types, combined with analytic tools and care management systems. We examined how impacts for gross Medicare spending varied by organizational type—hospital system-affiliated, physician-hospital partnership, and physician practice-affiliated NGACOs (Exhibit 5.8).

Reductions in annual Medicare spending were similar in magnitude across the three types of organizational affiliations. Relative to their comparison groups, all three subgroups significantly reduced Medicare spending. The direction, statistical significance, and magnitude of effects did not differ substantially among the three organizational affiliations (0.8 percent to 0.98 percent reduction). Differences in annual Medicare spending impacts between the three subgroups were non-significant.

In future reports, we plan to continue monitoring impacts for these three types of organizational affiliations, as well as for other subgroups.

Exhibit 5.8. Medicare Spending Impact by Organizational Affiliation, PY1-PY3



NOTES: Impact estimates and 90% confidence intervals displayed for NGACO subgroups on total gross Medicare spending PBPY cumulatively as of PY3. Significant estimates are bolded; *p<0.1; **p<0.05; ***p<.01. All p values for subgroups are adjusted for false discovery rate using the Benjamini-Hochberg procedure. Cumulatively as of PY3, we considered total spending impacts for 104 of 112 NGACO performance years, excluding impacts for five NGACOs due to failure of parallel trends. Approach to estimating impacts for NGACO subgroups summarized in Appendix D.

Characteristics of NGACOs that Lowered Cumulative Medicare Spending

In this section, we explore similarities and differences among the 10 NGACOs with statistically significant reductions in cumulative Medicare spending and how they differ from other participating NGACOs. We pay particular attention to the risk and payment mechanisms they elected, their organizational features, year-to-year spending trajectories since joining the model relative to their comparison groups, and impact on broad quality measures. We highlight patterns of changes in spending and describe high-level strategies around beneficiary engagement and provider network development observed in this group of NGACOs. The connection between these strategies and NGACO outcomes will be the focus of future analyses. An additional 12 NGACOs achieved lower cumulative Medicare spending of at least 1 percent, but their results were not significantly different from their comparison groups and for this reason are not the focus of this section. In future reports, we plan to develop case-level analyses to examine the broader group of NGACOs that achieved spending reductions, as well as those that did not; these analyses should enable a comprehensive picture of the contextual and operational factors associated with NGACO outcomes.

The 10 NGACOs with significantly lower cumulative Medicare spending were more likely to elect full risk-sharing, higher risk caps and/or PBPs. As illustrated in Exhibit 5.9, five of the NGACOs with lower cumulative spending elected PBPs; three elected FFS with ISP; and two elected traditional FFS. The distribution of payment mechanisms chosen is reversed among the other 40 NGACOs: approximately 20 percent elected population-based (including all-inclusive population-based) payments and the remaining 80 percent were split between FFS and FFS with ISP. In interviews, NGACO leadership cited the value of PBPs for creating upfront financial incentives for physicians or sharing risk with preferred providers, thereby increasing provider engagement in the model.

Seven of the NGACOs with lower cumulative spending elected full risk sharing, a rate twice that of the other 40 NGACOs. In addition, the average risk cap among the 10 lower spenders was higher: 8.4 percent compared with 7.8 percent for the remaining NGACOs. When NGACO executives discussed their level of risk sharing, they pointed to the fact that their organizations were prepared for additional risk as part of a cultural shift and commitment to value-based care.

All five of the lower spenders with PBPs also elected full risk-sharing; additionally, three of them had risk caps of at least 10 percent. Four of the lower-spending NGACOs with PBPs and five of the other eight PBP NGACOs had at least one facility or individual practitioner accepting fee reductions. Approximately 70 percent of the facilities in each accepted fee reductions, while the average proportion of individual practitioners accepting fee reductions was no more than half for either group. Two of the three NGACOs receiving FFS with ISP elected full risk-sharing, while the two receiving FFS payments elected partial risk-sharing. Despite differences in risk-sharing, the NGACOs receiving FFS payments (with or without ISP) had lower risk caps than the PBP group, ranging from 5 to 7.5 percent.

Exhibit 5.9. Risk Elections and Payment Mechanisms for NGACOs with Lower Medicare Spending (Cumulative) in PY3

	NGACOs with Significantly Lower Cumulative Spending than Comparison Groups		All Others	
	N	%	N	%
Total	10	100	40	100
Risk Sharing				
Partial (80%)	3	30	25	63
Full (100%)	7	70	15	38
Payment Mechanism				
FFS	2	20	17	43
FFS + ISP	3	30	15	38
PBP	5	50	7	18
AIPBP	0	0	1	3
Risk Cap				
Average %	8.35	--	7.8	--

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

NGACOs with lower cumulative spending included experienced Medicare ACOs as well as new Medicare ACOs. As shown in Exhibit 5.10, five of the 10 NGACOs with cumulative spending reductions started out as SSP or Pioneer ACOs and had at least six years' experience as a Medicare ACO in PY3. The proportion of highly experienced Medicare ACOs was higher among NGACOs with cumulative spending reductions than it was among all other NGACOs (38 percent). Prior experience is also reflected in the higher proportion of 2016 and 2017 NGACOs represented in the lower spending group. Interestingly, the group of lower spenders also includes three new Medicare ACOs (30 percent versus 20 percent among all other NGACOs). While the number of lower cumulative spenders is small, the presence of both old and new Medicare ACOs suggests that prior Medicare experience may not be necessary for success in the model.

In terms of organizational affiliation, the distribution of NGACOs was similar for the two groups, with NGACOs that were physician-hospital partnerships slightly underrepresented in the lower spending group.

Exhibit 5.10. Organizational Characteristics of NGACOs with Lower Medicare Spending (Cumulative)

	NGACOs with Significantly Lower Cumulative Spending than Comparison Groups		All Others	
	N	%	N	%
Total	10	100	40	100
Medicare ACO Experience				
One Year or Less	3	30	8	20
Two to Three Years	0	0	5	13
Four to Five Years	2	20	12	30
Six Years or More	5	50	15	38
Organizational Affiliation				
IDS, Hospital System	5	50	18	46
Physician-Hospital Partnership	1	10	9	23
Physician Practice	4	40	13	33
2016	3	30	10	25
2017	5	50	16	40
2018	2	20	14	35

Eight of the 10 NGACOs with lower cumulative spending were in markets that also experienced spending reductions. Trends in an NGACO's local market may be correlated with individual NGACO impact. Although the evaluation uses NGACO comparison groups to adjust for the influence of market factors, market-wide trends can augment or temper the effect of an NGACO's activities. Exhibit 5.11 presents the cumulative spending change in an NGACO's aligned population over time, the cumulative change in its comparison group over time, and the change in spending (in percentage terms) attributable to the NGACO model. The cumulative spending change in an NGACO's comparison group may be considered an estimate of broader market-level spending trends across the model's first three years among beneficiaries similar to the NGACO's aligned beneficiaries. The 10 NGACOs with lower cumulative spending did so in different contexts: (1) one NGACO reduced spending while its comparison group increased spending; (2) eight NGACOs reduced spending at the same time as their comparison groups, but the NGACOs' reductions were greater in magnitude; and (3) one NGACO increased spending but the magnitude of the increase was significantly less than their comparison group's increase. The eight NGACOs in markets with spending reductions decreased spending by an average of 6.4 percent (range: 2.9 to 16.1 percent), while average comparison spending declined by 3.2 percentage points (range: 0.4 to 10.9 percentage points). Average percent impact for these eight NGACOs was -3.4 percent.

Exhibit 5.11. NGACOs with Lower Medicare Spending (Cumulative): Percent Change by NGACOs and Comparison Groups and Percent Impact

	% Change in NGACO Aligned Population	% Change in Comparison Population	% Impact Attributed to NGACO Model
NGACO decreased spending, while comparison group increased spending			
St. Luke's	-2.9	1.2	-4.1**
NGACO and comparison group reduced spending, but NGACO group had greater reduction			
NW Momentum	-16.1	-10.9	-5.7*
Best Care Collaborative	-4.2	-0.7	-3.8*
ThedaCare	-8.2	-4.4	-3.7*
ACC of TN	-4.3	-1.1	-3.4*
Accountable Care Options	-3.4	-0.7	-2.8*
Atrius	-7.6	-4.9	-2.6**
ACCST	-2.9	-0.4	-2.5**
UTSW	-4.6	-2.3	-2.4***
Average	*-6.4*	*-3.2*	*-3.4*
NGACO and comparison group increased spending, but NGACO had less of an increase			
Unity Point	0.3	1.6	-1.3*

NOTES: Presented in descending order of % impact within each group. Percent impact estimates significant at *p<0.1, **p<0.05, and ***p<0.01. Percent change estimates are relative to average baseline and cumulative spending.

Seven of the eight lower-cumulative-spending NGACOs in the 2016 and 2017 cohorts also had lower spending in each successive performance year. The reductions were at least 1 percent, but as shown in Exhibit 5.12, they were not significant each year. One NGACO, however, did not follow this common trajectory. In fact, in one performance year, its spending was higher than its comparison group. The NGACO is located in a market in which total Medicare spending has increased since baseline, and it achieved its cumulative spending impact by increasing spending less than its comparison group (Exhibit 5.11).

Exhibit 5.12. NGACOs in 2016 and 2017 Cohorts with Lower Medicare Spending (Cumulative): Changes in Impact Direction from Year to Year

	Impact Estimate < $0		
	PY1	PY2	PY3
St. Luke's	--	○	●
ACCST	○	○	●
Accountable Care Options	--	●	○
UTSW	--	○	●
NW Momentum	--	○	○

	Impact Estimate < $0		
	PY1	PY2	PY3
Atrius	--	○	○
ThedaCare	●	○	○
Unity Point	○	N	●

NOTES: -- NGACO not active in performance year; ○ Change is at least 1 percent, but not statistically significant; ● Statistically significant change at p<.10; N – Impact Estimate > $0.

The 10 NGACOs with lower cumulative spending had minor cumulative effects on broad quality measures. As depicted in Exhibit 5.13, the lower spenders had minimal impact on hospitalizations for ambulatory care sensitive conditions and unplanned 30-day readmissions, but reduced hospital readmissions after SNF stays by 5.7 percent. At least half of the NGACOs reduced unplanned 30-day readmissions (n=6), hospitalizations for ambulatory care sensitive conditions (n=5), and hospital readmissions from SNFs (n=5). None of the improvements were statistically significant, with the exception of two NGACOs that significantly reduced hospital readmissions from SNFs. Seven NGACOs had at least one non-significant quality decline; two NGACOs showed non-significant declines on at least two measures. Compared with the other 40 NGACOs, the 10 with lower cumulative spending had similar performance on hospitalizations for ambulatory care sensitive conditions and unplanned 30-day readmissions, but they performed better on hospital readmissions from SNFs.

Exhibit 5.13. NGACOs with Lower Medicare Spending (Cumulative): Impacts on Quality of Care

NGACO	Hospitalizations for Ambulatory Care Sensitive Conditions	Unplanned 30-Day Readmissions	Hospital Readmissions from SNF
NGACOs with Lower Cumulative Spending (n=10)			
St. Luke's	↑	↓	--
ACCST	↓	↑	↓
Accountable Care Options	--	↓	🡻
UTSW	--	↓	↓
NW Momentum	↓	↓	↑
Atrius	↑	↓	↑
ThedaCare	↓	↓	↓
Unity Point	↓	↑	🡻
ACC of TN	↓	↑	--
Best Care Collaborative	↑	↑	↑
Total with Quality Improvements (%)	5 (50%)	6 (60%)	5 (50%)
Total with Quality Declines (%)	3 (30%)	4 (40%)	3 (30%)
Average Change in Quality	-0.76%	0.90%	-5.65%

NGACO	Hospitalizations for Ambulatory Care Sensitive Conditions	Unplanned 30-Day Readmissions	Hospital Readmissions from SNF
All Other NGACOS (n=40)			
Total with Quality Improvements (%)	16 (40%)	16 (40%)	18 (45%)
Total with Quality Declines (%)	19 (48%)	21 (53%)	21 (53%)
Average Change in Quality	0.83%	-0.09%	0.31%

NOTES: SNF = skilled nursing facility; ↑ = increase in measure; ↓ = decrease in measure; 🡻 = statistically significant decrease in measure at p<.05 for Accountable Care Options and p<.1 level for Unity Point; -- uninterpretable result due to failure of parallel trends test. Green shading indicates a quality improvement; orange shading indicates a quality decline.

Eight NGACOs with lower cumulative spending had reductions in hospital expenditures relative to comparison groups. Hospital-wide spending accounts for half of overall Medicare spending for NGACOs (see Appendix H, Exhibit H.9). A majority in the lower cumulative spending group had reductions of at least 1 percent in inpatient (n=7) and/or outpatient (n=5) facilities (see Appendix J, Exhibits J.22, J.28, and J.34). This pattern of change may reflect beneficiary engagement strategies that emphasize transitional care for beneficiaries with recent acute care events who are at risk for readmission, or that target beneficiaries who are at risk of hospitalization due to chronic conditions.

Most of the 10 NGACOs with lower cumulative spending reduced PAC and/or professional service expenditures. Seven NGACOs with lower cumulative spending reduced other PAC facility spending (at least 1 percent); four reduced SNF spending; and five reduced professional service spending (see Appendix J, Exhibits J.22, J. 23, J.28, J.29, J.34, and J.35). These reductions may reflect investments NGACOs made to deliver on-the-ground care management and care coordination in various care settings to facilitate referrals to appropriate providers and proactively address overutilization. These reductions may also reflect NGACOs approaches to provider network formation that strike the right number and mix of provider types engaged in value-based goals and practices. NGACOs have engaged these providers through performance feedback, data analytic support, and financial incentives (see Chapter 3).

The 10 NGACOs with lower cumulative spending may employ strategies similar to those of other participating NGACOs that did not achieve similar reductions by PY3. For example, all 50 NGACOs indicated that they specifically target Medicare beneficiaries with recent inpatient stays, and almost all NGACOs (n=47) also target beneficiaries who are at risk for hospitalization.

The NGACO Snapshots (Appendix A) begin to demonstrate variation in these factors.

Summary

In this chapter, we considered how NGACOs varied in their estimated impact on Medicare spending, cumulatively and in PY3; how impacts varied by subgroups of payment mechanism and risk selection; and the characteristics of 10 NGACOs that significantly reduced spending. We also examined whether evaluation impacts were consistent with or divergent from the financial benchmark. We found that greater risk (100 percent risk-level and cap greater than 5 percent) and PBP/AIPBP were associated with larger spending reductions, but that gross spending reductions were similar in magnitude across the three types of organizational affiliation.

As noted in Chapter 4, the variation in impacts across NGACOs reflects differences in incremental effect of the NGACO model over other Medicare ACO initiatives in which the NGACO practitioners participated during the model's baseline years. Variation in NGACO impacts—both gross and net savings—may also reflect market differences. In future reports we plan to examine factors that may contribute to divergent findings between the evaluation impact and performance against the benchmark.

Among the 10 NGACOs with cumulative spending reductions, eight were in markets that also experienced spending reductions. Seven of these eight were in the 2016 or 2017 cohorts and had lower spending in each successive performance year. Seven NGACOs with lower cumulative spending elected full risk sharing, a rate twice that of the other 40 NGACOs. The use of PBPs was also much more common among the 10 cumulative savers (five of 10, compared to eight of 40). Spending reductions appear to be primarily achieved through reductions in hospital expenditures. There were very modest effects on broad quality measures. Compared with the other 40 NGACOs, the 10 with lower cumulative spending had similar performance on hospitalizations for ambulatory care sensitive conditions and unplanned readmissions, but improved hospitalizations following SNF stays.

The 10 NGACOs with lower cumulative spending may employ beneficiary engagement, provider network, and provider engagement strategies similar to NGACOs that did not achieve reductions. In future analyses, we plan to examine the connection between these strategies and contextual and operational factors associated with NGACO outcomes.

Chapter 6: Summary and Future Analyses

Our evaluation's conceptual framework (Exhibit 1.3) depicts relationships across key model domains: an NGACO's choice of model features influences how NGACOs and their practitioners and institutions implement the model given their existing organizational structure and business arrangements. The activities of NGACOs, their staff, and providers are expected to influence the experience of aligned beneficiaries and their outcomes. All aspects of NGACO model implementation and performance take place in the context of markets, where changes in structure or competitive landscape may have magnified or attenuated the model's expected effects.

Dynamic relationships between NGACOs and their providers are at the heart of model implementation. Our evaluation found evidence of care transformation across several aspects of these relationships, related to data analytics, beneficiary engagement, and coordination with skilled nursing facilities (SNFs).

- **Data analytics and beneficiary engagement.** Prospective alignment lists provided by Centers for Medicare & Medicaid Services (CMS) enabled NGACOs to manage patients with an eye toward population health management. NGACOs have stratified patients according to clinical risk and targeted care management efforts accordingly, shared performance data with providers, and identified aligned beneficiaries to engage through annual wellness visits (AWVs). The most obvious and direct link between these reported activities and observed evaluation outcomes was the increase in AWVs. However, our assessment of qualitative and survey data identified one consistent theme, namely, that enhanced data analytics were essential to participating in a two-sided risk model.

  The success of data analytic strategies may depend on how effectively NGACOs target patients at risk of adverse health outcomes. Some NGACOs focused primarily on the most complex and costly patients, while others focused on beneficiaries identified as having a so-called rising risk—patients with moderate utilization and spending, forecast to become more costly in the future. Reduced spending from managing rising risk may take time to materialize. Even with an ideal risk stratification algorithm, NGACOs vary in level of intensity and breadth of their care management for targeted patients. In future reports, we plan to categorize NGACOs according to risk stratification methods and care management approaches to assess whether certain strategies are associated with better model performance.

- **Coordination with SNFs.** The NGACO model has encouraged improved coordination between SNFs and other providers, a theme highlighted in qualitative interviews and leadership surveys. Greater care coordination may be associated with reduced spending for SNFs and other post-acute care (PAC) facilities. By establishing relationships with SNFs, NGACOs may have diverted patients from more costly settings such as inpatient rehabilitation facilities (IRFs) and long-term care hospitals (LTCHs), and encouraged efficiencies in SNFs in their networks. PAC is subject to discretionary referrals from physicians and therefore presents an opportunity to improve efficiency through care coordination.[80] As with data analytics and care management, NGACOs varied in their approaches to establishing

[80] Colla CH, Lewis VA, Stachowski C, Usadi B, Gottlieb DJ, Bynum JPW. Changes in use of post-acute care associated with accountable care organizations in hip fracture, stroke, and pneumonia hospitalized cohorts. *Medical Care.* 2019;57(6):444-452.

relationships with SNFs, which we will aim to classify and study in relationship to outcomes in future reports.

Model impacts. Despite the NGACO model's role in care transformation and effects on PAC spending, the overall impact on utilization and cost metrics has been modest. The model generated $348.6 million in gross spending reductions over its first three performance years; however, shared savings and Coordinated Care Reward (CCR) payouts to NGACOs totaling $466.1 million resulted in a non-significant increase in net spending. NGACOs realized spending reductions in known areas of PAC (i.e., SNF and other PAC facilities), but PAC spending only accounted for 15 percent of expenditures for NGACO beneficiaries in PY3. Of the three biggest categories of Medicare expenditures—inpatient, professional services, and outpatient facility—NGACOs only had an impact on spending on professional services. They likely would have had stronger outcomes had they moved the needle on inpatient hospital spending or utilization.

There were significant differences in spending impacts by cohort that are worth noting. The 2016 cohort experienced statistically significant net spending increases in PY3 and cumulatively, which were primarily a function of their large shared savings payouts relative to other cohorts. These net increases were sufficient to wash out the gross declines generated by the 2017 and 2018 cohorts. The net spending results reflect differences in how savings are determined by the NGACO model using a prospective benchmark versus by the NGACO evaluation, using retrospective data and a comparison group. These differences appear to have an important influence on net spending and also contributed to differences between cohorts.

Several other potential explanations for the lack of net savings relate to the market and policy context for NGACO implementation, including the following:

- **Leakage of NGACO beneficiaries to comparison providers.** The lack of net savings for NGACOs overall may reflect the limited influence that NGACOs have over where beneficiaries seek care, resulting in leakage of aligned beneficiaries to providers outside NGACO networks, as discussed in Chapter 4.[81] This theme was consistently identified in our analysis of qualitative data from interviews and empirically observed in quantitative analyses. More than half of the spending for NGACO beneficiaries in PY3 were from providers outside of their NGACO networks. At the NGACO level we did not observe an association between leakage and impact on spending reductions. However, this finding may be explained by better understanding the markets in which beneficiaries that "leak" seek care. For instance, leakage may not be a problem from the NGACO's perspective if its aligned beneficiaries are seeking care from efficient providers, such as those participating in other ACOs, alternative payment models (APMs), or managed care, but may be more problematic in markets that are otherwise more expensive.
- **Spillover from NGACO providers to comparison beneficiaries.** As described in Chapter 4, NGACO providers may treat Medicare fee-for-service (FFS) beneficiaries in this evaluation's

[81] Lin SC, Yan PL, Moloci NM, Lawton EJ, Ryan AM, Adler-Milstein J, Hollingsworth JM. Out-of-network primary care is associated with higher per beneficiary spending in Medicare ACOs. *Health Aff.* 2020;39(2):310-318.

comparison group and do not necessarily differentiate them from their aligned beneficiaries. As NGACO providers change their practice culture, they report being "payer agnostic," meaning the potential benefits of the NGACO model spill over or accrue to non-aligned beneficiaries. We found that NGACO providers contributed between 10 and 15 percent of the comparison group's Medicare Part B spending. NGACO organizational affiliation may also affect spillover. For example, NGACOs affiliated with integrated delivery systems (IDS) or hospital systems report delivering care management services to all patients visiting their hospitals; thus, comparison beneficiaries may reap the rewards of NGACO interventions and dilute the relative effect of the model on those NGACOs.

- **Secular trends.** There has been a slowdown in the growth of FFS Medicare spending in the United States and a movement toward tying health care spending to value rather than volume, acknowledged by NGACO leaders in interviews. These secular trends may have contributed to improved efficiency for providers in the comparison group, particularly those that participate in managed care, Medicaid or commercial ACOs, or other CMMI models, making the bar higher for NGACOs to achieve relative spending reductions.[82] For several outcomes, we saw similar trends in both the NGACO and comparison groups, suggesting that NGACOs are merely following a change in outcomes that would have occurred in the absence of the model, rather than reversing the direction in outcome trends. Secular trends within individual NGACO markets may have also contributed to variation in performance among NGACOs. While we draw the comparison group for each NGACO within its market, it may be harder for the NGACO to achieve savings relative to other NGACOs in markets without this trend if that market as a whole is experiencing a shift toward lower spending.
- **Prior participation in ACO models.** Forty-one of 50 (82 percent) NGACOs and 30,792 of 50,296 participating practitioners (61 percent) in PY3 were previously in Pioneer or Shared Saving Program (SSP) ACOs**.** In developing their provider networks, NGACOs often sought practitioners with prior Medicare ACO experience. Most of the NGACO participants may have already been delivering efficient care prior to joining the NGACOs and thus may have achieved only marginal spending reductions in the model. Interestingly, the 10 NGACOs with statistically significant cumulative spending reductions had a larger percentage of NGACOs with no prior ACO experience, as well as a larger percentage of NGACOs with six or more years of prior ACO experience. The impact of length of prior ACO experience warrants further exploration.
- **Timing of effects.** NGACOs are making investments at a population level that may accrue benefits in the long term and thus are not yet detectable. For instance, influencing more beneficiaries to take advantage of AWVs could result in diagnosing a condition like cancer or depression earlier and offsetting future cost escalation or complications. Additionally, NGACOs focused on beneficiaries with rising risk may not realize immediate savings. The three-year period of performance covered in this report may not permit a complete assessment of NGACOs' impacts.

Despite these challenges, eight NGACOs in PY3 and 10 NGACOs cumulatively realized statistically significant reductions in expenditures. These NGACOs generally elected higher financial risk and were more likely to elect PBPs or AIPBPs than all NGACOs considered as a group, signaling a willingness to

[82] While the difference-in-difference design of this evaluation controls for secular trends and market characteristics and allows us to detect the independent effect of the NGACO model, such an effect may not be detectable in the presence of such factors as competition, spillover, and leakage.

move from FFS to value-based payment. While this finding may suggest that greater risk is a stronger incentive for providing efficient care, it may be a selection effect among NGACOs and providers with more confidence in their ability to achieve savings by opting for more risk. We will explore these factors in more detail and in combination with other factors in future reports. Notably, we did not find definitive patterns in performance by length of participation in the NGACO model or by organization type (i.e., hospital affiliation), contrary to prior SSP ACO evaluations.[83] But as prior research has also demonstrated, there may be an interaction between organization type and experience that we have not explored to date but will pursue in further analyses. For instance, physician practice-affiliated NGACOs in SSP were able to achieve savings after more years of participation. The effect of these characteristics may also be subject to the presence of other provider- or market-level conditions that we plan to study in future reports.

Our evaluation to date finds multiple contributors to performance in the NGACO model that are likely to be influenced by the NGACOs' organizational, provider, and beneficiary-level factors, functioning within a market and policy context. In subsequent reports of this evaluation, we plan to explore how different combinations of NGACOs' approaches and the environments in which they operate may be related to different outcomes.

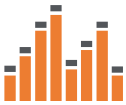
[83] McWilliams JM, Hatfield LA, Landon BE, Hamed P, Chernew ME. Medicare spending after 3 years of the Medicare shared savings program. *N Engl J Med*. 2018;379(12):1139–1149. doi:10.1056/NEJMsa1803388.

Appendix A: NGACO Snapshots

To demonstrate the dynamic interrelationship of factors that contribute to significant impacts on spending, either cumulatively or in PY3, we developed the following snapshots of the 10 NGACOs that significantly reduced cumulative Medicare spending from their inception in the model through 2018. These snapshots provide an overview of strategies that many NGACOs—not only the ones presented here—undertake to perform well in their markets. In fact, although these NGACOs significantly reduced spending relative to a comparison group, their implementation approaches (e.g., apply data analytics to risk stratification and population health management, engage physicians more actively in team-based care and care coordination, or collaborate with skilled nursing facilities [SNFs]) may not have differed from those with non-significant or negative impacts on spending. However, these snapshots offer descriptive insights into the complex workings of NGACOs. In future reports, we will explore how different combinations of NGACO strategies and environments may lead to different outcomes.

Unity Point Accountable Care (UnityPoint) – IA, IL, MO
2016 Cohort

Impact on Spending



- Across 2016-2018, UnityPoint Accountable Care significantly reduced total spending (1.33% reduction, -$137.27 per beneficiary per year [PBPY]) relative to a comparison group.
- UnityPoint Accountable Care also significantly reduced spending in skilled nursing facilities (SNFs; 3.47% reduction, -$25.06 PBPY) relative to a comparison group.

Model Features & Organizational Factors

- The NGACO is affiliated with the Iowa-based integrated delivery system (IDS), UnityPoint Health.
- In 2018, UnityPoint Accountable Care had 2,687 participating practitioners. UnityPoint Health's clinic employs approximately half of these providers.
- UnityPoint Health had prior Pioneer and Medicare Shared Savings Program (SSP) Accountable Care Organization (ACO) experience, and has both commercial and Medicaid value-based contracts.
- In its second year in the model (2017), UnityPoint changed its risk-sharing arrangement from 80 percent to 100 percent, and switched from the fee-for-service (FFS) payment mechanism to population-based payments (PBP).

IT & Data Analytics

- Providers in UnityPoint's network operate over 30 electronic health records (EHR) systems, limiting data exchange outside of the UnityPoint Health system.
- UnityPoint has produced an interactive Opportunity Summary Report (OSR) for both employed and independent practices to identify areas of opportunity that would be the most impactful on value-based contracts at the provider, clinic, region, and system levels. The NGACO uses the OSR for the Next Generation contract as well as commercial value-based arrangements.

Beneficiary Engagement

- In 2018, UnityPoint had 79,921 NGACO beneficiaries.
- UnityPoint has leveraged its data analytics capacity, developed under the Pioneer and Medicare SSP models, to identify opportunities for improvement.
- UnityPoint has focused on post-acute care and stratified beneficiaries by risk to identify those at the highest risk for clinical interventions.

Physician Engagement

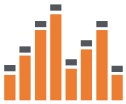
- The NGACO shares risk for both savings and losses in the model with its physicians.
- The NGACO scores physicians based on utilization and quality outcomes measured through claims analysis, and shares these scorecards with physicians for educational and motivational purposes. Physicians are placed into tiers, which determine what percentage of shared savings (or losses) they receive.

Skilled Nursing Facility Integration

- UnityPoint has dedicated time and resources to building its relationships with SNFs.
- UnityPoint has used a SNFist—typically a nurse practitioner or physician's assistant—to make rounds on beneficiaries in its SNF network.
- UnityPoint has used a care management guideline tool to identify the most appropriate beneficiaries for care in a SNF versus at home and to reduce length of stay.
- UnityPoint has encouraged hospital staff, e.g., emergency department physicians, nurses, and social workers, to view SNFs as "a continuation of our care…an extension of us."
- Staff have viewed value-based care initiatives as a tool for breaking down silos between care settings and have described a shift from purely transactional relationships across settings to "true partnerships."

Best Care Collaborative (Best Care Collab) – FL
2018 Cohort

Impact on Spending



- In 2018, Best Care Collaborative achieved a significant reduction in total spending (3.8% reduction, -$439.81 beneficiary per year [PBPY]) relative to a comparison group.
- Best Care Collaborative also significantly reduced spending on professional services (5.30% reduction, -$-244.84 PBPY) and hospice spending (15.60% reduction, -$124.94 PBPY) relative to a comparison group.

Model Features & Organizational Factors

- Lee Memorial Health System founded Best Care Collaborative to join the NGACO model in 2018.
- Best Care Collaborative's participating provider network includes providers directly employed by Lee Health, as well as local independent physicians who are members of the Lee Physician Hospital Organization.
- As of 2018, Best Care Collab had 179 participating practitioners.
- Best Care Collab selected the fee-for-service (FFS)+infrastructure payment (ISP) mechanism and the 100 percent risk-sharing arrangement.

IT & Data Analytics

- The majority of Best Care Collab providers use a single version of their electronic health record (EHR); approximately one-quarter of Best Care Collab's providers use another EHR.
- The Florida health information exchange (HIE) also provides admission, discharge, and transfer (ADT) information through the EHR.
- An outside vendor has performed predictive modeling to identify patients at high risk for an acute care hospital admission who are then referred for enrollment in the ACO's care management program.

Beneficiary Engagement

- In 2018, Best Care Collab had 18,586 NGACO beneficiaries.
- Best Care Collab partnered with an external consulting and management group to implement a care management program comprising four specific programs—transition care, complex care, advanced illness, and skilled nursing facility (SNF) transition.
- Nurses employed by the external consulting group are embedded in hospitals and primary care practices.
- The SNF transition program aids patients as their care shifts to SNFs, and rounding nurses monitor patient progress within SNFs.

Physician Engagement

- The NGACO has met physicians and providers on a bimonthly basis to review practice and quality measures to provide focus and support for individual practice and physician-level changes.

Skilled Nursing Facility Integration

- Best Care Collab's SNF network comprises 11 preferred facilities that use the 3-day SNF rule waiver. It has brought SNFs into its network based on data on quality and outcomes related to chronic conditions.

Southwestern Health Resources Accountable Care Network (formerly University of Texas Southwestern Accountable Care Network) (UTSW) – TX, 2017 Cohort

Impact on Spending

- Across 2017–2018, Southwestern Health Resources Accountable Care Network significantly reduced total spending (2.4% reduction, -$332.60 per beneficiary per year [PBPY]) relative to a comparison group.
- The NGACO also significantly reduced acute care hospital facility spending (2.04% reduction, -$77.24 PBPY); other post-acute care facility spending (9.06% reduction, -$83.33 PBPY); professional services spending (3.38% reduction, -$129.73 PBPY); and hospice spending (6.43% reduction, -$31.11 PBPY) relative to a comparison group.
- The NGACO significantly increased outpatient facility spending (3.06% increase, $68.13 PBPY) relative to a comparison group.

Model Features & Organizational Factors

- Southwestern Health Resources Accountable Care Network is affiliated with an academic medical center (University of Texas Southwestern); a hospital system (Texas Health Resources); and medical practices that include faculty physicians, specialists, and independent primary care physicians.
- In 2018, Southwestern Health Resources Accountable Care Network had 3,820 participating practitioners. Its network includes two large multi-specialty groups, an academic faculty practice, and independent physicians.
- Southwestern Health Resources Accountable Care Network had previously been in Medicare Shared Savings Program (SSP) and joined NGACO to take on greater risk.
- UTSW elected population-based payments (PBP) and the 100 percent risk-sharing arrangement.

IT & Data Analytics

- Southwestern Health Resources Accountable Care Network has prioritized investment in data integration and applications that advance population health management across payers, including a comprehensive utilization and care management system.
- Southwestern Health Resources Accountable Care Network has a data warehouse for in-house claims analysis, financial forecasting, and *ad hoc* reporting. The university-based data warehouse integrates all electronic health record (EHR) data from two different vendors. The network has contracted with a vendor to extract the combined data for NGACO quality measurement and physician reporting.

Beneficiary Engagement

- In 2018, Southwestern Health Resources Accountable Care Network had 76,869 NGACO beneficiaries.
- Leadership reported that the NGACO model drove the development of its population health program.
- Southwestern Health Resources Accountable Care Network social workers and embedded care managers have provided care to all patients regardless of the payer. Care managers have had an average caseload of 60 patients and work with a team of social workers, community health workers, and a pharmacist to coordinate in-person care during clinic hours and telephonically in the patient's home after discharge from a hospital or skilled nursing facility (SNF).
- Southwestern Health Resources Accountable Care Network has added disease management, chronic care management, and social determinants of health components to its care management services and sought to increase primary care visits related to these services in response to the NGACO model.

Physician Engagement

- Southwestern Health Resources Accountable Care Network has engaged its large and diverse physician network through efforts to standardize reports, increase transparency, and disseminate information across the network.
- The NGACO engages its clinically integrated network, which comprises almost 400 primary care physicians through regular meetings at which they discuss practice and individual performance metrics.

Skilled Nursing Facility Integration

- Southwestern Health Resources Accountable Care Network actively partners with 19 SNFs in their preferred provider network to encourage shorter lengths of stay, standardize protocols, and maintain a 3-star rating.
- It uses a scorecard to compare spending, utilization, and quality data across all partner SNFs.
- Although it is cultivating this network of preferred SNFs, these SNFs account for a small portion of a highly saturated market. NGACO leadership reports that its beneficiaries use over 150 SNFs in the area.

St. Luke's Clinic Coordinated Care, Ltd. (St. Luke's Health Partners ACO) – ID, OR

2017 Cohort

Impact on Spending

- Across 2017–2018, St. Luke's Health Partners ACO significantly reduced total spending (4.14% reduction, -$437.60 per beneficiary per year [PBPY]) relative to a comparison group.
- The ACO also significantly reduced acute care hospital facility spending (4.06% reduction, -$120.21 PBPY); skilled nursing facility (SNF) spending (13.67% reduction, -$72.49 PBPY); outpatient facility spending (6.58% reduction, -$229.76 PBPY); professional service spending (4.31% reduction, -$81.36 PBPY); and home health spending (7.60% reduction, -$41.58 PBPY) relative to a comparison group.

Model Features & Organizational Factors

- St. Luke's Health Partners ACO is a hospital system wholly owned by St. Luke's Health System that was created for the purpose of taking part in Medicare Shared Savings Program (SSP) in 2012.
- St. Luke's Health Partners ACO consists of five provider groups, including St. Luke's Health System, two independent primary care group practices, and two small independent practices. The ACO used the structure of St. Luke's Health Partners provider group, an integrated network of approximately 3,300 employed and independent providers, as the operational vehicle for the ACO.
- In 2018, St. Luke's Health Partners ACO had 533 participating practitioners.
- St. Luke's Health Partners ACO elected population-based payment (PBP) and the 100 percent risk-sharing arrangement.

IT & Data Analytics

- St. Luke's Health System, which serves approximately 80 percent of the NGACO's beneficiaries, uses a single electronic health record (EHR) system, while the other five primary care practices in the ACO's network each use a different EHR.
- St. Luke's Health Partners ACO began exploring partnerships with third-party vendors to improve data and information-exchange capabilities.

Beneficiary Engagement

- In 2018, St. Luke's Health Partners ACO had 24,701 NGACO beneficiaries.
- St. Luke's Health Partners ACO partnered with an ACO management company to develop its health IT capabilities and care management programs, which include three specific programs targeted exclusively for NGACO beneficiaries: Transition Care, Complex Care, and Advanced Illnesses.
- A team consisting of contracted care management nurses, a social worker, and a pharmacist perform primarily telephonic outreach to patients.
- When a patient arrives at the emergency department (ED) of a facility within St. Luke's Health System, ACO care managers receive a notification that triggers a flag for the care team to engage the beneficiary.
- Leadership noted that, in the NGACO's market, ED utilization is higher relative to the national average and thus reducing ED utilization has been a major focus of the ACO's population health efforts.

Physician Engagement

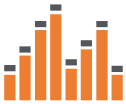
- St. Luke's Health Partners ACO leadership noted that sharing performance data has been the most effective mechanism for engaging clinicians. For employed clinicians, the health system has recently implemented a dashboard that shows performance metrics such as ED utilization to individual clinicians.
- St. Luke's Health Partners ACO has faced challenges engaging clinicians from smaller independent practices. ACO support for these practices includes audit support, quality extraction support, and ongoing education.
- St. Luke's Health Partners ACO allocates all money from shared savings to clinician practices using the taxpayer identification number (TIN) as opposed to individual providers.

Skilled Nursing Facility Integration

- The ACO generates a SNF scorecard that incorporates information on measures such as the relative length of stay, outcomes, and re-hospitalization rates. The scorecard is shared with SNFs in the network so that they can compare their performance with other SNFs and with patients as a way to help patients and their families make more informed decisions.
- The ACO previously implemented the 3-day SNF rule waiver with three SNFs.

Accountable Care Coalition of Southeast Texas, Inc. (ACCST) – TX 2016 Cohort

Impact on Spending



- Across 2016-2018, the Accountable Care Coalition of Southeast Texas significantly reduced total spending (2.51% reduction, -$360.54 per beneficiary per year [PBPY]) relative to a comparison group.
- The NGACO also significantly reduced home health spending (4.59% reduction, -$51.92 PBPY) and hospice spending (12.87% reduction, -$48.18PBPY) relative to a comparison group.

Model Features & Organizational Factors

- ACCST is a physician-owned, nonprofit health corporation. The ACO comprises three large NCQA Level III PCMH-certified primary care clinics and associated independent single and multi-specialty groups.
- In 2018, ACCST had 156 participating practitioners.
- ACCST partners with an ACO management company to provide services such as data analytics and beneficiary engagement.
- ACCST's primary care providers have participated in many outcomes-based contracts, including Medicare Plus Choice, Medicare Advantage, and Shared Savings Program (SSP).
- ACCST switched from 80 percent risk in PY1 to 100 percent risk in PY2. The ACO uses a population-based payment (PBP) mechanism.

IT & Data Analytics

- ACCST's network comprises several independent physician practices using over 40 different electronic health records (EHRs), making it difficult to gather data efficiently.
- ACCST uses an internal data warehouse to develop a chronic condition report and host a care management tool.
- The ACO uses a vendor to get ADT feeds from hospitals.

Beneficiary Engagement

- In 2018, ACCST had 16,549 NGACO beneficiaries.
- ACCST has employed in-person care management staff, RNs, and social workers who meet inpatient beneficiaries at their bedsides; for outpatients, patient advocates visit homes and coordinate with doctors.
- Embedded care coordinators work in the larger group practice settings.

Physician Engagement

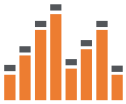
- ACCST has distributed shared savings among clinicians based on quality performance and cost management.
- The ACO has provided monthly financial performance results to practices as part of educational efforts in which ACO staff conduct monthly in-person visits to discuss results and teach providers about Annual Wellness Visits and HCC coding.

Skilled Nursing Facility Integration

- Integrating skilled nursing facilities (SNFs) has been a challenge for ACCST because of changes in the eligibility of SNFs in the local market. Participating SNFs are required to have an overall rating of three or more stars for seven of the past 12 months under the CMS Five-Star Nursing Home Quality Rating System. ACCST receives notifications from preferred SNFs when NGACO beneficiaries were admitted and working with a SNFist group to manage these patients.

NW Momentum Health Partners ACO (NW Momentum) – WA 2017 Cohort

Impact on Spending



- Across 2017–2018, NW Momentum significantly reduced total spending (5.72% reduction, -$590.14 per beneficiary per year [PBPY]) relative to a comparison group.
- The ACO also made significant reductions in acute care hospital facility spending (7.98% reduction, -$285.62 PBPY); skilled nursing facility (SNF) spending (11.54% reduction, -$107.12 PBPY); and professional services spending (6.69% reduction, -$197.38 PBPY) relative to a comparison group.

Model Features & Organizational Factors

- NW Momentum is a partnership among Physicians of Southwest Washington (PSW; an independent physician association) and Capital Medical Center, a local hospital.
- In 2018, NW Momentum had 258 participating practitioners.
- PSW has Medicare Advantage (MA) experience, but no prior Medicare ACO experience.
- Since it joined in 2017, NW Momentum has used the fee-for-service (FFS)+ISP payment mechanism to fund its operation. It has elected the 80 percent risk-sharing arrangement.

IT & Data Analytics

- PSW has conducted all data analytics for the ACO in-house.
- Staff rely on an ADT alert system to identify beneficiaries who have been at the emergency department (ED) or discharged from an inpatient stay. This information is then used to identify these beneficiaries as high-risk.

Beneficiary Engagement

- NW Momentum has the fewest aligned beneficiaries of all NGACOs in the model, only 8,002 in PY3.
- NW Momentum has taken a “low-tech, high-touch” approach to managing care for high-risk NGACO beneficiaries.
- PSW’s 11 care management staff—care managers, care navigators, and transitional care coaches—are involved in providing care to NW Momentum and PSW’s MA beneficiaries. Most care management has been conducted by phone, although staff also conduct home visits and visit SNFs when needed.
- Care management staff discuss NGACO beneficiaries in two weekly interdisciplinary team meetings that involve a review of the utilization and costs for approximately 20–25 high-risk NGACO beneficiaries.

- The NGACO has assembled binders for these high-risk beneficiaries to assist them with self-management. The binders include their medication lists, appointment information, previously recorded vital signs, and other relevant information. Beneficiaries are encouraged to take the binders to primary care physician and specialist appointments to facilitate more coordinated care.

Physician Engagement

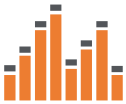
- NW Momentum has engaged physicians through in-person meetings called "roadshows" either at physicians' offices or at PSW's administrative office.
- The ACO has created scorecards that measure each provider's performance on four outcome measures (annual wellness visits, ED visits, inpatient readmissions, and inpatient admissions), as well as 18 NGACO quality measures that overlap with Healthcare Effectiveness Data and Information Set (HEDIS) measures.
- NW Momentum has allocated shared savings based on engagement with the NGACO's roadshows and performance on the scorecard outcome measures.
- The ACO has tried to help providers adapt to value-based care models and remain independent, which has been particularly challenging in its highly consolidated market.

Skilled Nursing Facility Integration

- NW Momentum's post-acute care network contains five SNFs and two home health agencies.
- A dedicated post-acute care navigator holds weekly meetings with SNFs and home health agencies to discuss high-risk patients, and makes weekly visits to beneficiaries in the SNFs and their homes. The care navigator helps streamline access to information, coordinate patients' care, and connect patients with community-based services.

Atrius Health, Inc. (Atrius) – MA, NH, RI
2017 Cohort

Impact on Spending



- Across 2017–2018, Atrius significantly reduced total spending (2.58% reduction, -$315.00 per beneficiary per year [PBPY]) relative to a comparison group.
- The ACO also significantly reduced outpatient facility spending (3.25% reduction, -$76.80 PBPY) relative to a comparison group.

Model Features & Organizational Factors

- Atrius is an independent, multi-specialty physician group in Massachusetts and has a longstanding history of population health management. All Atrius providers participate in the NGACO model. In 2018, Atrius had 1,311 participating practitioners.
- Atrius previously participated in the Pioneer ACO Model and earned shared savings in multiple years.
- Atrius elected the fee-for-service (FFS)+ ISP payment mechanism and the 100 percent risk-sharing arrangement.

IT & Data Analytics

- For over 15 years, Atrius has maintained a data warehouse with integrated clinical and claims data. Predictive models are used for risk stratification based on clinical conditions as well as indicators of behavioral and social health.
- Atrius has worked with multiple institutions, providers, and hospitals on separate electronic health records (EHRs); data exchange is conducted through point-to-point web portals, HL7-based feeds, Patient Ping, and health information exchanges (HIEs).
- Atrius has live ADT feeds from its preferred community and tertiary hospitals, so they are notified in real-time when a patient has been hospitalized or discharged from a hospital or skilled nursing facility (SNF).

Beneficiary Engagement

- In 2018, Atrius had 38,355 NGACO beneficiaries.
- Atrius offers payer-blind care management and has focused on decreasing hospital-wide spending by targeting patients at high risk for hospitalizations and emphasizing and improving transitions of care.
- ACO leadership cited the recent formation of the transitional care service line as the biggest success of its care management approach, with observed reductions in inpatient admissions and readmissions.

- Case managers or nursing staff make a post-discharge call within 48 hours of discharge and schedule a post-discharge visit within 14 days. Patients who need care management post-discharge are enrolled into the transitional care management program and, if needed, can enroll in a chronic or complex care management program for longer-term follow up.
- Atrius Health has worked to shift patient care from hospitals into ambulatory centers and practice facilities, increasing the use of freestanding ambulatory centers for different kinds of surgery (e.g., endoscopy procedures) and moved other procedures into physician offices.

Physician Engagement

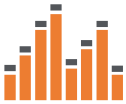
- Clinicians have access to an internal, payer-blind quality dashboard that displays both process (e.g., screenings) and outcome measures (e.g., blood pressure control). These tools present performance data at both organization and individual clinician levels.
- The ACO does not distribute shared savings to its employed physicians.

Skilled Nursing Facility Integration

- Atrius Health has worked with a network of 29 preferred SNFs. The ACO selects SNFs for the network based on their star rating, ACO-specific performance metrics, and the facility's willingness to work with Atrius Health.
- Atrius has embedded clinicians in SNFs to facilitate care coordination and information exchange; staff meet regularly with the facility staff, attend care management meetings, and can share information between the SNFs' medical records and the ACO's EHR.

ThedaCare ACO, LLC (ThedaCare) – WI
2016 Cohort

Impact on Spending



- Across 2016–2018, ThedaCare significantly reduced total spending (3.65% reduction, -$363.13 per beneficiary per year [PBPY]) relative to a comparison group.
- The ACO also significantly reduced acute care hospital facility spending (4.57% reduction, -$137.53 PBPY) and hospice spending (18.08% reduction, -$93.72 PBPY), but significantly increased skilled nursing facility (SNF) spending (8.98% increase, $71.44 PBPY) relative to a comparison group.

Model Features & Organizational Factors

- ThedaCare ACO is an LLC owned by ThedaCare, a community-owned, nonprofit health system that serves nine counties in Wisconsin.
- In 2018, ThedaCare had 930 participating practitioners.
- ThedaCare was originally part of the Bellin-ThedaCare Healthcare Partners ACO that participated in the Pioneer model.
- ThedaCare chose the 80 percent risk-sharing arrangement and fee-for-service (FFS) payment mechanism.

IT & Data Analytics

- The majority of ThedaCare ACO providers, including a large number of affiliated independent providers, use the same electronic health record (EHR) version. Some SNFs also have access to the EHR.
- The ACO partnered with a vendor to use claims data to compare performance from a value-based care modeling perspective.
- An analytics company has provided ThedaCare with comparative data from peer health organizations across the country.
- ThedaCare has maintained an internal ACO staff and leadership dashboard for monitoring performance metrics as well as following trends.

Beneficiary Engagement

- In 2018, ThedaCare had 15,107 NGACO beneficiaries.
- ThedaCare's callback program has provided follow-up phone calls to patients following discharge from hospitals, bridging the inpatient and outpatient care management departments.

Physician Engagement

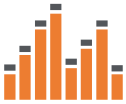
- ThedaCare has linked financial incentives to quality improvement for physicians.
- ThedaCare has built provider-facing dashboards within the EHR that allow primary care physicians (PCPs) to view the metrics for which they are being held accountable across their entire panel of patients, regardless of payer.

Skilled Nursing Facility Integration

- ThedaCare owns two SNFs and has relationships with several other local providers. The ACO and SNFs are able to manage patients effectively because all SNFs have view access to ThedaCare's EHR, which includes detailed, real-time patient information (e.g., discharge summaries).
- ThedaCare has a SNFist program in which an ACO clinician is a liaison who oversees coordination of care in the SNF, eliminating the need for PCP oversight or an office visit while maintaining a connection with the ACO patient.

Accountable Care Coalition of Tennessee, LLC (ACC of TN) – TN 2018 Cohort

Impact on Spending



- In 2018, Accountable Care Coalition of Tennessee (ACC of TN) significantly reduced total spending (3.44% reduction, -$323.33 per beneficiary per year [PBPY]) relative to a comparison group.

Model Features & Organizational Factors

- The ACO is a partnership between Summit Medical Group and an ACO management company that provides administrative and clinical support services.
- In 2018, ACC of TN had 160 participating practitioners.
- ACC of TN uses fee-for-service (FFS) as a payment mechanism and elected the 80 percent risk-sharing arrangement in 2018.

IT & Data Analytics

- The ACO has a contract with a management company to conduct analytics.

Beneficiary Engagement

- In 2018, ACC of TN had 19,469 NGACO beneficiaries.
- ACC of TN has focused on beneficiary risk stratification, using data from electronic health records (EHR), ADT feeds, and supplemental claims.
- Care managers are employed by Summit Medical Group and are centrally located; each primary care physician has a dedicated care manager.

Physician Engagement

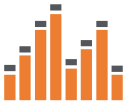
- The NGACO has held mandatory training for practitioners about the NGACO model and its referral network of skilled nursing facilities (SNFs), home health, and palliative care partners.
- Care management teams have worked with practitioners to develop better care plans and treatment goals with their patients.

Skilled Nursing Facility Integration

- ACC of TN has invested in building and improving relationships with SNF partners resulting in greater continuity of care and information sharing between the ACO and SNF partners.
- SNFs do not have access to the medical group's EHR. However, there is regular telephonic and in-person communication across all SNFs and a secure message exchange with higher utilized SNFs.

Accountable Care Options, LLC - FL
2017 Cohort

Impact on Spending



- Across 2017–2018, Accountable Care Options significantly reduced total spending (2.75% reduction, -$363.20 per beneficiary per year [PBPY]) relative to a comparison group.
- The ACO also had significant decreases in acute care hospice facility spending (6.17% reduction, -$236.62 PBPY); other post-acute care facility spending (26.39% reduction, -$163.11 PBPY); and outpatient spending (4.81% reduction, -$99.42 PBPY) relative to a comparison group.

Model Features & Organizational Factors

- Accountable Care Options is an independent physician association (IPA) serving South Florida.
- The ACO's participating practitioners are exclusively primary care physicians (PCPs); specialists and ancillary providers are preferred providers.
- In 2018, Accountable Care Options had 129 participating practitioners.
- Accountable Care Options participated in voluntary alignment in 2017.
- Accountable Care Options currently uses the 100 percent risk-sharing arrangement and the population-based payment (PBP) mechanism.

IT & Data Analytics

- Accountable Care Options has contracted with external consultants for claims-based predictive modeling to risk-stratify its aligned beneficiaries. The ACO has used these models to target their care management services to the top 5 percent of at-risk beneficiaries.
- The ACO has used a vendor to maintain its data warehouse and conducts all data analytic work in-house.
- Accountable Care Options receives hospital ADT notifications through Florida health information exchange (HIE), which are then forwarded to providers twice daily via email.
- Accountable Care Options has developed an internal electronic health record (EHR) system for documenting care management activities and sharing care coordination information with the 16 providers involved in their chronic care management program.

Beneficiary Engagement

- In 2018, the ACO had 10,715 NGACO beneficiaries.
- Participating providers have completed annual wellness visits (AWVs) for an estimated 70 percent of the beneficiary population, and ACO leadership reported that, in their opinion, the Care Coordination Reward had helped increase the number of completed AWV visits.

Physician Engagement

- Accountable Care Options has encouraged clinicians to conduct AWVs, and incorporated an AWV measure into the formula determining clinician shared savings distributions.
- Accountable Care Options has sought out physicians for its network who are willing to engage with the ACO's goals and participate in ACO activities. The ACO identified efficiency, the use of an EHR, and the absence of fraud as key factors for physician inclusion.
- Accountable Care Options has found it difficult to engage physicians using only potential shared savings distributions. Since its time in Medicare Shared Savings Program (SSP), the ACO has only used upside risk for its physicians, with the ACO assuming responsibility for all losses.
- To improve the engagement of their affiliated PCP practices and encourage the use of AWVs, the ACO has created a bonus pool (of approximately $1,000 per person) for the office administrators.

Skilled Nursing Facility Integration

- Accountable Care Options' skilled nursing facility (SNF) network comprises 14 facilities.