



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

Fourth Annual Report

May 2022

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Fourth Annual Report May 2022

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ACRONYMS

ACO	Accountable Care Organization
ACE	angiotensin-converting enzyme
ACP	advance care planning
ADT	admission, discharge, and transfer
APM	Alternative Payment Model
ARB	angiotensin receptor blockers
BHI	behavioral health integration
CAD	coronary artery disease
CAH	Critical Access Hospital
CAHPS	Consumer Assessment of Healthcare Providers and Systems
CEHRT	Certified Electronic Health Record Technology
CHIP	Children’s Health Insurance Program
CMF	care management fee
CMM	comprehensive medication management
CMS	Centers for Medicare & Medicaid Services
CNS	clinical nurse specialist
COVID-19	coronavirus disease 2019
CPC	Comprehensive Primary Care
CPC+	Comprehensive Primary Care Plus
CPCP	Comprehensive Primary Care Payment
eCQM	electronic clinical quality measure
DDD	difference-in-difference-in-difference (also known as triple differences)
ED	emergency department
EHR	electronic health record

E&M	evaluation and management
FFS	fee-for-service
FQHC	federally qualified health center
HHS	Department of Health and Human Services
HIE	health information exchange
HIPAA	Health Insurance Portability and Accountability Act
IT	information technology
LOB	lines of business
MA	medical assistants
MIPS	Merit-based Incentive Payment System
MOU	memoranda of understanding
NLT	National Learning Team
NP	nurse practitioner
NPI	National Provider Identifier
PA	physician assistant
PAED	potentially primary care preventable outpatient emergency department
PBIP	Performance-based Incentive Payment
PBPM	per beneficiary per month
PCMH	patient-centered medical home
PCF	Primary Care First
PCP	primary care practitioner
PCSED	primary care substitutable outpatient emergency department
PDMP	Prescription Drug Monitoring Program
PDSA	Plan-Do-Study-Act
PFAC	Patient and Family Advisory Council

PMPM	per member per month
PVI	Pandemic Vulnerability Index
PY	Program Year
QPP	Quality Payment Program
rBBI	reversed Bice-Boxerman Index
RHC	Rural Health Clinic
RING	Regional Implementation Networking Group
RLF	Regional Learning Faculty
RLN	Regional Learning Network
SSP	Medicare Shared Savings Program
SVI	Social Vulnerability Index
UCC	urgent care center
VBP	value-based programs

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INDEPENDENT EVALUATION OF CPC+:

Executive Summary of the Fourth Annual Report



Key takeaways

Drawing on the substantial support received from the Centers for Medicare & Medicaid Services (CMS), payer partners, and health information technology (IT) vendors, participating primary care practices continued to make meaningful changes to care delivery during the fourth program year of Comprehensive Primary Care Plus (CPC+), despite facing unprecedented disruptions from the coronavirus disease 2019 (COVID-19) pandemic. The pandemic placed additional demands on staff time, made it difficult to see patients in person, and required practices to shift resources away from CPC+ activities to address patients' most pressing needs. But CPC+ enhanced payments—particularly, care management fees—and temporary payment changes for telehealth visits helped practices retain care managers and other key staff and maintain important patient care activities. Care managers hired as part of CPC+ were key to meeting patients' physical and mental health needs during COVID-19. Four years into the five-year model, practices expect to sustain many of the processes they put in place for CPC+ including enhanced access, care management, and using data to guide practice improvements. However, practices may require ongoing funding for care managers and technical assistance to do so. Over the first four years, CPC+ reduced acute care utilization and improved some claims-based quality-of-care measures. However, CPC+ did not reduce Medicare expenditures without enhanced payments, so expenditures including enhanced payments (from CPC+ and the Medicare Shared Savings Program [SSP]) increased by 1.5 percent in Track 1 and by 2.6 percent in Track 2. Consistent with CMS's expectations about possible alignment between incentives and supports offered by CPC+ and SSP, a 1.5 percent reduction in total Medicare expenditures emerged in Program Year (PY4) for Track 1 SSP practices.

1. Introduction

Overview of CPC+. CPC+ is the largest and most ambitious primary care payment and delivery reform effort tested to date in the United States. The Center for Medicare & Medicaid Innovation of CMS launched CPC+ in January 2017 in 14 regions and added 4 more regions in January 2018. At the start of CPC+, across these 18 regions, CMS partnered with 79 payers and 68 health IT vendors to support 3,070 primary care practices' efforts to improve the care they provide to over 17 million patients regardless of patients' insurance coverage. In all 18 regions, CPC+ will run through December 2021.

Through CPC+, CMS is testing the hypothesis that multipayer payment reform, actionable data feedback, robust learning supports, and health IT vendor support will enable primary care practices to transform how they deliver care. To provide a framework for transformation, CMS requires CPC+ practices to meet a set of care delivery requirements, which evolved over the five program years. This framework aims to improve care delivery across five Comprehensive Primary Care Functions: (1) access and continuity, (2) care management, (3) comprehensiveness and coordination, (4) patient and caregiver engagement, and (5) planned care and population health.

There were 3,070 primary care practices that joined one of two tracks of CPC+, with approximately the same number of practices in Track 1 and Track 2. The Track 2 model contains more advanced care delivery requirements and financial support, and a greater shift from fee-for-service (FFS) toward population-based payment. This supports the expanded breadth and depth of services that Track 2 practices are required to provide and gives them the flexibility to deliver care in ways that may better address patients' needs and align with their preferences for care.

CMS hypothesizes that practices in both tracks will transform the way they deliver care, which CMS expects to improve access to primary care services and the quality and efficiency of the care patients receive. If CPC+ reduces spending without reducing the quality of care patients receive, or improves the quality of care without increasing spending, the Secretary of the Department of Health and Human Services has the authority to extend the duration or expand the scope of CPC+.

CPC+ during COVID-19. The COVID-19 pandemic caused unprecedented disruptions to health care providers and patients in 2020—the fourth program year of CPC+ and the focus of this report. In response to the pandemic, CMS and CPC+ payer partners introduced several temporary changes to CPC+ supports and requirements to ease burden on practices in PY 4. Some of these changes were available to all primary care practices regardless of CPC+ participation including coverage expansions for telehealth visits; payment rate increases to provide parity between telehealth visits and office visits; and grants, loans, and other financial assistance. Specific to CPC+, CMS canceled practices' reporting requirements and paused regional learning supports in summer 2020, while data aggregation and feedback activities continued throughout PY 4.

Practices' participation in CPC+ helped them weather the pandemic and meet their patients' physical and mental health needs. CPC+ payments—in particular, care management fees—helped practices maintain key patient care activities like care management and coordination by funding the salaries of care managers and other key staff. Many practices also credited making prior investments in care management and building a patient-centered and team-based culture as a part of CPC+ with helping them implement changes needed to care for patients during the pandemic.

The COVID-19 pandemic could also affect the estimated effects of CPC+ in PY 4 if the intensity of COVID-19 and the response—in terms of changes in service use and expenditures—differed for CPC+ and comparison practices. We adjusted our difference-in-differences estimation strategy to account for potential bias by adding COVID-19-specific region-level control variables to our regression models. Further, we interpret the PY 4 impact estimates cautiously.

Focus of this report. This report focuses on how CPC+ has been implemented and its impacts on Medicare FFS beneficiaries in regions that joined in 2017. We present findings for PY 4, which coincides with calendar year 2020, and we highlight new findings and changes from the previous three program years. We do not report on the regions that joined CPC+ in 2018, as these practices account for only 5 percent of the total number of practices participating in CPC+, and the first-year implementation experiences of practices and payers in the regions that joined CPC+ in 2018 were very similar to the first-year experiences of those that joined CPC+ in 2017 (Anglin et al. 2020). The findings in this report reflect a rigorous, independent evaluation of CPC+ four years through the five-year model. Given the complexity of primary care practice

transformation, we did not expect to see favorable effects of CPC+ on Medicare expenditures for Medicare FFS beneficiaries during these early years of transformation. Researchers and practitioners have indicated that it takes time to transform primary care and shift patient outcomes (Appendix 5.E; Peikes et al. 2020; Burton et al. 2018; Song et al. 2014; McNellis et al. 2013; Crabtree et al. 2011; Nutting et al. 2009). If CPC+ is being implemented as intended, we do expect to see earlier improvements in quality-of-care indicators and utilization measures that primary care can affect in the short to medium term (such as emergency department [ED] visits, process-of-care measures for patients with diabetes, or patient-reported access to care).

2. CPC+ participation and partnership

In PY 1, 63 payer partners and 66 health IT vendors joined with CMS to support 2,905 diverse practices in the 14 regions that began CPC+ in 2017. Over the first four years, involvement of payer partners (which include private health insurance companies and state Medicaid agencies) and practices remained relatively steady, with some stakeholders leaving and some joining each year. Despite the major disruptions and financial stress caused by the COVID-19 pandemic, we did not see more practices closing, merging, or exiting CPC+ in PY 4 (2020) than we saw in prior years. By the end of PY 4, CMS was partnering with 58 payers and 60 vendors to support 2,599 primary care practices.

The CPC+ practices participating at the end of PY 4 continue to be diverse. They range from small (one to two primary care practitioners [PCPs]) to large (six or more PCPs); include independent and system-owned practices; are located in rural, urban, and suburban areas; and have varying levels of experience with primary care transformation. While they are diverse, practices participating in CPC+ had notable differences from other primary care practices in their regions at the start of CPC+, and these differences grew as practices exited CPC+. Practices not participating in CPC+ were more often independent, smaller, did not have prior primary care transformation experience, and/or served less healthy and less advantaged beneficiaries; practices with these characteristics that did participate were also more likely to exit CPC+.

3. Payer partner and health IT vendor support

In PY 4, the COVID-19 pandemic caused major, unprecedented, pervasive disruptions that led payers—including CMS and payer partners—to implement several temporary changes to payments and other supports to practices. Payment changes—including telehealth coverage expansions and payment rate increases, as well as grants and loans—aimed to ease financial pressures on providers and reduce access barriers to patients. While most of these payment changes were not specific to CPC+, their impact on CPC+ practices was substantial. Deep-dive practices found telehealth payment changes invaluable for weathering the pandemic financially and for maintaining patient care. They also cited CPC+ payments—in particular, care management fees—as important for keeping key staff such as care managers continuously employed.

The financial impact of the pandemic varied widely among practices. While all deep-dive practices' FFS revenues plummeted in Spring 2020, some practices rebounded quickly enough to limit the pandemic's overall impact on their 2020 finances. These practices generally either had a robust telehealth program already in place when the pandemic began, or were able to launch a

program quickly and flexibly, on a wide scale. They also tended to have sufficient cash reserves available at the start of the pandemic, allowing them to weather shutdowns with few, if any, staff layoffs or furloughs. This, in turn, allowed them to ramp up patient care quickly as pandemic conditions improved. In contrast, practices whose 2020 finances were highly impacted by the pandemic either had insufficient cash reserves at the start of the pandemic or struggled to respond nimbly and flexibly to payers' telehealth payment changes.

The pandemic made some practices more receptive to alternative payments, but most of these practices still said they needed to better understand alternative payment models before they felt ready to commit to any new arrangements with payers. And, while the pandemic led payers in several regions to explore alternative payments, most payer efforts were still nascent. Only 1 out of 20 deep-dive practices interviewed about alternative payments reported reaching the stage of negotiating the terms of new capitation arrangements with payers as a response to the financial upheaval caused by the pandemic.

CMS and payer partners continued to provide CPC+ practices with significant support in the form of enhanced and alternative payments, data feedback, and learning activities in PY 4.

- **Enhanced payments.** CMS and all payer partners provided enhanced payments to CPC+ practices with which they contracted, in addition to usual payments for services. In PY 4, the median total enhanced payments CPC+ practices received were \$139,267 per Track 1 practice and \$272,647 per Track 2 practice, or 11 and 16 percent of total practice revenue, respectively. These median amounts have increased by small to moderate increments in each year since PY 2 (the first year for which data were available). Payments for participation—which consist mostly of care management fees—accounted for 85 percent of total enhanced payments in PY 4, compared to 90 percent in PYs 2 and 3. The remaining 15 percent of enhanced payments were payments for performance, which practices received only if they met cost, utilization, and/or quality targets. Payments for performance have increased substantially since PY 2, largely driven by an increase in shared savings earned by practices belonging to Shared Savings Program (SSP) Accountable Care Organizations (ACOs) from PY 2 to PY 4, while payments for participation have remained stable over the same period.

CPC+ practices not participating in SSP were eligible to receive CMS's Prospective Performance-Based Incentive Payment (PBIP). Most practices reported that PBIPs were not large enough to provide strong incentives to change care delivery. However, the aggregate incentives practices faced from all their payers' value-based programs, including PBIPs, did motivate practices to take concrete steps to improve quality and control utilization.

Consistent with previous years, CMS continued to provide a disproportionate share of total enhanced payments. Although CMS covered only 41 percent of attributed CPC+ patients in PY 4, it contributed 69 percent of all enhanced payments made to CPC+ practices. Also consistent with previous years, only 60 percent of the total enhanced payments practices received in PY 4 were unique to CPC+; the remaining 40 percent represented funding available to at least some practices participating in payers' other value-based payment programs outside of CPC+. CMS continued to provide most of the unique funding for CPC+ practices, reflecting (1) the higher care management fees paid for Medicare FFS beneficiaries, and (2) that many payer partners used existing value-based payment programs to meet their CPC+ commitment.

- **Alternative payments.** In PY 4, CMS and 8 payer partners (16 percent) provided Track 2 practices with alternative payments that shift away from FFS. No payer partners have introduced new alternative payment approaches since PY 1, and the proportion providing alternative payments continued to fall far short of CMS’s goal that all payer partners do so for Track 2 practices by the start of PY 2. Among the payer partners providing alternative payments to CPC+ practices, most used longstanding capitation arrangements that pre-dated CPC+. And, unlike CMS, most payer partners offering alternative payments did so for both Track 1 and Track 2 practices.

Data feedback. CMS and almost all payer partners continued providing CPC+ practices with data feedback on utilization and/or total cost of care. In PY 4, 87 percent of practices reported using CMS’s data feedback tool, and smaller percentages used feedback from other payers, similar to PY 3. Many practices find feedback useful, though they continued to cite challenges such as limited actionability due to timeliness of claims-based measures. Seven CPC+ regions in PY 4 provided aggregated feedback to practices, three of which had been aggregating data since the CPC Classic initiative that preceded CPC+. Data aggregation and feedback activities continued during the pandemic in PY 4, but data aggregating organizations reported that practices were less engaged with tools and trainings because they were making practice changes in response to the pandemic.

Learning supports. Learning supports provide practices with information and resources on the Comprehensive Primary Care Functions and care delivery requirements, facilitate peer learning, and support practices in improving CPC+ outcomes. While CMS continues to be the main source of learning support for CPC+ practices, 90 percent of payer partners continued to supplement CMS’s learning supports with their own supports in PY 4. CMS continued to focus its learning strategy on greater regional flexibility and practice outcomes, and practices continued to report they were more likely to use durable products than tailored supports (such as one-on-one coaching), just as in previous years. In response to the pandemic, CMS paused regional learning supports from April to July in PY 4 as a way to reduce burden. After reassessing practices’ evolving needs, CMS resumed learning activities in September; these activities were further tailored to the varying needs of practices as they continued to adapt to the pandemic.

Health IT vendors. Health IT support includes requirements for the use of health IT by CPC+ practices, along with vendor support to practices for implementing health IT functionalities. Practices in both tracks are required to adopt Certified Electronic Health Record Technology (CEHRT) and meet requirements for eCQM reporting. Track 2 practices are required to meet additional advanced health IT requirements such as using health IT for assessing patients’ health-related social needs. In PY 4, health IT vendors continued to offer the CPC+ functionalities to both CPC+ and non-CPC+ practices. The percentage of practices reporting that they found meeting health IT requirements burdensome has declined over time, with fewer than half reporting burden in PY 4. However, health IT functionalities has remained the lowest rated of all CPC+ supports from PY 1 to PY 4. Around half of CPC+ practices surveyed reported health IT vendor support was somewhat or very useful for improving primary care in PY 4, consistent with earlier years.

Practices' perspectives on supports. As in prior years, CPC+ practices continued to rate all four CPC+ supports as useful in improving primary care, though fewer practices found health IT vendor support useful compared to payment, learning support, and data feedback.

4. Changes to the way CPC+ practices deliver care

The COVID-19 pandemic made 2020 a challenging year for primary care, and CPC+ practices were no exception. Not surprisingly, the pandemic hindered practices' ability to work on CPC+ care delivery requirements by placing additional demands on staff time and making it difficult to see patients in person for necessary screening and preventive care. Many practices shifted resources to address patients' most pressing needs during the pandemic. While most practices reported that participation in CPC+ helped or had no effect on their ability to care for patients during the pandemic, they also noted that CPC+ enhanced payments helped sustain staffing levels, particularly care managers. Care managers hired as part of CPC+ were key to meeting patients' physical and mental health needs during COVID-19.

Practices' efforts. CPC+ practices continued to be satisfied with their decision to join CPC+ and reported that it improved the quality of patient care. Practices appreciated the CPC+ primary care transformation road map and the additional staff and services its funding enabled.

Looking across the first four program years, practices made the most changes to care delivery between PYs 1 and 2, with some additional change in PY 3. Practices made fewer changes between PYs 3 and 4. As in prior years, practices in both tracks made fairly similar changes to transform primary care for most of the care delivery requirements CMS requires both tracks to meet (such as care management). Some requirements pertained only to Track 2 (such as comprehensive medication management); as expected, Track 2 practices were more likely than Track 1 practices to report advanced activities for most of these requirements. While practices continued to engage in activities related to CPC+ care delivery requirements, they faced challenges making some changes and reaching all patients who would benefit from services (Table ES.4.1).

Table ES.4.1. Summary of practices' care delivery requirement activities and challenges faced in PY 4

Practices' efforts in PY 4	Challenges practices faced in PY 4
Access and continuity	
<ul style="list-style-type: none"> Increased use of telehealth to keep patients safe while continuing to provide care during the pandemic. Continued to provide patients with 24/7 access to a practitioner with real-time access to the EHR, consistent with prior years. Continued to offer same- or next-day appointments. 	<ul style="list-style-type: none"> Using telehealth technology, especially for video visits.
Care management	
<ul style="list-style-type: none"> Continued to risk stratify empaneled patients and most integrated risk stratification within their EHR or health IT system. Used designated care managers, typically registered nurses, to deliver longitudinal care management services, although their care managers' focus shifted to COVID-19-related care for part of PY 4. Maintained changes in timely hospital and ED follow-up that they had made earlier in CPC+. 	<ul style="list-style-type: none"> Providing longitudinal care management services to a larger proportion of their patients at higher risk. Devoting sufficient care managers' time to support patients with chronic conditions due to competing priorities, including COVID-19.
Comprehensiveness and coordination	
<ul style="list-style-type: none"> Increased their use of on-site behaviorists each year of CPC+, which was particularly valuable in PY 4 as the COVID-19 pandemic increased the demand for mental health care. Continued to screen patients for health-related social needs, consistent with PY 3 and up from PYs 1 and 2, especially for Track 1 practices. 	<ul style="list-style-type: none"> Using data on high-cost, high-volume specialists when making referral decisions (in addition to basing decisions on preexisting provider-specialist relationships or patient convenience). Integrating their inventory of social services resources into their EHR and connecting patients to resources to address their health-related social needs (which was especially challenging during the pandemic, given increased patient demand for resources alongside closures of many community-based organizations).
Patient and caregiver engagement	
<ul style="list-style-type: none"> Continued to convene Patient and Family Advisory Councils (PFACs), but PFACs met less frequently in PY 4 than in PY 3 partly due to pandemic social distancing protocols. Continued to take recommended steps to provide advance care planning (ACP) and systemically identify patients for ACP discussions. 	<ul style="list-style-type: none"> Overcoming challenges to implementing advance care planning (ACP) (such as insufficient time for discussing ACP with patients and barriers to completing, uploading, and updating ACP forms), which were exacerbated during COVID-19 in PY 4.
Planned care and population health	
<ul style="list-style-type: none"> Continued to receive and use data feedback on quality, utilization, and patient experience. 	<ul style="list-style-type: none"> Increasing awareness and use of data on cost.

ED = emergency department; EHR = electronic health record; PY = Program Year.

CPC+ practices experienced several factors that affected implementation across two or more care delivery requirements. Similar to previous program years, the factors that supported practices' implementation of CPC+ in PY 4 included: CPC+ financial support for hiring and retaining staff, teamwork, and established relationships with external providers (including hospitals, EDs, and specialists). Factors that hindered CPC+ implementation in PY 4 were also consistent throughout the program years: limited perceived benefits of some CPC+ activities; insufficient health IT functionalities and limited interoperability across care settings; limited community-based resources to address behavioral health and health-related social needs; and difficulties engaging some patients in some CPC+ activities such as care management, behavioral health services, and advance care planning.

Practices expect to sustain many of the processes they put in place for CPC+ after the model ends, affirming they see value in the work they did for CPC+. Still, practices expect to need ongoing supports, particularly enhanced payments and technical assistance, to continue many aspects of the CPC+ model.

5. Outcomes for Medicare FFS beneficiaries

Over the first four years, CPC+ reduced key utilization measures and improved some claims-based quality-of-care measures. As expected according to the CPC+ theory of change, reductions in outpatient ED visits emerged early and persisted across the four years, with a nearly 2 percent average annual reduction in both Tracks 1 and 2. Reductions in acute hospitalizations emerged in later years starting in PY 3 (with a 1.7 percent reduction) for Track 2 practices and in PY 4 (with a 1.8 percent reduction) for Track 1 practices. The reductions in acute hospitalizations in the later years also translated into reductions in expenditures on acute inpatient care starting in PY 3, with a 1.5 percent reduction for Track 1 practices and a 2.3 percent reduction for Track 2 practices. However, these reductions were offset by increases in expenditures on other services (inpatient rehabilitation facilities, physician and nonphysician Part B noninstitutional services in any setting, and hospice), yielding estimated effects on total Medicare expenditures without enhanced payments that were small and not statistically significant in either track in any of the four years. Medicare expenditures with enhanced payments (from CPC+ and the Medicare SSP) increased by 1.5 percent in Track 1 and by 2.6 percent in Track 2. Each year, the annual increases in expenditures with enhanced payments were generally about the size of the enhanced payments in these tracks.

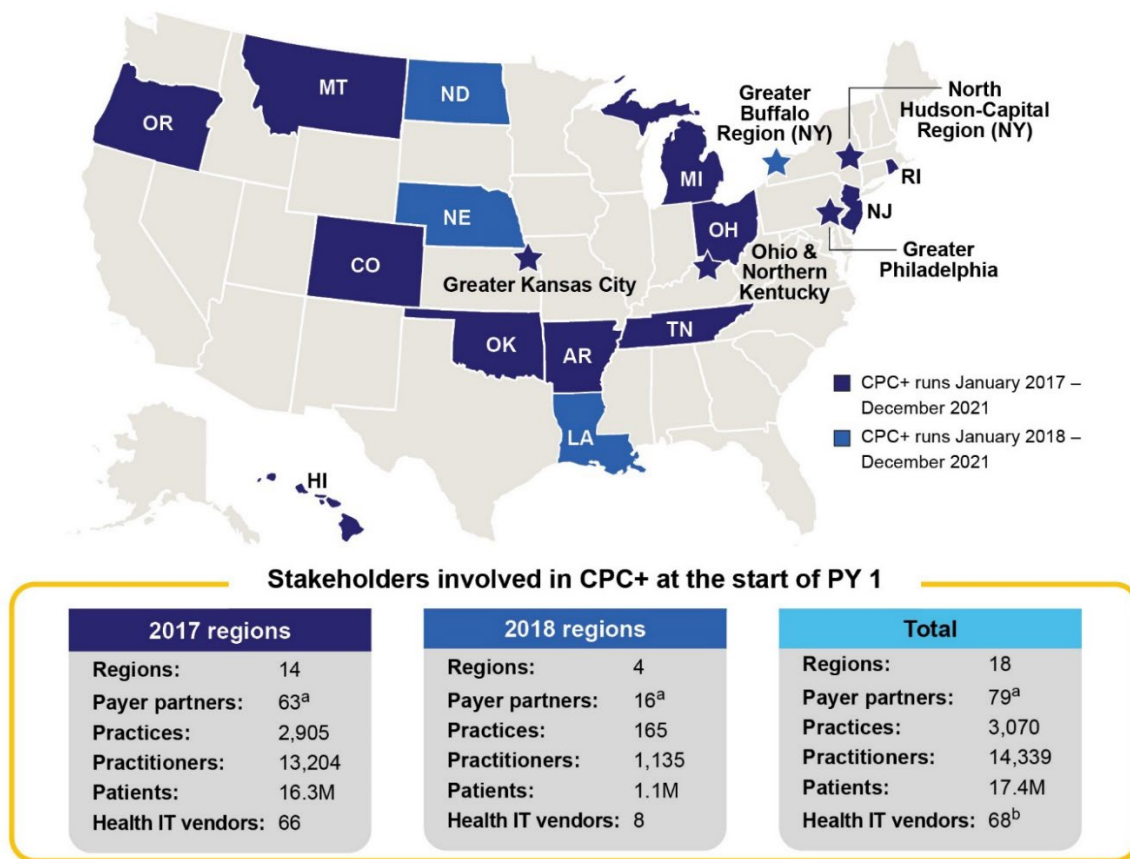
Consistent with CMS's expectations about possible alignment between incentives and supports offered by CPC+ and SSP, effects on Medicare expenditures varied by participation in SSP. Reductions in expenditures emerged in later years for SSP practices (but not for non-SSP practices), especially in Track 1. For SSP Track 1 practices, there was a 2.7 percent reduction in expenditures for acute inpatient care (with a 1.7 percent reduction in acute hospitalizations) in PY 3; by PY 4, there was a 4.2 percent reduction in acute inpatient expenditures (with a 3.3 percent reduction in acute hospitalizations) that also led to a 1.5 percent reduction in total Medicare expenditures without enhanced payments and a 0.8 percent reduction (albeit not statistically significant) in expenditures with enhanced payments. If this trend is sustained or becomes stronger in PY 5, CPC+ could show cost savings even after accounting for the enhanced payments in the Track 1 SSP subgroup.

1. INTRODUCTION

1.1. Overview of CPC+

Comprehensive Primary Care Plus (CPC+) is the largest and most ambitious primary care payment and delivery reform effort tested to date in the United States. The Center for Medicare and Medicaid Innovation of the Centers for Medicare & Medicaid Services (CMS) launched CPC+ in January 2017 in 14 regions, and added 4 more regions in January 2018. At the start of CPC+, across these 18 regions, CMS partnered with 79 payers and 68 health information technology (IT) vendors to support 3,070 primary care practices’ efforts to improve the care they provide to over 17 million patients (Figure 1.1). In all 18 regions, CPC+ ran through through December 2021. CPC+ builds on the promising experience and lessons learned from the Comprehensive Primary Care (CPC) initiative (known as “CPC Classic”), which ran from fall 2012 through the end of 2016 (Dale et al. 2016; Peikes et al. 2018a, 2018b, 2018c).¹

Figure 1.1. CPC+ regions, payer partners, practices, and practitioners



Source: Mathematica’s analysis of PY 1 CPC+ practice and payer partner tracking data provided by CMS.

^a Payer partners that operate in more than one region are counted separately for each region in which they participate.

^b The total number of health IT vendors in PY 1 is less than the sum of health IT vendors involved in 2017 and 2018 regions because several vendors partnered with practices in both cohorts of regions.

M = million; PY = Program Year.

¹ Information about CPC Classic and reports from the evaluation of that initiative are available at <https://innovation.cms.gov/initiatives/comprehensive-primary-care-initiative/>.

There were 3,070 primary care practices that joined one of two tracks of CPC+, with approximately the same number of practices in Track 1 and Track 2. Track 2 practices are required to provide more enhanced care delivery approaches to better support patients with complex needs and are provided additional financial support to help them do so. These payments support the expanded breadth and depth of services that Track 2 practices are required to provide and give them the flexibility to deliver care in ways that may better address patients' needs and preferences for care.

Care delivery model. To provide a framework for transformation, CMS requires CPC+ practices to meet a set of care delivery requirements, which get progressively more advanced over the five Program Years (PYs), aiming to improve care delivery in five Comprehensive Primary Care Functions:



Access and continuity requires practices to ensure the availability of health services when patients need and want them. It also encourages practices to create long-term, trusting relationships between patients and their primary care practitioner and/or care team.



Care management involves practices working closely with patients to proactively address their health care needs. Practices provide shorter-term “episodic” care management for patients who experience acute care events, such as emergency department (ED) visits or hospitalizations, and longer-term care management for patients with complex, ongoing needs. Services include supporting patients as they transition between care settings (such as from a hospital to their home), reviewing and reconciling patients' medications, and educating patients about their conditions and how to manage them.



Comprehensiveness and coordination refers to primary care practices' capacity to address most of their patients' medical, behavioral, and health-related social needs to help all patients meet their health goals. It also refers to the practices' central role in helping patients and caregivers navigate the health care system.



Patient and caregiver engagement requires practices to involve patients and caregivers in efforts to guide practice improvement. It also requires practices to enhance patients' willingness and ability to manage their own health care and engage patients in advance care planning so they can specify the care they would want to receive should they become unable to speak for themselves.



Planned care and population health refers to practices organizing health care delivery to meet the needs of all of their patients. It calls for practices to use data and team-based care to proactively identify the needs of their patients and efficiently manage their care.

CMS requires CPC+ practices to implement care delivery changes for all the patients they serve, not just the patients for whom CMS or other payer partners provide supports.² Payers provide supports to practices for individual lives (or people) whom they attribute to CPC+ practices.

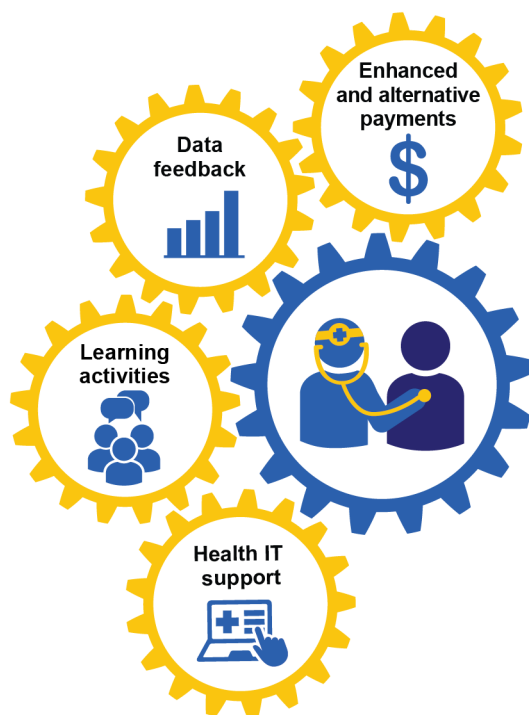
CPC+ supports. To support practices in delivering advanced primary care, CPC+ provides enhanced and alternative payments, data feedback, and individualized and group learning supports, and requires Track 2 practices to partner with vendors to meet advanced health IT functionalities (technology to support work on primary care functions).

Enhanced and alternative payments. CMS and payer partners agreed to provide practices with enhanced and alternative payments to increase their resources and flexibility to deliver the Comprehensive Primary Care Functions.

Enhanced payments. CMS and payer partners agreed to provide enhanced payments, in addition to their usual payments for services, to Track 1 and Track 2 practices for (1) participating in CPC+; and (2) improving their performance on cost, utilization, and/or quality measures. CMS and payer partners agreed to provide greater financial support for Track 2 than Track 1 practices, to reflect the additional care delivery functions Track 2 practices are required to provide to improve care for patients with complex needs.

Alternative payments. For Track 2 practices, CMS and payer partners also agreed to use an alternative to the historically common fee-for-service (FFS) payment approach. Under FFS, practices are paid for each visit or service they provide. Under alternative payment approaches, payers provide lump-sum payments to practices in advance of services provided, regardless of the number or type of visits. CMS and payer partners then reduce or eliminate FFS payments. The alternative payments aim to increase practices' flexibility to deliver services or types of visits (such as group visits) that might benefit patients but which are challenging to bill for under most traditional FFS payment arrangements. CMS committed to providing alternative to FFS payments starting in PY 1, and all payer partners committed to doing so by the start of PY 2.

Data feedback. CMS and payer partners committed to providing practices with data feedback on utilization of services and/or total cost-of-care measures at least quarterly, to help them better manage population health and support continuous quality improvement. Payer partners could provide payer-specific reports—or an aggregated report in which CMS and payer partners in a region submit their claims data to a third-party vendor to produce a single report or tool—or both. To streamline practices' review and make data more



² We use the term “payer partners” to refer to non-CMS payers partnering with CMS in CPC+. We use the term “payers” to refer to CMS and payer partners together.

actionable, payer partners agreed in their memorandum of understanding (MOU) to develop a common approach for sharing utilization and/or total cost-of-care data to an existing data system, or developing a plan to share these data as part of CPC+. We refer to this work as “data aggregation” efforts.



Learning supports. CMS provides practices with a robust learning system to support their practice transformation work, including information dissemination, group learning activities, and tailored support such as in-person or virtual practice coaching. Payer partners’ MOUs do not require them to provide learning supports to CPC+ practices.



Health IT support. To support Track 2 practices in meeting advanced health IT functions, each partnering health IT vendor signed an MOU with CMS, in which they committed to (1) provide practices advanced health IT functionalities to meet the Comprehensive Primary Care Functions and (2) support practices in using them. Though only Track 2 practices formalized health IT vendor relationships, practices in both tracks could choose to work with health IT vendors through CPC+-sponsored learning supports or other vendor-initiated forums.

Model changes due to COVID-19. In response to the coronavirus disease 2019 (COVID-19) pandemic, CMS made changes to some program requirements in PY 4 to ease burden on practices. For the summer 2020 reporting period, CMS canceled practices’ reporting of their progress on CPC+ care delivery requirements. Additionally, CMS offered practices the option of receiving non-claims-based payments in advance and eased the requirements for retaining performance-based incentive payments.

CMS’s goals. CMS hypothesizes that the CPC+ supports and care delivery model will enable practices to transform the way they deliver care, which is expected to improve access to primary care services and the quality and efficiency of the care patients receive. If CPC+ reduces spending without reducing the quality of care patients receive, or improves the quality of care without increasing spending, the Secretary of the Department of Health and Human Services has the authority to extend the duration or expand the scope of CPC+.

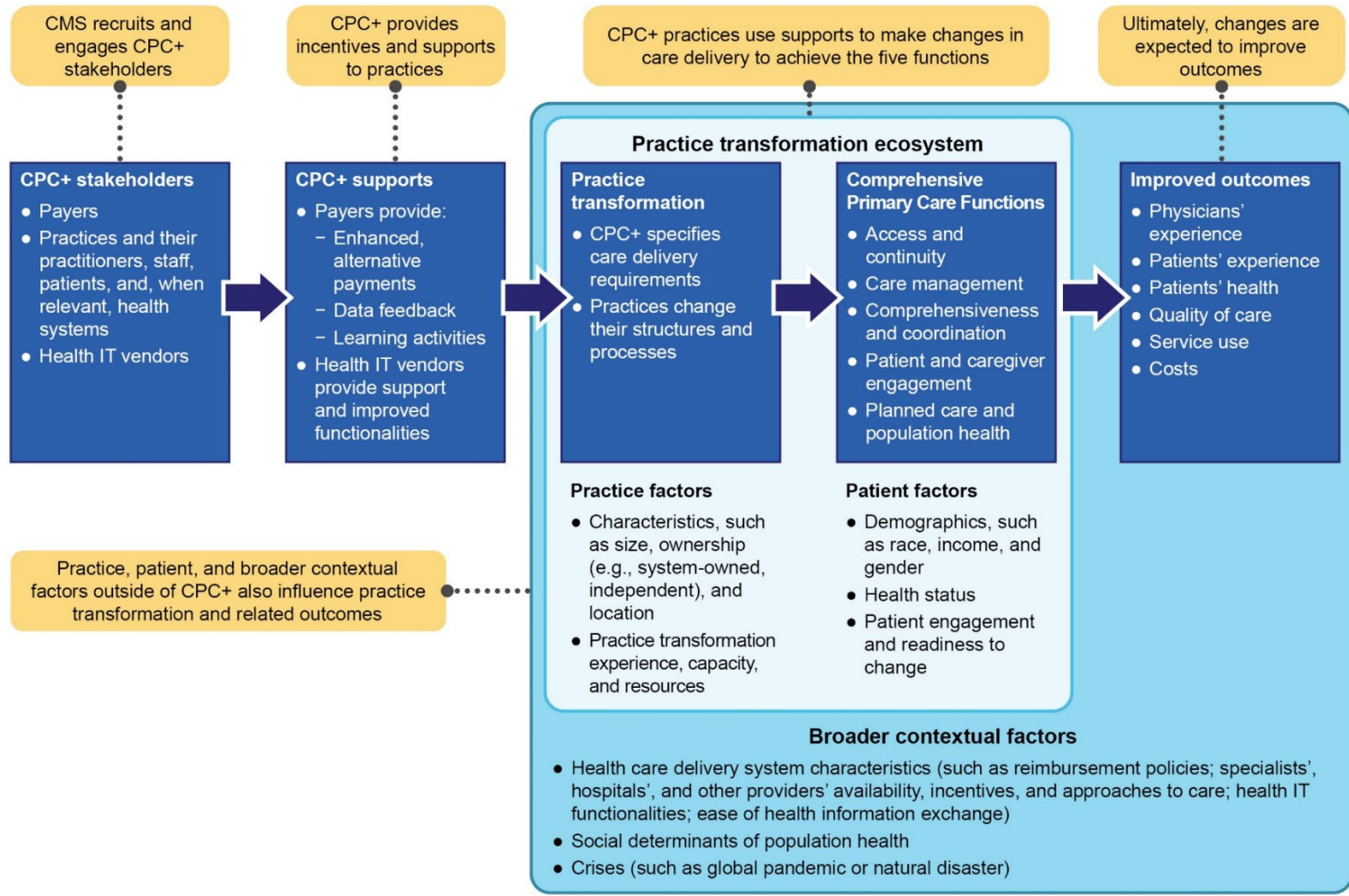
1.2. Overview of the independent evaluation

1.2.1. CPC+ evaluation logic model

Primary care practice transformation is a complex process that takes time to implement (Nutting et al. 2009; Crabtree et al. 2011; McNellis et al. 2013; Peikes et al. 2020; Burton et al. 2018; Song et al. 2014; Peikes et al. 2021). Changes in care delivery also take time to manifest themselves in outcomes of interest, such as improving patients’ health and reducing health care utilization and spending. The high-level evaluation logic model below depicts CPC+ components and the hypothesized relationships between these components and key outcomes, such as reduced spending and improved quality of care (Figure 1.2). If CPC+ is being implemented as intended, we expect to see improvements in the first four years in quality-of-care indicators and utilization measures that primary care can affect in the short to medium term (such as ED visits, process-of-care measures for patients with diabetes, or patient-reported access to care). It’s expected to take longer for CPC+ to affect expenditures.

Figure 1.2. Logic model for the CPC+ evaluation

This high-level evaluation logic model depicts the components of CPC+ and the hypothesized relationships between program elements and key outcomes. It indicates that the implementation and evaluation of CPC+ are occurring within a complex “practice transformation ecosystem” that also has the potential to affect outcomes.



1.2.2. CPC+ evaluation research questions and data sources



We designed our ongoing independent evaluation of CPC+ to understand the complex relationships depicted in the evaluation logic model. In this section, we describe the research questions (Table 1.1) and data sources used to date (Table 1.2) for the CPC+ evaluation. Throughout this report, we highlight additional details of our methods within callout boxes.

Table 1.1. Research questions for the independent evaluation of CPC+

Topic	Research question
Participation and partnership	<ul style="list-style-type: none"> Which regions, payer partners, practices, and health IT vendors are involved in CPC+? When and why did they join or exit CPC+? What characteristics distinguish them? How and why does involvement change over the course of CPC+?
Supports	<ul style="list-style-type: none"> What payment, data feedback, learning activities, and health IT support did CMS, CPC+ payer partners, and health IT vendors provide to practices? What were practices' and physicians' perceptions of these CPC+ supports?
Changes in care delivery	<ul style="list-style-type: none"> How did practices (and their owners, for practices owned by a hospital or health system) change the way they delivered care, and what facilitated or impeded progress?
Effects	<ul style="list-style-type: none"> What were the effects on patients' experience, and on quality, service use, and spending for attributed Medicare FFS beneficiaries? How did CPC+ alter primary care physicians' experience? What factors account for the varying degrees of success in achieving CPC+ goals, or the speed with which participants reached these goals?
Sustainability and spread	<ul style="list-style-type: none"> To what extent do practices, health systems, payers, and health IT vendors intend to sustain CPC+ after it ends? How is the model spreading to stakeholders that were not involved in CPC+?

Table 1.2. Data sources used for the independent evaluation of CPC+

Data source	Purpose	Sample and timing
\$ CMS and payer partners' supports		
CPC+ Payer Partner Survey	To understand the CPC+ supports all payer partners provide to practices, with a focus on details about payment approaches.	Surveyed all payer partners in fall of PYs 1–4. (PY 1: September–November 2017; PY 2: September 2018–January 2019; PY 3: September–December 2019; PY 4: August–December 2020)
Interviews with CMS, contractors, and payer partners	To understand the CPC+ supports provided to practices, including the challenges and facilitators of providing them in each PY.	Interviewed CMS, contractors, and payer partners October–December of PYs 1–4. Interviewed all payer partners in person in PY 1 and 8 newly joined payer partners by phone in PY 2. In PY 3, interviewed by phone a sample of 21 payer partners, including all large- and medium-sized payers, and a purposive sample of small payers and Medicaid payers representing managed care organizations/coordinated care organizations in their regions. In PY 4, interviewed by phone 8 payer partners: one of which was new to CPC+ and 7 of which had planned to in PY 3 – but ultimately did not by PY 4 – implement an alternative payment approach.
Data on CPC+ payments provided by CMS	To understand the enhanced and alternative payments CPC+ practices receive from CMS.	CMS provided quarterly data on payments to CPC+ practices for Medicare FFS beneficiaries in PYs 1–4.
CPC+ program documentation	To understand how CPC+ supports were implemented and how practices used them, including CPC+ learning and data feedback support.	CMS provided information about practice coaching quarterly and data feedback usage monthly in PYs 1–4.
Interviews with exiting payers and vendors	To understand reasons for exiting CPC+ and any alternative plans for supporting primary care practices.	Interviewed a sample of payer partners and health IT vendors that exited CPC+ in PYs 1–4.
+ Health IT vendors' supports		
Interviews with a sample of health IT vendors	To understand health IT vendors' experiences providing support to Track 2 practices.	Interviewed by phone 13 of 66 health IT vendors partnering with Track 2 CPC+ practices in November of PY 1–February of PY 2, and 12 of these 13 vendors in September–October of PY 3.
Interviews with a sample of practices that changed health IT vendors	To understand why practices changed health IT vendors between PY 2 and PY 3, the impact of such changes, and lessons learned about working with vendors to make changes in care delivery.	In PY 4, interviewed by phone a sample of 11 Track 2 practices that added or dropped a major EHR vendor or a population health vendor between PY 2 and PY 3.

Table 1.2. (continued)



Data source	Purpose	Sample and timing
 CPC+ practices' progress, experiences, and perspectives on CPC+		
CPC+ Practice Survey	To understand how CPC+ practices changed care delivery and how they perceived CPC+.	Surveyed all CPC+ practices March–September of PY 1, June–September of PY 2, July–November of PY 3, and September–December of PY 4. Nearly all CPC+ practices responded to the survey each year.
CPC+ Physician Survey	To understand how primary care physicians in CPC+ and comparison practices delivered care and experienced burnout, and how physicians in CPC+ practices perceived CPC+.	Surveyed a sample of primary care physicians in CPC+ and comparison practices in August–December of PY 3. Received survey responses from approximately 4,600 physicians, who represented nearly 80 percent of CPC+ practices and 60 percent of comparison practices.
Data practices reported to CMS	To provide insight into (1) how CPC+ practices approached the Comprehensive Primary Care Functions and related care delivery requirements, (2) the health IT and financial support practices received for that work, and (3) practice and practitioner participation.	Via the CPC+ Practice Portal, practices reported (1) care delivery requirements quarterly in PYs 1 and 2, twice a year in PY 3, and in winter only in PY 4; (2) their health IT vendor relationships and financial support received from payer partners, annually; and (3) number of practitioners, monthly.
Interviews with a representative sample of deep-dive practices	To provide insight into how CPC+ practices approached the Comprehensive Primary Care Functions and related care delivery requirements, their experiences with CPC+ payments, and barriers to improvement. We refer to these practices as “deep-dive” practices.	Interviewed a diverse group of 81 CPC+ practices, in person, in March–May of PY 2; 59 practices, by phone, in March–May of PY 3; and 51 practices, by phone, in February–April of PY 5.
Interviews with practices that exited CPC+	To understand reasons for exiting CPC+.	Interviewed a sample of practices that exited CPC+, in PYs 2–4.
 Medicare FFS beneficiaries' expenditures, service use, quality of care, and experiences with care		
Medicare FFS claims	To select the comparison group and estimate the impacts of CPC+ on expenditures, utilization, and selected measures of quality of care for Medicare FFS beneficiaries.	CMS provided Medicare FFS enrollment and claims data for four years before CPC+ began and all PYs of CPC+.
CPC+ Beneficiary Survey	To understand the experiences of beneficiaries receiving care from CPC+ and comparison practices.	Surveyed cross-sectional samples of Medicare FFS beneficiaries who received care from CPC+ and comparison practices in the 6 months before survey administration. Surveyed patients in May–December of PY 2 and February–May of PY 3. Received survey responses from approximately 17,000 beneficiaries in PY 2 and 14,000 beneficiaries in PY 3. Respondents represented about 80 percent of CPC+ practices and more than 40 percent of comparison practices each year.

Table 1.2. (continued)

Data source	Purpose	Sample and timing
Interviews with a sample of patients at deep-dive practices	To understand patients' experiences and perceptions of longitudinal care management.	Interviewed 40 patients receiving longitudinal care management from 12 CPC+ practices, by phone in October–December of PY 3.
Data on practice and provider characteristics purchased from IQVIA^a	To select the comparison group ^b , support beneficiary attribution, and define practice characteristics.	Five yearly practitioner rosters purchased from IQVIA for years 2016 through 2020: SK&A data from October 2016, October 2017, and October 2018; OneKey data from October 2019 and October 2020.

Note: We provide the survey instrument, details about survey administrations, and data tables for the payer survey in Appendix 3.A and the practice survey in Appendix 3.B. Detailed information on the physician and beneficiary surveys is in Appendix 3.C and Appendix 5.A, respectively, of the evaluation's third annual report (Peikes et al. 2021). Appendix 4.A provides data tables showing practices' self-reported approaches to delivering care based on the data they reported to CMS using the CPC+ Practice Portal. Appendix 4.B details the methodological approach and interview protocols for the deep-dive practice study. Appendix 4.C provides an overview of the methods and findings from the study of exemplar practices' efforts to reduce acute hospitalizations.

Appendix 5.A provides detailed results over the first four program years of CPC+. Appendices 5.B, 5.C, and 5.E provide additional details on the methodological approach for the impact evaluation related to attribution, claims-based measures, and regression analysis. Appendices 5.D, 5.F, 5.G, and 5.I describe supplemental analyses conducted to test the robustness of our main impact findings, including participation in other initiatives by CPC+ and comparison practices, long-term effects of CPC Classic, the triple-differences model, and whether COVID-19 differentially affected CPC+ versus comparison practices. Appendix 5.H examines the change in prescription opioid overuse among CPC+ and comparison beneficiaries over time.

Appendix 5.J provides results from a scalability analysis in which we estimate what the impact would be if CMS were to scale up Track 1 of CPC+.

Sample sizes vary slightly across figures and tables in the report due to survey and item nonresponse for survey data and practice-reported data and other missing data such as missing practice characteristics for subgroup analyses. We include the relevant sample size in the notes to each exhibit.

^a IQVIA is a commercial health data and analytics firm that maintains and verifies lists of practitioners who work in practices throughout the country. In 2019, IQVIA discontinued the SK&A database and replaced it with the OneKey database. The purchased yearly rosters were based on SK&A data for the baseline period (2016), PY 1, and PY 2 of CPC+; starting in 2019 (PY 3), the purchased yearly rosters are based on the OneKey database.

^b As noted under relevant tables, we also used a range of publicly and privately available data sets such as CMS's master data management (MDM) data, CMS's Medicare EHR Incentive Program data, CMS's Medicare Geographic Variation data, and the Area Resource File.

EHR = electronic health record; FFS = fee-for-service; IT = information technology; PY = Program Year.

1.2.3. The focus for this report

The findings in this report reflect a rigorous, independent evaluation of CPC+ four years through the five-year model, describing the experiences of payers, practices, health IT vendors, and patients in the 14 regions that joined CPC+ in 2017. In particular, we focus on PY 4, which coincides with calendar year 2020, and we highlight new findings and changes from the previous three program years. In this report, we also present findings on how the COVID-19 pandemic affected practices' experiences implementing CPC+ and their ability to provide care to their patients.

In this report, we do not analyze or report on the practices that joined CPC+ in 2018, as these practices account for only 5 percent of the total number of practices participating in CPC+, and the first-year implementation experiences of practices and payers in the regions that joined CPC+ in 2018 were very similar to the first-year experiences of those that joined CPC+ in 2017 (Anglin et al. 2020).

In the chapters that follow, we describe stakeholder involvement (Chapter 2), practice transformation supports (Chapter 3), and changes in care delivery (Chapter 4) over the first four years of CPC+. We also track the four-year model impacts of CPC+ on key claims-based outcomes, including Medicare expenditures, utilization, and quality of care for patients enrolled in Medicare FFS (that is, Medicare FFS beneficiaries) (Chapter 5). A future report will cover the final year of CPC+ and additional research questions.



Want to learn more about CPC+?

Additional reports are available here:

<https://innovation.cms.gov/initiatives/Comprehensive-Primary-Care-Plus>

- The Appendices to the Fourth Annual Report (Laird et al. 2022) provide additional information about the topics covered in this report.
- Earlier reports cover the first three program years (Peikes et al. 2019a; Anglin et al. 2020; Peikes et al. 2021), with more detailed information about:
 - The first program year, included in the First Annual Report Supplemental Volume (Anglin et al. 2019) and Appendices to the Supplemental Volume (Peikes et al. 2019b).
 - The second program year, included in the Second Annual Report Supplemental Volume (Petersen et al. 2020) and Appendices to the Supplemental Volume (Ghosh et al. 2020).
 - The third program year, included in the Appendices to the Third Annual Report (Orzol et al. 2021).

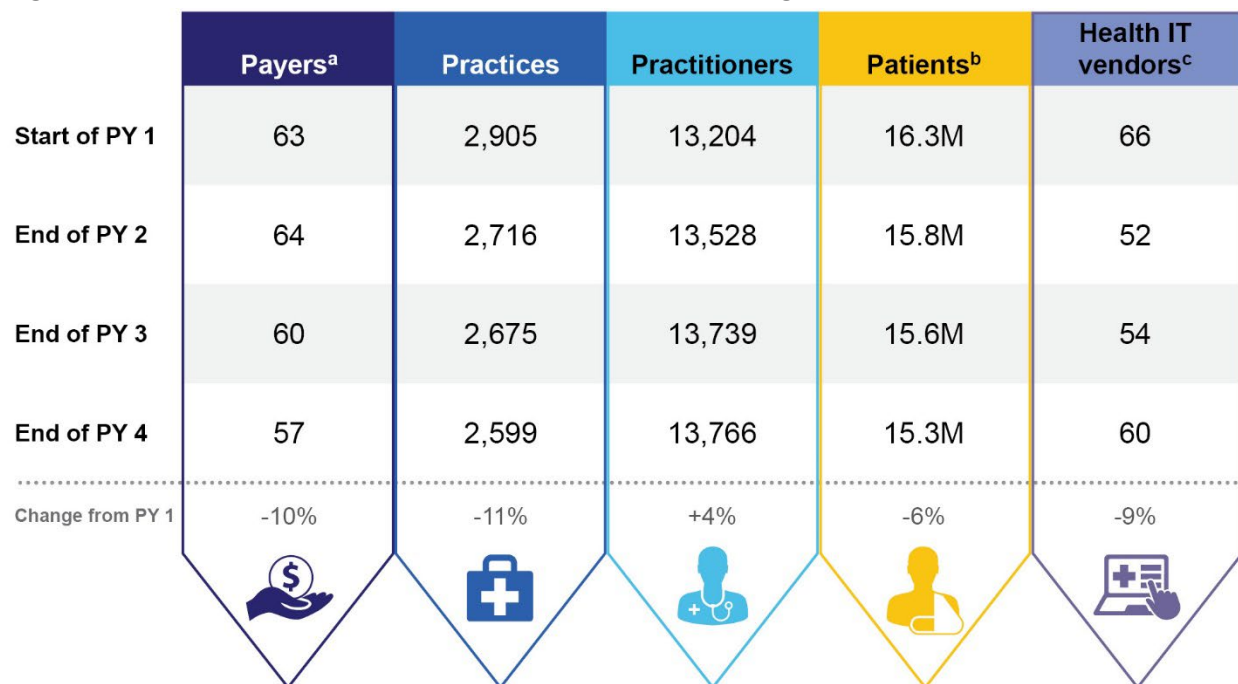
2. CPC+ PARTICIPATION AND PARTNERSHIP



Key takeaways

Across the first four program years, in the 14 regions that began CPC+ in 2017 and are the focus of this report,³ CMS partnered with a total of 72 private and public payers and 87 health IT vendors to support the efforts of 2,999 primary care practices to achieve the Comprehensive Primary Care Functions. Participation among these key stakeholders has remained relatively steady over the first four years of CPC+, with some stakeholders leaving and some joining each year. Despite the major disruptions caused by the COVID-19 pandemic, we did not see more practices closing, merging, or exiting CPC+ in PY 4 (2020) than we saw in prior years. By the end of Program Year (PY) 4, CMS was partnering with 57 payers and 60 health IT vendors to support 2,599 primary care practices serving nearly 15.3 million patients (Figure 2.1).

Figure 2.1. Stakeholders involved in CPC+ in PY 1 through PY 4, 2017 Starters



Source: Mathematica's analysis of PY 1–PY 4: CPC+ practice, payer, and health IT tracking data provided by CMS; practice-reported financial data; and CMS Medicare FFS attribution data.

^a Payer partners that operate in more than one region are counted separately for each region in which they partner. Seventy-two payers have ever partnered with CMS in the 14 CPC+ regions. See Table 2.1 for more information.

^b Patient count for PY 1 reflects the number of patients served by CPC+ practices at the end of the first program year. Patient counts reflect all patients served by CPC+ practices, including those attributed to CPC+ by CMS and payer partners and those not attributed to CPC+.

^c Health IT vendors include vendors who formed partnerships with Track 2 practices. The health IT vendor count for PY 1 reflects the number of health IT vendors partnering with Track 2 practices at the end of the first program year. FFS = fee-for-service; IT = information technology; M = million; PY = Program Year.

³ See Appendix 2.A for participation counts among the four regions that started CPC+ in 2018.

The CPC+ practices participating at the end of PY 4 continue to be diverse. They range from small (one to two primary care practitioners [PCPs]) to large (six or more PCPs); include independent and system-owned practices; are located in rural, urban, and suburban areas; and have varying levels of experience with primary care transformation. While diverse, practices participating in CPC+ had notable differences from other primary care practices in their regions at the start of CPC+, and these differences grew as practices exited CPC+. Practices not participating in CPC+ were more often independent, smaller, without prior primary care transformation experience, and/or served less healthy and less advantaged beneficiaries; practices with these characteristics were also more likely to exit CPC+.



Methods: Data sources on participation

To describe participation, we used qualitative and quantitative data from Table 1.2. The data we use in this chapter include participation rosters; surveys of payer partners and practices; administrative data on practice characteristics; claims data; and interviews with samples of practices that switched health IT vendors between PY 2 and PY 3, payer partners, and regional conveners.

(Table 1.2 provides full details on all data sources.)

The numbers of payer partners, practices, practitioners, and health IT vendors are those reported as of December 30 of each program year.^a

^a We determine participation at the end of each PY using December 30, rather than December 31, because a bulk of withdrawals from CPC+ for the next program year are finalized on December 31.

2.1. Payer partners

\$ Since CPC+ began, CMS has partnered with 72 private and public payers to bolster support for practices in the regions that began CPC+ in 2017. Those regions are the focus of this report. Sixty-three of these payer partners joined in January 2017, 8 joined in January 2018, and 1 joined in March 2020.⁴

⁴ Payer partners are entities—such as health insurance companies and governments—that pay providers for health care services. We use “payer partners” to refer to non-CMS payers that partner with CMS in CPC+. The total numbers of payer partners in this report differs from the number on the CMS CPC+ website; this evaluation counts payers separately for each region in which they partnered, because some payers that partner in multiple regions vary their CPC+ approach across regions. However, CMS counts multiregion payers only once and reports the number of partnerships to date.

2.1.1. Payer partnerships over time

At the end of PY 4, 57 (or 79 percent) of the 72 payer partners were still partnering in these 14 regions (Table 2.1). Fifty-two of these 57 payer partners had been participating in CPC+ since PY 1. These 52 payer partners accounted for more than 99 percent of all lives (or people) attributed by payer partners to CPC+ practices at the beginning of PY 1. The 15 payers that withdrew from CPC+ were small and had few or no lives attributed to CPC+ practices, and many of them were operating in only one region.⁵

Table 2.1. Number of payer partners, by program year

Fifteen small payer partners withdrew from CPC+ during the first four program years. At the end of PY 4, 57 payer partners in 2017 regions were still partnering in CPC+.

	Partnering at the start of PY 1	Partnering at the end of PY 2	Partnering at the end of PY 3	Partnering at the end of PY 4
CPC+ payer partners				
Payers that joined CPC+ in 2017 (PY 1)	63 ^a	56	55	52
Payers that joined CPC+ in 2018 (PY 2)	n.a.	8	5	4
Payers that joined CPC+ in 2019 (PY 3)	n.a.	n.a.	0	0
Payers that joined CPC+ in 2020 (PY 4)	n.a.	n.a.	n.a.	1
Total number of payer partners	63	64	60	57
Single versus multi-regional presence				
Payers partnering in one region	47	43	43	39
Payers partnering in more than one region	16	21	17	18
Number of unique payers partnering in multiple regions	5	6	5	6

Source: Mathematica's analysis of PY 1–PY 4 CPC+ payer tracking data provided by CMS.

Note: Differences in the number of payer partners between years are a result of payer partners that joined CPC+ in PYs 2 and 4 or payer partners that withdrew from CPC+ (two payer partners in PY 1, five in PY 2, four in PY 3, and four in PY 4). Payers that are partnering in more than one 2017 region are counted once for each region in which they are partnering. Thus, payers that are partnering in multiple regions are included multiple times in these counts.

^a By the end of PY 1, 61 payers were still partnering in CPC+.

n.a. = not applicable; PY = Program Year.

⁵ Payer partners attribute or assign lives to CPC+ practices (typically to the practice that provided the largest share of the patient's primary care visits) to determine the level of CPC+ payments each practice should receive. Among the 15 payer partners that withdrew, 2 left in PY 1, 5 in PY 2, 4 in PY 3, and 4 in PY 4.

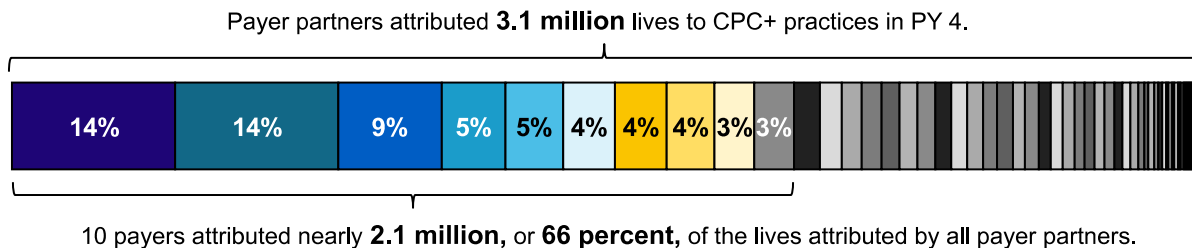
2.1.2. Characteristics of the payer partners

According to the CPC+ Payer Survey, 62 percent of payer partners included more than one line of business in CPC+ in PY 4, consistent with prior program years. The most common lines of business were commercial insurance (offered by 64 percent of payer partners) and Medicaid managed care (offered by 56 percent of payer partners).

A small number of CPC+ payer partners accounted for a large share of the lives attributed to CPC+ practices.⁶ Ten payer partners accounted for 66 percent of the lives attributed to CPC+ practices by payer partners in PY 4 (Figure 2.2). Each of these ten payer partners attributed more than 100,000 lives to CPC+ practices, with a median of approximately 146,000 attributed lives, consistent with the numbers in prior years.

Figure 2.2. Percentage of total lives that each of the 57 payer partners attributed to CPC+ practices in PY 4

Consistent with the first three program years, in PY 4, 10 payer partners together attributed nearly 2.1 million, or 66 percent, of the 3.1 million lives attributed to CPC+ practices.



Source: Mathematica's analysis of PY 4 practice-reported financial data submitted to CMS.

Note: N = 2,599 CPC+ practices. Each rectangle represents one payer partner. The width of each rectangle represents the number of lives attributed by the payer partner. Individual percentages may not sum to totals due to rounding.

PY = Program Year.

⁶ Lives attributed to CPC+ practices are patients included in the CPC+ model, either by CMS or payer partners. CMS is the payer with the most attributed lives in CPC+. In PY 4, CMS attributed 2.2 million lives to CPC+ practices. CPC+ practices serve other patients who are not attributed to CMS or payer partners; Figure 2.2 counts all patients served by CPC+ practices, regardless of attribution.

2.2. Practices

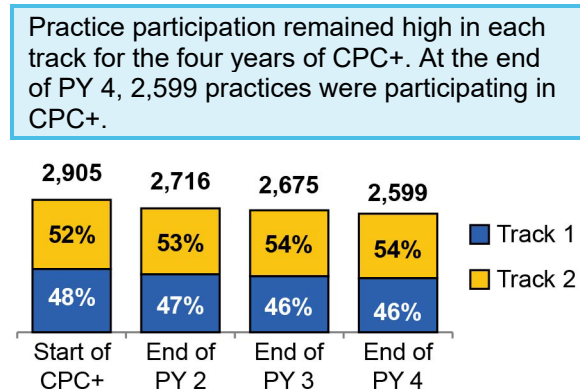


Practice participation in CPC+ remained high across the first four program years, and participating practices continued to be diverse.

2.2.1. Practice participation over time

In PY 1, 2,905 practices joined CPC+. CMS added 74 practices in PY 3 and 20 practices in PY 4. Of these 94 practices, 59 were already participating but had mistakenly applied as a single site despite having multiple locations and 35 practices split from other CPC+ practices to form their own practices. During the first four program years, 400 practices (or 13 percent of the 2,999 practices that ever participated) withdrew from CPC+, about 100 practices exiting each year. Despite the major disruptions and financial stress caused by the COVID-19 pandemic, we did not see more practices closing, merging, or exiting CPC+ in PY 4 (2020) than we saw in prior years. At the end of PY 4, 2,599 practices were participating in CPC+: 1,185 in Track 1 and 1,414 in Track 2 (Figure 2.3).

Figure 2.3. Number of participating practices in PYs 1–4, by track



Source: Mathematica's analysis of PY 1—PY 4 CPC+ practice tracking data provided by CMS.

Notes: N = 2,999 CPC+ practices that ever participated in CPC+.

PY = Program Year

Although the number of practices participating in CPC+ has decreased by 11 percent over time, the total number of PCPs in CPC+ increased by 4 percent. There were 13,204 PCPs at participating practices at the start of CPC+ and 13,766 at the end of PY 4, with small growth each program year. Among the 2,512 practices that participated in CPC+ all four program years, the average number of PCPs per practice increased from 4.8 at the start of CPC+ to 5.4 at the end of PY 4. This translated into an 11 percent increase in PCPs in these practices, from 12,120 at the start of CPC+ to 13,484 at the end of PY 4.

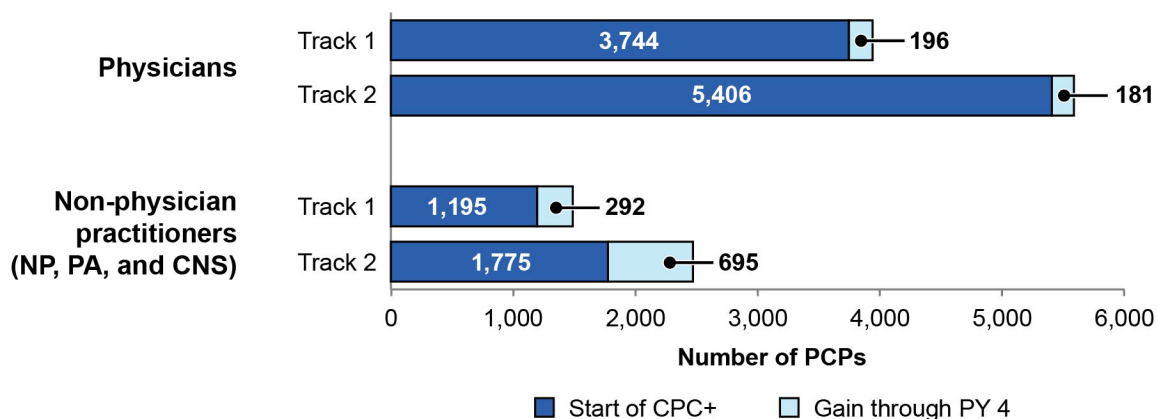
The addition of non-physician practitioners at CPC+ practices, particularly nurse practitioners, drove the increase in PCPs over time. Among practices that participated in CPC+ all four program years, three-quarters of the increase in PCPs came from practices adding non-physician practitioners (i.e., nurse practitioners [NPs], physician assistants, and clinical nurse specialists) (Figure 2.4). The increases in non-physician practitioners were not evenly distributed among different types of practices and practitioners:

- The addition of non-physician practitioners drove increases in the number of practitioners from practices in both tracks, but non-physician practitioners represented a higher percentage of the increase in Track 2 than Track 1 practices (79 percent versus 60 percent).
- The number of non-physician practitioners across practices in both tracks increased by 33 percent (from 2,970 to 3,957) and most of the change was driven by the number of NPs more than tripling, from 541 at the end of PY 1, when CMS began collecting this information, to 1,731 at the end of PY 4.

- Fifty-eight percent of the increase in non-physician practitioners came from the 43 percent of practices that did not report having this type of staff at baseline; the remaining 42 percent came from the 57 percent of practices that had this staff at baseline. Overall, the percentage of practices in CPC+ with non-physician practitioners increased from 57 percent at the start of CPC+ to 75 percent by the end of PY 4.

Figure 2.4. Change in number of PCPs in practices that participated in CPC+ all four program years, by practitioner type and track

Practices in both tracks increased the number of PCPs throughout the first four program years. The largest increases were from Track 2 practices adding non-physician practitioners.



Source: Mathematica's analysis of PY 1–PY 4 CPC+ practice tracking data provided by CMS.

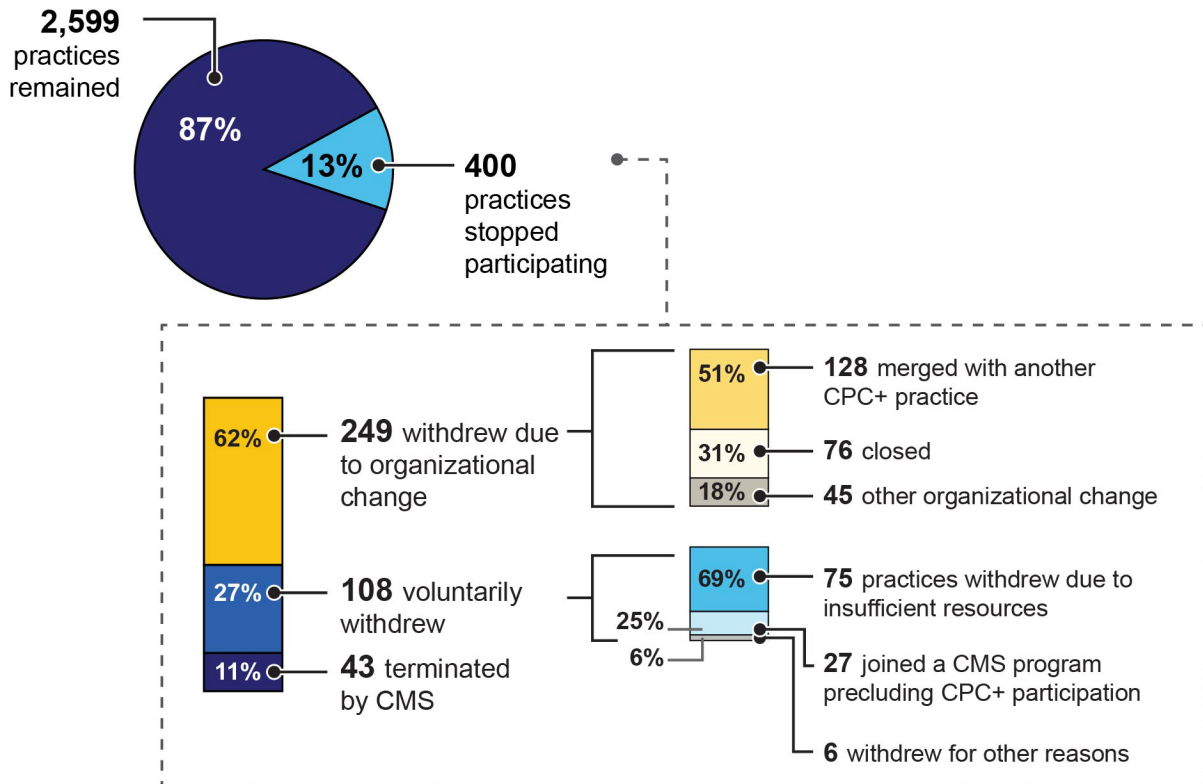
Notes: N = 2,512 CPC+ practices that participated in CPC+ in all four program years.

CNS = clinical nurse specialist; NP = nurse practitioner; PA = physician assistant; PCP = primary care practitioner; PY = Program Year.

Around two-thirds of practices that stopped participating in CPC+ did so because of organizational changes. Of the 400 practices (or 13 percent) that stopped participating in CPC+ by the end of PY 4, 249 practices withdrew due to an organizational change, such as closing, merging with another practice, or being acquired by an organization that prohibits them from participating in CPC+. Another 108 practices voluntarily withdrew from CPC+, most commonly citing insufficient resources, such as financial, staffing, or IT resources. Of the 17 practices we interviewed that voluntarily withdrew in PY 4, none cited the COVID-19 pandemic as a factor in their withdrawal. CMS terminated the remaining 43 practices for failing to comply with CPC+ requirements (Figure 2.5). (For characteristics of practices that stopped participating, see Closer Look box.)

Figure 2.5. Reasons practices stopped participating in CPC+ during the first four program years

Nearly two-thirds of the 400 practices that stopped participating in CPC+ did so due to an organizational change. About one-quarter voluntarily withdrew, most commonly due to insufficient resources to continue participating. The remaining 43 practices were terminated by CMS.



Source: Mathematica's analysis of PY 1–PY 4 CPC+ practice tracking data provided by CMS.

Note: N = 2,999 CPC+ practices that ever participated in CPC+.



Closer look: Characteristics of practices that withdrew or were terminated from CPC+ in PYs 1–4

Five percent of the practices that ever participated in CPC+ (151 practices of 2,999) were no longer participating in CPC+ by the end of PY 4 because they had voluntarily withdrawn or were terminated by CMS. Compared with practices that remained in CPC+, these practices were *more likely* to:^a

- Be in Track 1 (71 percent among exited practices versus 46 percent among remaining practices),
- Have one to two PCPs (62 versus 27 percent),^b and
- Indicate that the care delivery reporting requirements were very burdensome (40 versus 21 percent).

These practices were *less likely* to:

- Be owned by a hospital or health system (31 versus 56 percent),^b
- Have primary care transformation experience before CPC+ (37 versus 63 percent)^b and
- Report that CPC+ improved the quality of care they provided to patients by a lot (26 versus 55 percent).

Total payments for CPC+ participation^c to the practice may be a more important driver of withdrawals and terminations than per-practitioner payments:

- Median payments per practice within each track were lower for practices that voluntarily withdrew or were terminated compared to practices that remained in CPC+ (for Track 1, \$51,574 among exited practices versus \$92,508 among remaining practices; for Track 2, \$132,937 among exited practices versus \$208,276 among remaining practices).
- However, median payments calculated per practitioner were comparable within the tracks (for Track 1, \$35,412 versus \$32,073; for Track 2, \$57,982 versus \$52,882).

^aSee Appendix 2.B for a more detailed comparison of exited and remaining practices.

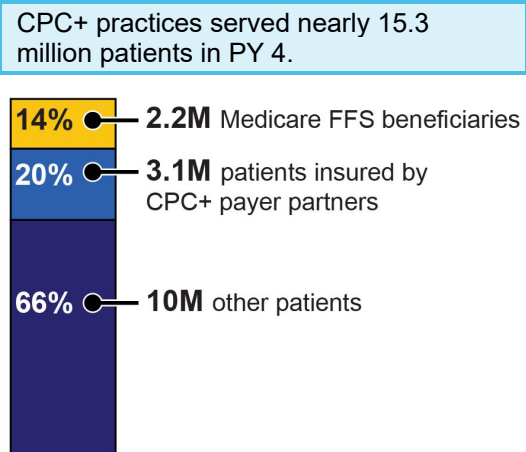
^bWe observed similar patterns of differences in these characteristics among practices that chose to participate in CPC+ and those that did not, as described in Section 2.2.2.

^cPayments for participation include those from CMS and other payers and are distinct from payments for performance, which practices received only if they met cost, utilization, and/or quality targets. CMS care management fees make up the bulk of CMS's payment for participation in CPC+. See Chapter 3 for more information on CPC+ payments.

CPC+ practices served approximately 15.3 million patients in PY 4. This number is down slightly (6 percent) from the 16.3 million patients at the start of CPC+, with small decreases each program year. The 15.3 million patients include about 2.2 million Medicare fee-for-service (FFS) beneficiaries and 3.1 million patients attributed to CPC+ practices by payer partners (Figure 2.6). The remaining 10 million patients were uninsured, insured by non-partnering payers, or insured by partnering payers but attributed to a non-CPC+ practice.⁷

The median number of patients per practice was steady across program years. The median total number of patients served per practice increased only slightly from 4,399 in PY 2 to 4,509 in PY 3, and 4,624 in PY 4.⁸ The median number of patients per practice attributed to CPC+ by CMS and payer partners, which is a subset of practices' total patient panels, was also steady across program years (1,345 in PY 2, 1,364 in PY 3, and 1,318 in PY 4). The slight increase in the median total number of patients served per practice is due to practices with smaller patient panels being more likely to exit CPC+, rather than increases in panel size for practices still participating.

Figure 2.6. Patients served by CPC+ practices in PY 4



Source: Mathematica's analysis of PY 4 practice-reported financial data submitted to CMS and CMS payment files.

Note: N = 2,599 CPC+ practices that were participating at the end of PY 4.

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

2.2.2. Characteristics of practices participating in CPC+ in PY 4

CPC+ includes a diverse group of practices (Figure 2.7) with characteristics that have remained consistent from PY 1 through PY 4. At the end of PY 4:

- **Practices varied by size, ownership, and geographic location.** Practices of all sizes participated in CPC+'s two tracks. About one-half of Track 1 and Track 2 practices were owned by hospitals or health systems. About three-quarters of practices in each track were located in urban areas, and the remaining practices were located in rural and suburban areas.
- **On average, Track 2 CPC+ practices were slightly larger than Track 1 practices.** About one-third of Track 1 CPC+ practices are small (one to two PCPs), and about one-quarter are large (six or more PCPs). Conversely, about one-quarter of Track 2 practices are small, and about one-third are large. CPC+ practices had on average 4.6 and 5.7 PCPs per Track 1 and Track 2 practice, respectively.

⁷ Partnering payers may use different rules for patient attribution than CMS.

⁸ We do not include data from PY 1, because the methodology used to determine attributed lives changed significantly from PY 1 to PY 2.

- **Many Track 1 and Track 2 practices had experience with other primary care transformation initiatives.** Before joining CPC+, 48 percent of Track 1 practices and 72 percent of Track 2 practices had participated in primary care transformation initiatives.⁹ In addition, in PY 4, 51 percent of Track 1 practices and 46 percent of Track 2 practices concurrently participated in the Medicare Shared Savings Program (SSP) and CPC+.¹⁰

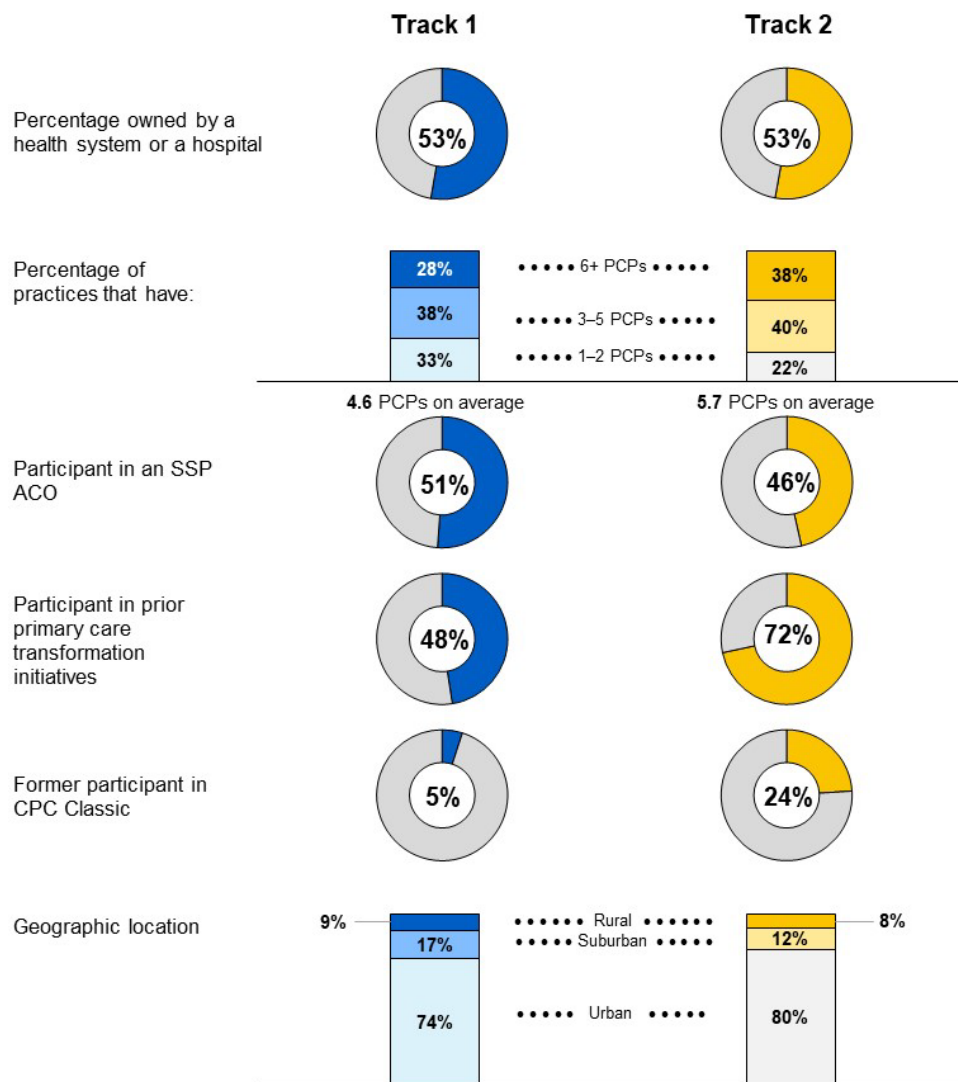
While diverse, practices participating in CPC+ have some notable differences from other primary care practices in their regions. CPC+ practices are, on average, larger (average of 5.5 practitioners at CPC+ practices versus 3.5 for all practices in the regions), more likely to be owned by a hospital or health system (55 percent versus 31 percent), have experience with primary care transformation models (for example, 52 percent versus 25 percent had Patient-Centered Medical Home recognition), and serve slightly healthier and more advantaged Medicare fee-for-service beneficiaries than practices that did not participate (Anglin et al. 2019; Singh et al. 2020).

⁹ We define participation in prior primary care transformation initiatives as participation in CPC Classic or the Multi-payer Advanced Primary Care Practice Demonstration or having medical home recognition before CPC+ (as recognized by the National Committee for Quality Assurance, The Joint Commission, the Accreditation Association for Ambulatory Health Care, the Utilization Review Accreditation Commission, or state medical-home recognition status).

¹⁰ CMS permits CPC+ practices to belong to an Accountable Care Organization (ACO) that participates in SSP, which is a CMS program. As described in Chapter 3, Medicare FFS rewards CPC+ practices for their performance on cost, utilization, and quality measures differently based on whether these practices also participate in SSP.

Figure 2.7. Characteristics of practices that participated in CPC+ through the end of PY 4, by track

CPC+ continued to serve a diverse set of practices at the end of PY 4. Practices in both tracks varied in size and were located in rural, urban, and suburban areas; many had transformation experience, and about half of practices in each track were also participating in an SSP ACO. Track 2 practices were slightly larger on average and more likely than Track 1 practices to have participated in CPC Classic or other primary care transformation initiatives before CPC+.



Source: We measured the time-varying practice characteristics of practice size, SSP participation status, and ownership status at the end of PY 3 to capture practices' characteristics at the start of PY 4. We measured geographic location, participation in CPC Classic, and experience with primary care transformation before CPC+ began, because these characteristics are unlikely to change during CPC+. The data are derived from Mathematica's analysis of (1) CMS's CPC+ practice tracking data for number of PCPs (as of December 2019) and SSP participation status (as of January 2020); (2) OneKey data for ownership status (as of October 2019); (3) Area Health Resource File data for geographic location at baseline (2016); and (4) data from CMS and organizations that offer medical-home recognition for participation in prior primary care transformation initiatives before CPC+ (2011–2017) and CPC Classic.

Note: N = 2,599 CPC+ practices (1,185 Track 1 practices and 1,414 Track 2 practices) that were participating at the end of PY 4. Individual percentages may not sum to 100 percent due to missing data. We considered a practice to have participated in CPC Classic if it enrolled in the initiative and did not drop out within the first five months.

ACO = Accountable Care Organization; PCP = primary care practitioner; PY= Program Year; SSP = Medicare Shared Savings Program.

2.3. Health IT vendors



CMS requires health IT vendors to support Track 2 practices' work on the five Comprehensive Primary Care Functions by providing advanced health IT functions and supporting the practices in using them. Each Track 2 practice is required to formally partner with a health IT vendor via a memorandum of understanding.¹¹

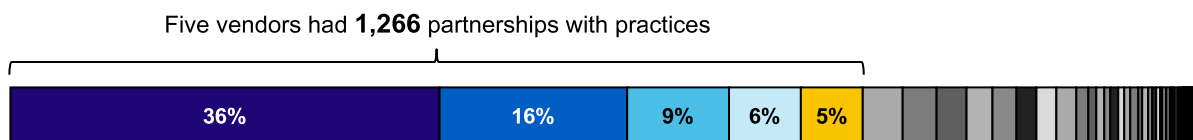
2.3.1. Health IT vendor partnerships over time

Fewer vendors continue to partner with Track 2 practices in PY 4 than did in PY 1. In PY 1, Track 2 practices that joined CPC+ in 2017 partnered with 66 distinct health IT vendors. The number of health IT vendor partners decreased to 52 in PY 2 but grew in subsequent years, up to 54 in PY 3¹² and 60 in PY 4. The net increase of six vendors between PY 3 and PY 4 resulted from seven vendors newly partnering with Track 2 practices in PY 4 and two vendors merging.

Health IT vendor partnerships with CPC+ practices remain highly concentrated among a small number of vendors, with five vendors partnering with 85 percent of Track 2 practices at the end of PY 4. The level of concentration in PY 4 increased from 74 percent in PY 1, but most of the increase happened between PY 1 and PY 2.¹³ Because practices partner with multiple vendors, these five vendors together accounted for 1,266 partnerships with practices, which is 72 percent of all partnerships (Figure 2.8). In contrast, there were many vendors working with a few number of practices: the 40 vendors with the fewest partnerships together accounted for only 7 percent of all partnerships.

Figure 2.8. Percentage of partnerships with Track 2 practices that each vendor had during PY 4

Five vendors accounted for more than 70 percent of all partnerships; together, they partnered with 85 percent of Track 2 practices.



Source: Mathematica's analysis of PY 4 practice-reported health IT data submitted to CMS.

Note: N = 1,767 vendor partnerships with 1,455 Track 2 practices that participated in CPC+ at any time during PY 4. Each rectangle represents one vendor. The width of the rectangle indicates the number of Track 2 practices that partnered with each vendor. Among Track 2 practices, 1,176 partnered with one health IT vendor, and 279 (19 percent) partnered with more than one health IT vendor. Because 19 percent of Track 2 practices worked with multiple vendors, five vendors partnered with 85 percent of Track 2 practices, representing 72 percent of total partnerships. Individual percentages may not sum to totals due to rounding.

PY = Program Year.

¹¹ Track 1 practices are also required to use Certified Electronic Health Record Technology and work with health IT vendors to report electronic clinical quality measures (eCQMs) to CMS. However, because CMS does not require these relationships to be formalized among Track 1 practices, we do not discuss them in this report.

¹² We updated our previous calculations from PY 3 to reflect vendor merges more accurately.

¹³ Since PY 2, the "Top 5" health IT vendors (those that have partnered with the largest number of practices) have remained the same.

Fewer practices continue to partner with multiple vendors in PY 4 than did so in PY 1.¹⁴

The percentage of practices working with multiple vendors fell from 27 percent in PY 1 to 12 percent in PY 2 and increased slightly in each subsequent PY (up to 15 percent in PY 3 and 19 percent in PY 4).

A small proportion of Track 2 practices changed EHR vendors in PY 4, consistent with prior years. Each program year, a small proportion of Track 2 practices change their electronic health record (EHR) vendors. In PY 4, 6 percent of Track 2 practices changed EHR vendors, compared with 3 percent in PY 3 and 10 percent in PY 2. In summer of PY 3, we interviewed 11 Track 2 practices that had changed their vendors between PY 2 and PY 3; practices most commonly reported changing their vendor partnerships to standardize software used across practices in a health system or for other reasons unrelated to CPC+. However, a few of these practices reported that they changed their vendor partnerships to meet CPC+ health IT requirements, such as the requirement to use certified technology to report eCQMs.

2.3.2. Characteristics of the health IT vendors

Characteristics of the offerings of health IT vendors partnering with Track 2 practices remained consistent with prior years. Half of vendor partners offered a full-featured EHR in PY 4; 35 percent provided population health management, information exchange, and reporting; and the remaining 15 percent of vendors offered narrower IT solutions (for example, software to help practices with regulatory compliance). This represents a slight increase between PY 3 and PY 4 of vendors offering population health or other products, rather than full-featured EHRs (50 percent in PY 4, compared with 42 to 44 percent in prior years).

¹⁴ Each year, participating practices are asked to confirm or update their health IT vendor partnerships for CMS in the CPC+ portal. In PYs 1–3, we used data on only newly verified (either confirmed or updated) partnerships to determine current vendor participation. However, in PY 4, perhaps due to pandemic-related demands, fewer practices than usual confirmed or updated their health IT vendor partnerships in the portal. We decided to include these unconfirmed partnerships in the analysis for PY 4. As a result, our analyses might overestimate the number of active vendor partnerships and underestimate the number of vendor changes.

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3. PAYER AND HEALTH IT VENDOR SUPPORT

Key takeaways



To support CPC+ practices in delivering advanced primary care, CPC+ provides enhanced and alternative payments, data feedback, and individualized and group learning supports, and requires Track 2 practices to partner with vendors to use advanced health IT functionalities. As in the first three program years, CMS and payer partners continued to provide robust supports to CPC+ practices in Program Year (PY) 4. Beginning in early PY 4, the COVID-19 pandemic caused unprecedented, pervasive disruptions that led CMS and payer partners to implement several temporary changes to payments and other supports to practices.

CPC+ payments

Payers' payment changes during the COVID-19 pandemic. In 2020, the major upheaval caused by the COVID-19 pandemic led payers—including CMS and CPC+ payer partners—to introduce payment changes, particularly for telehealth, to ease financial pressures on providers and reduce access barriers for patients. These changes included coverage expansions for telehealth visits; payment rate increases to provide parity between telehealth visits and office visits; HIPAA waivers that enabled practices to use non-HIPAA-compliant technologies for telehealth visits during the pandemic; and grants, loans, and other financial assistance. While most of these payment changes were not specific to CPC+, their impact on CPC+ practices was substantial.

Practices' payment experiences during the COVID-19 pandemic. The financial impact of the COVID-19 pandemic varied widely among practices. While all deep-dive practices¹⁵ experienced major, sudden financial shortfalls in Spring 2020, as widespread shutdowns led to plummeting office visits and revenues, some practices rebounded quickly enough to limit the pandemic's overall impact on their 2020 finances. These practices generally either had a robust telehealth program already in place when the pandemic began, or were able to launch a program quickly and flexibly, on a wide scale. They also tended to have sufficient cash reserves available at the start of the pandemic, allowing them to weather shutdowns with few, if any, staff layoffs or furloughs. This, in turn, allowed them to ramp up patient care quickly as pandemic conditions improved. In contrast, practices whose 2020 finances were highly impacted by the pandemic struggled to implement telehealth in several ways: they faced logistical and technical challenges, as well as challenges involving patients who were not comfortable with or lacked access to the practices' telehealth platforms.

CPC+ payments—in particular, care management fees—helped practices weather the pandemic by allowing them to keep key staff such as care managers continuously employed. This allowed some practices to maintain important patient care activities—especially care management and care coordination—when FFS revenues fell sharply. Other practices used CPC+ payments to continue paying care managers but redeployed those staff to help with COVID-19 needs.

¹⁵ Table 1.2 contains descriptions of all data sources used in our evaluation, including in-depth interviews with a sample of practices that we refer to as deep-dive practices. As described in this chapter, we interviewed a sample of 21 deep-dive practices about CPC+ payments and practice finances.

The pandemic led some practices to become more receptive to alternative payments, but most of these practices still said they needed to better understand alternative payment models before they felt ready to commit to any new arrangements with payers. And, while the pandemic led payers in several regions to explore alternative payments, most payer efforts were still nascent. Only 1 out of 20 deep-dive practices interviewed about alternative payments reported reaching the stage of negotiating the terms of new capitation arrangements with payers as a response to the financial upheaval caused by the pandemic.

Enhanced payments. CMS and all payer partners continued to provide enhanced payments to the CPC+ practices with which they contract, in addition to usual payments for services. In PY 4, the median total enhanced payments CPC+ practices received were \$139,267 per Track 1 practice and \$272,647 per Track 2 practice, or 11 and 16 percent of total practice revenue, respectively. These median amounts have increased by slight to moderate increments in each year since PY 2 (the first year for which data were available).¹⁶ Payments for participation—which consist mostly of care management fees—accounted for 85 percent of total enhanced payments in PY 4, compared to 90 percent in PYs 2 and 3. The remaining 15 percent of enhanced payments were payments for performance, which practices received only if they met cost, utilization, and/or quality targets. Payments for performance have increased substantially since PY 2, largely driven by an increase in shared savings earned by practices belonging to Shared Savings Program (SSP) Accountable Care Organizations (ACOs) from PY 2 to PY 4, while payments for participation have remained stable over the same period.

Median payments were higher for Track 2 than Track 1 practices because CMS and about one-half of payer partners continued meeting their commitment to provide Track 2 practices with larger enhanced payments to reflect their more advanced care delivery activities. The other half of payer partners provided the same level of enhanced payments to CPC+ practices in both tracks. This proportion has remained unchanged since PY 2 (the first year these data became available), and continued to fall short of CMS's goal that *all* payer partners provide greater financial support for Track 2 practices.

Consistent with previous years, 60 percent of the total enhanced payments practices received in PY 4 were unique to CPC+, whereas the remaining 40 percent represented funding available to at least some practices participating in payers' other value-based payment programs outside of CPC+. CMS continued to provide most of the unique funding for CPC+ practices (96 percent in PY 4), reflecting (1) the higher care management fees paid for Medicare fee-for-service (FFS) beneficiaries, and (2) that many payer partners used existing value-based payment programs to meet their CPC+ commitment.

¹⁶ Because data on both enhanced fee-for-service payments and payments for performance became available only in PY 2, we were not able to calculate the amount of total enhanced payments paid in PY 1. Care management fees (the dominant component of both payments for participation and total enhanced payments), for which data were available for all four program years, increased over that time period.

Fifty-six percent of all CPC+ practices reported on the PY 4 Practice Survey that they considered CPC+ payments from CMS adequate or more than adequate for the work CPC+ required. A smaller proportion (43 percent) rated *payer partners'* payments adequate or more than adequate. Ratings of both CMS and payer partners' payments have improved over time, consistent with the upward trend in enhanced payment amounts since PY 2. Even among the 28 percent of practices that rated payments from both CMS and payer partners as inadequate, 88 percent still found these payments useful for improving primary care.

In deep-dive interviews with practices about CPC+ payment in PY 4, the most frequently cited concern was inadequate CPC+ payments from payer partners, followed by uncertainty about how to sustain practice changes after CPC+ funding ends, lack of alignment among payers' payment approaches, and unclear or unfair payment approaches used by one or more payer partners. While most payment concerns remained stable over time, sustainability became a more pressing issue in PY 4, with one year remaining before CPC+ ends.

In PY 4, deep-dive practices continued to cite care management fees as the most useful type of CPC+ payment support that they received, by far. Practices used these large, stable, and prospectively paid payments as the main funding source for salaries of care managers, behavioral health providers, and other staff hired to improve care delivery.

Among practices that are eligible for CMS's prospectively paid, retrospectively reconciled Performance-based Incentive Payment (PBIP), total PBIP scores increased over the first four program years.¹⁷ Low utilization scores in PY 1 improved dramatically in subsequent program years. In PY 4, the median utilization score reached 96 out of a possible 100, as the COVID-19 pandemic substantially reduced hospitalizations and emergency department visits on a net basis.¹⁸ Median quality scores, already relatively high in PY 1, reached 100 in PY 3 and remained at that maximum level in PY 4. Because PBIPs are small relative to care management fees, practices reported that PBIPs alone did not provide strong incentives to change care delivery. However, the aggregate incentives practices faced from all their payers' value-based programs, including PBIPs, did motivate practices to take concrete steps to improve quality and control utilization.

Alternative payments. CMS and 16 percent of payer partners also provided Track 2 practices with alternative payments that shift away from FFS. No payer partners introduced new alternative payment approaches in PY 4, and the proportion providing alternative payments continued to fall far short of CMS's goal that all payer partners do so for Track 2 practices by the start of PY 2. Among the payer partners providing alternative payments to CPC+ practices, several used longstanding capitation arrangements that pre-dated CPC+. Unlike CMS, most of the payer partners offering alternative payments did so for both Track 1 and Track 2 practices.

In PY 4, most Track 2 practices still approached alternative payments with hesitancy, with more than three-quarters electing the minimum Comprehensive Primary Care Payment (CPCP) percentage (40 percent in PY 4) in CMS's hybrid payment approach. The coronavirus disease 2019 (COVID-19) pandemic caused some Track 2 practices to suspend or delay their implementation of face-to-face

¹⁷ Total PBIP scores, which consist equally of utilization and quality components, represent the percentage of maximum PBIP payments that practices were able to retain.

¹⁸ In addition to the direct effects of the pandemic on practice performance, as measured by PBIP scores, CMS also adjusted PY 4 PBIP scoring and recoupment methodologies in response to the pandemic. For a description of these changes, see Section 3.2.1.B.5.

alternative visits (such as home visits or office-based group visits), but for the many Track 2 practices still struggling with logistical challenges, lack of provider buy-in, and other barriers to moving away from FFS, progress in PY 4 likely would have been limited at best, even without the pandemic.

Other supports that CPC+ practices received

In PY 4, CMS and its partners continued to provide data feedback, learning system, and health IT support to practices. All CPC+ practices received learning and data feedback support from CMS, and all Track 2 practices received support meeting advanced health IT functionalities by partnering with health IT vendors. In addition, 98 percent of payer partners continued providing practices with data feedback reports on at least a quarterly basis, while 90 percent of payer partners continued providing learning supports to CPC+ practices that supplemented CMS's learning supports.

Data feedback support provides information to CPC+ practices based on aligned measures across payers, allowing practices to improve care for their patients. In PY4, 87 percent of practices reported using CMS's data feedback tool, and smaller percentages used feedback from other payers, similar to PY3. Many practices find feedback useful, but they also cited challenges such as limited actionability due to timeliness of claims-based measures. Feedback of aggregated data across payers was also provided in seven CPC+ regions in PY 4, three of which had been aggregating data since CPC Classic. Data aggregating organizations in six of the seven regions reported plans to secure funding for continued or expanded data aggregation efforts after CPC+ ends.

Learning support provides practices with information and resources on the Comprehensive Primary Care Functions and care delivery requirements, facilitates peer learning, and supports practices in improving CPC+ outcomes. While CMS continues to be the main source of learning support for CPC+ practices, 90 percent of payer partners continued to supplement CMS's learning supports with their own in PY 4, most commonly by providing practice coaching or group learning sessions. CMS continued to focus its learning strategy on greater regional flexibility and practice outcomes, while also adapting to provide flexible support related to the COVID-19 pandemic. Contractors subsequently adapted learning support materials to reach more practices by creating and disseminating durable learning products, such as the CPC+ Implementation Guide and CPC+ Connect. Practices continued to report they were more likely to use durable products (available on demand) than tailored supports (such as one-on-one coaching), just as they had in previous years. Practices also increased discussions around ways to sustain the changes they made during CPC+.

Health IT support includes requirements for the use of health IT by CPC+ practices as part of primary care transformation, along with vendor support to practices for implementing health IT functionalities. Track 2 practices have additional advanced health IT requirements. In PY 4, health IT vendors continued to offer the CPC+ functionalities to both CPC+ and non-CPC+ practices. The percentage of practices reporting that they found meeting health IT requirements burdensome has declined over time, with fewer than half reporting burden in PY 4. However, health IT functionalities has remained the lowest rated of all CPC+ supports from PY 1 to PY 4. Around half of CPC+ practices surveyed reported health IT vendor support was somewhat or very useful for improving primary care in PY 4, consistent with earlier years.

Effect of the pandemic on other supports. Data aggregation and feedback activities continued during the pandemic in PY 4, but data aggregating organizations reported that practices were less engaged with tools and trainings during the year because they were making practice changes in response to the pandemic. At the same time, data feedback was used to help practices respond, such as helping identify patients who were at higher risk of COVID-19 or had relevant symptoms.

In response to the pandemic, CMS paused regional learning supports from April to July in PY 4, and asked practice facilitators not to proactively contact practices, as ways to reduce burden. After reassessing practices' evolving needs through a survey and other outreach, CMS resumed learning activities in September; these activities were further tailored to the varying needs of practices as they continued to adapt to the pandemic.

Usefulness of CPC+ supports. As in prior years, CPC+ practices continued to rate all four CPC+ supports as useful in improving primary care, though fewer practices found health IT vendor support useful compared to payment, learning support, and data feedback.

3.1. Types of support that CMS, payer partners, and health IT vendors agreed to provide CPC+ practices

3.1.1. The supports CMS and payer partners agreed to provide to CPC+ practices



Throughout CPC+, CMS and payer partners agreed to provide:

- *Enhanced payments* (in addition to usual payments for services) to Track 1 and Track 2 practices for (1) participating in CPC+ and (2) improving their performance on cost, utilization, and/or quality measures. Payers agreed that the financial support for Track 2 practices would be greater than for Track 1 practices, to reflect the additional care delivery requirements for patients with complex needs.
- *Alternative payments* to Track 2 practices. Payer partners agreed to use an alternative to the historically common FFS payment approach. Under FFS, practices are paid for each visit or service they provide. Under *alternative payment approaches*, payers provide lump-sum payments to practices *in advance* of services provided, regardless of the number or type of services. Payers then reduce or eliminate FFS payments. These alternative payments aim to increase practices' flexibility to deliver services or alternative types of visits (such as group visits) that might benefit patients, but for which they cannot bill under most traditional FFS payment arrangements. CMS committed to providing alternatives to FFS payments at the start of CPC+, and all payer partners committed to doing so by the start of PY 2 as part of their Memorandum of Understanding (MOU).
- *Data feedback* on utilization of services and/or total cost-of-care measures at least quarterly, to practices in both tracks. Payer partners could choose to provide payer-specific reports, an aggregated report in which CMS and payer partners in a region submit their claims data to a third-party vendor to produce a single report or tool, or both. As part of their MOU, payer partners agreed to align measures and develop a common approach for sharing data, which aimed to streamline practices' review and make the data more actionable.
- CMS also agreed to provide CPC+ practices with *a robust learning system* to support their practice transformation work. Payers' MOUs did not require them to provide learning supports to CPC+ practices.

Payer partners signed MOUs that described their roles and how they would work together as part of CPC+

The MOUs described payer partners' commitments to:

1. Provide enhanced, non-visit-based financial support to practices, with larger amounts for Track 2 practices than for Track 1 practices (referred to in the evaluation as “payments for participation”).
2. Offer practices a Performance-based Incentive Payment using a methodology designed to assess the practices' performance on measures of utilization, cost of care, and quality (referred to as “payments for performance”).
3. By PY 2, reimburse Track 2 practices for care provided using, at least partly, a reimbursement methodology (referred to as “alternative to FFS payments”) that differs from their current, visit-based, reimbursement methodology.
4. Share utilization or total cost-of-care data, or both, with practices at least quarterly (referred to as “data feedback”). This includes supporting a common regional approach to sharing data with practices (referred to as “data aggregation”).
5. Align quality measures with other payers in the region, to the extent possible.
6. Align their care delivery requirements for practices with CMS's requirements, to the extent possible.

3.1.2. The support health IT vendors agreed to provide to CPC+ practices



CPC+ practices are required to meet specific health IT requirements that differ by track. To support Track 2 practices in using additional advanced health IT functions, all partnering health IT vendors signed an MOU with CMS, in which they committed to (1) provide practices advanced health IT functionalities to meet the Comprehensive Primary Care Functions and (2) support practices in using them. Though only Track 2 practices formalized a health IT vendor relationship, practices in both tracks could choose to work with health IT vendors through CPC+-sponsored learning supports or other vendor-initiated forums outside of CPC+.



Methods: Data sources and analysis for understanding CPC+ supports

We analyzed most of the data sources described in Table 1.2 to evaluate the supports provided to practices in regions that joined CPC+ in 2017. (We do not analyze or report on the practices that joined CPC+ in 2018). These data sources include the CPC+ Payer Partner Survey, Practice Survey, and Physician Survey; interviews with CMS, contractors, payer partners, exiting payers, health IT vendors and deep-dive practices; data on CPC+ payments provided by CMS and the data practices reported to CMS; and CPC+ program documentation. Below we provide additional details about several of these data sources, and about our analysis and reporting of results.

Data on supports

Financial data. We analyzed both CMS program data and financial data practices submitted to CMS in PY 4 to calculate the number of attributed lives and levels and types of CPC+ payments.

CMS data feedback tool usage data. We analyzed PY 4 monthly Excel files from the CPC+ data feedback contractor showing which practices accessed the tool and the number of times pages were viewed, to understand how CPC+ practices use the CMS data feedback tool. The findings from this analysis represent the 1,849 practices that were participating in CPC+ as of the end of PY 4 and accessed the data feedback tool at least once during the year (71 percent of 2,599 practices).

Data aggregation interviews. In early PY 5, we conducted one-hour telephone interviews with organizations responsible for producing aggregated data feedback or convenor organizations familiar with aggregation efforts in eight CPC+ regions. We also conducted one interview with CMS staff familiar with data feedback and aggregation efforts. These interviews offered unique insights into the facilitators and challenges of data aggregation efforts.

Data aggregation pre-interview worksheet. In early PY 5, we collected pre-interview worksheets from seven regions containing standardized information about the structure and content of the aggregated feedback tools, and about the regions' plans for sustaining data aggregation after CPC+ ends.

Interviews with learning contractors. We conducted 16 interviews with learning contractors, including representatives from CMS, the National Learning Team (NLT), Regional Learning Network (RLN), practice facilitators, Regional Collaborative Facilitators, and the CPC+ Help Desk about the implementation of CPC+ learning activities in PY 4. We also analyzed practice coaching log data to understand the coaching CPC+ practices received in PY 4.

Interviews with health IT vendors. At the end of PY 3, we interviewed 12 health IT vendors that worked with 85 percent of CPC+ practices.

Interviews with deep-dive practices. We interviewed 21 deep-dive practices about their PY 4 payment experiences. We also interviewed a sample of 40 deep-dive practices about many aspects of their CPC+ experiences, including data feedback and learning, in PY 4.

Interviews with practices about use of health IT. In PY 4, we interviewed 11 Track 2 practices that switched health IT vendors between PY 2 and PY 3.

Methods (continued)

Data analysis and reporting

Characterizing interview data. We report findings from qualitative interviews with several different samples of organizations in this chapter. For interviews with deep-dive practices about payments, practices that switched health IT vendors, and learning contractors, we generally report the number of respondents who indicated a particular finding (numerator) and the overall sample size (denominator), because the sample sizes are relatively small, and we asked the same questions in all interviews. For the larger sample of deep-dive practices asked about data feedback and learning supports, among other topics (further described in Chapter 4), not all topics were covered in each interview, so we use the word “couple” to denote 2 respondents, “few” to denote 3 to 4 respondents, “several” to denote 5 to 10 respondents, “many” to denote more than 10 respondents but fewer than three-fourths of relevant respondents, and “most” to indicate more than three-fourths of respondents.

Reporting survey results. Given the substantial sample sizes of our surveys, and the large number of variables included in our analysis, we are likely to observe many small differences in responses over time and between subgroups of practices that would be considered statistically significant using traditional statistical testing standards. To avoid overinterpreting those differences, we focus on notable differences, which we define as differences of 10 percentage points or larger.

3.2. CMS and payer partner supports

\$ We now turn from discussing how CMS and payer partners intended to provide CPC+ supports to practices to describing how these supports were implemented in PY 4, and how that compares to their implementation in the first three program years. In PY 4, CMS provided payment, learning, and data feedback support to all CPC+ practices (in both tracks, and regardless of SSP status). In addition, all Track 2 practices received support meeting advanced health IT functionalities by partnering with health IT vendors.

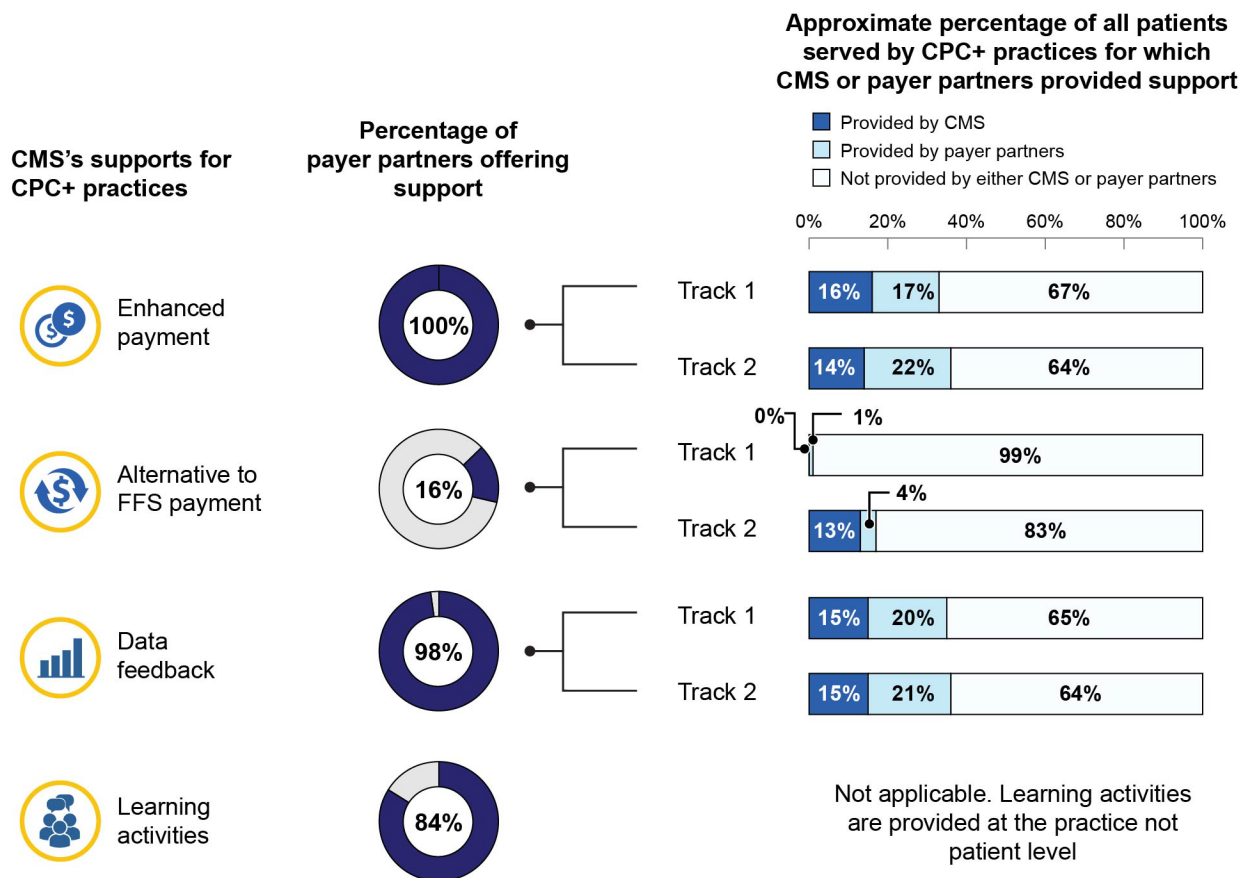
CMS requires CPC+ practices to implement care delivery changes *across all the patients they serve in the practice*, not just the patients for whom CMS or a payer partner provides supports. Specifically, payments and data feedback are provided for individual patients whom payers attribute or assign to CPC+ practices.¹⁹ The learning support from CMS and most payer partners and the health IT vendor support are provided at the practice level, rather than the patient level. This section provides a broad overview of supports available to CPC+ practices with the intent of driving practice-level changes in the way they deliver care. In subsequent sections of this chapter, we discuss each type of support in greater detail.

¹⁹ Some patients a practice serves may not be attributed by any CPC+ payer partner if these patients were (1) uninsured, (2) insured by a non-partnering payer, or (3) insured by a partnering payer but not attributed to the practice (for example, if they saw another practice more frequently or more recently). Although CPC+ targets all patients the participating practices serve, we estimate impacts in Chapter 5 exclusively for the Medicare FFS beneficiaries.

We analyzed the availability of each type of support from payer partners, and the approximate proportion of patients receiving each support (Figure 3.1). CPC+ practices received enhanced payments and data feedback for about one-third of all patients they served. Only 16 percent of payer partners provided alternative payments and, correspondingly, practices received alternative payments for a smaller proportion of their patients (17 percent of all patients served in Track 2 practices).

Figure 3.1. Availability of CPC+ supports from CMS and payer partners in PY 4

Most or all payer partners provided enhanced payments, data feedback, and learning activities to practices; in contrast, few payer partners had implemented alternative payment approaches by the end of PY 4. As a result, the numbers of patients for whom enhanced payments and data feedback were provided were higher than the number for whom alternative payments were provided. However, even the most common CPC+ supports were provided for no more than one-third of the total patients served by CPC+ practices.



Source: Mathematica’s analysis of data from the independent evaluation’s PY 4 CPC+ Payer Survey and PY 4 practice-reported financial data submitted to CMS.

Note: This analysis included 50 of the 57 payer partners in PY 4. We excluded eight payer partners from the analysis; seven did not complete the PY 4 CPC+ Payer Survey and one did not have contracts with any CPC+ practices and, thus, could not provide CPC+ supports. The 50 payer partners included in this analysis covered 98 percent of payer partners’ attributed lives in PY 4.

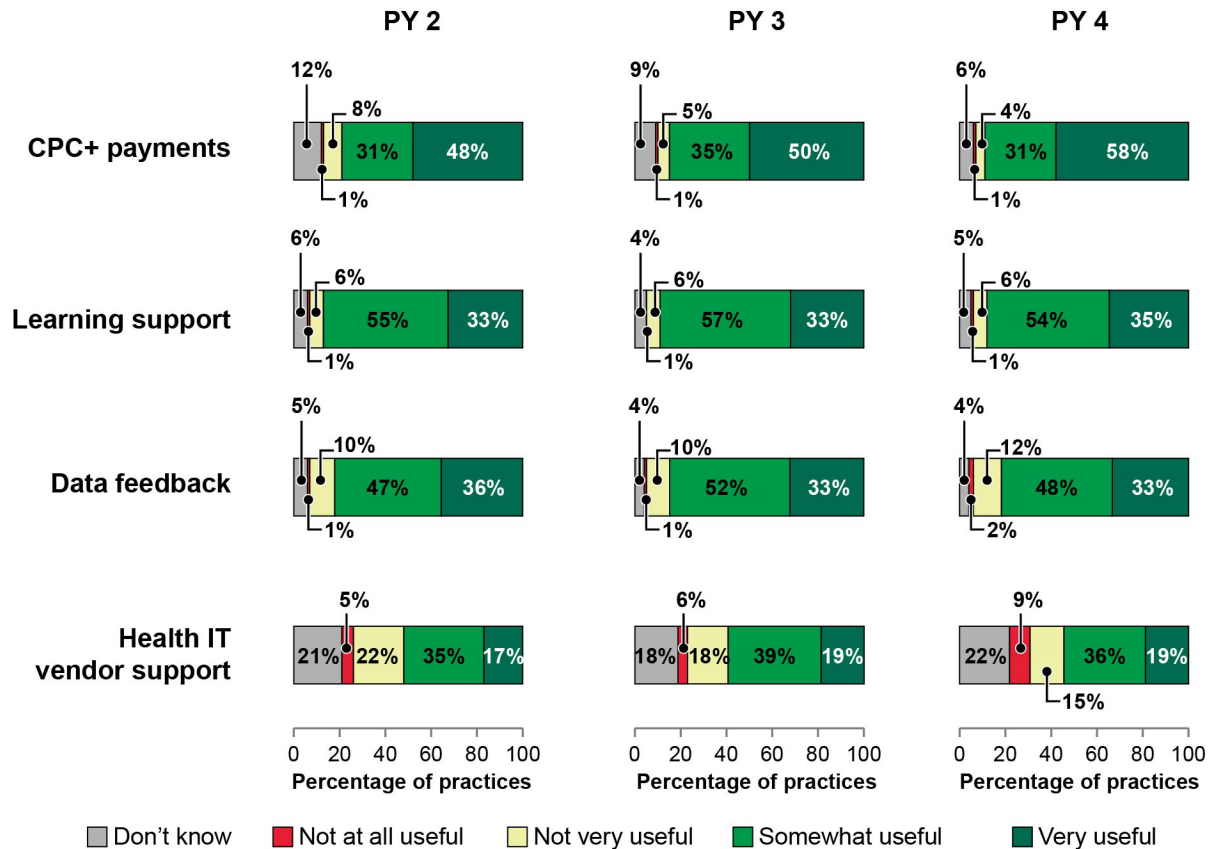
The analysis included 1,185 Track 1 practices and 1,414 Track 2 practices. Track 1 practices reported serving 6,250,044 total patients and Track 2 practices reported serving 9,082,058 total patients in PY 4.

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

CPC+ practices continued to report on the PY 4 Practice Survey that the supports were useful in improving primary care, but ratings varied widely across the types of supports. Practices were far more likely to rate payments, learning supports, and data feedback as useful, than to rate health IT supports useful. Eighty-nine percent of all practices surveyed reported in PY 4 that CPC+ payments were very or somewhat useful for improving primary care (Figure 3.2). Eighty-nine percent of all practices surveyed indicated the learning support they received in PY 4 was very or somewhat useful. Similarly, 81 percent reported that data feedback support was very or somewhat useful. Consistent with previous years, a smaller proportion of practices—55 percent—found health IT vendor support very or somewhat useful in improving primary care in PY 4.

Figure 3.2. Practices’ ratings of the usefulness of CPC+ supports, PY 2 through PY 4

CPC+ practices widely found the CPC+ payment, learning, and data feedback supports they received to be useful for improving primary care. Fewer practices found health IT vendor support useful.



Source: Mathematica’s analysis of data from the independent evaluation’s PY 2–4 CPC+ Practice Surveys.

Note: N = 2,471 CPC+ practices. Not all practices that responded to all three of the practice surveys responded to the survey question in each program year, but the number of missing responses each year was small (10 or fewer practices). Individual percentages may not sum to totals due to rounding.

IT = information technology; PY = Program Year.

3.2.1. CPC+ payments

In PY 4, CMS and all payer partners continued providing substantial enhanced payments to CPC+ practices.²⁰ CMS also continued to provide alternative payments to all Track 2 practices in PY 4; however, only about one in six payer partners did so. As in previous program years, no payer partners introduced a new alternative payment approach in PY 4.

Beginning in early PY 4, the dramatic disruptions caused by the COVID-19 pandemic profoundly affected every aspect of the economy, including CPC+ practices and other health care providers. Because the most notable changes to payment in PY 4 stemmed from disruptions caused by the pandemic, we present these developments first (in Section 3.2.1.A), before reporting on the largely stable CPC+ payment supports that CMS and payer partners provided to practices in PY 4 (in Sections 3.2.1.B and 3.2.1.C).

A. The COVID-19 pandemic and CPC+ payments

In 2020, the COVID-19 pandemic caused unprecedented, major economic disruptions that profoundly affected health care providers, including CPC+ practices. In response, major payers—including CMS and CPC+ payer partners—made payment changes to help relieve financial stress and administrative burden on providers, including primary care practices, and to ease access for patients during the pandemic. While few of these changes were specific to CPC+, we describe them in this report because of their substantial impact on CPC+ practices.

²⁰ In addition to the enhanced payments and alternative payments that CPC+ practices received from CMS, which we describe in this chapter, practitioners in CPC+ practices also received payment adjustments based on performance in CMS's Quality Payment Program (QPP), a nationwide program. For Track 1 practices, the average QPP adjustment in PY 3 was \$2.20 per beneficiary per month (PBPM) in both PY 3 and PY 4; for Track 2 practices, it was \$2.50 PBPM in PY 3 and \$2.60 PBPM in PY 4. We include these QPP payment adjustments in the CMS expenditures without enhanced payments analyzed in Chapter 5 as part of the analysis of CPC+ impacts.



Clouser look: Payers' payment policy changes in response to the COVID-19 pandemic

CMS and many payer partners made major changes in the following payment categories:

- **Patient cost sharing.** Reduced or eliminated out-of-pocket costs for at least some COVID-19 treatments and primary care telehealth services.
- **Telehealth.** Greatly expanded list of covered telehealth services and technology platforms; increased telehealth reimbursement rates to provide parity with office visits.
- **Temporary financial supports.** CARES Act Provider Relief Fund, Paycheck Protection Program, and other COVID-19 relief funds to provide grants, loans, and other financial assistance; accelerated and advanced payments to providers, both within CPC+ and more broadly; and relaxed requirements for earning rewards in some payment-for-performance programs.

Appendix 3.C provides detailed descriptions of key payment changes made by CMS and payer partners.

A.1. Financial impact of the COVID-19 pandemic on CPC+ practices

Of the 21 deep-dive practices interviewed about their experiences with PY 4 payments, all reported experiencing major, sudden financial shortfalls at the onset of the pandemic in Spring 2020, as widespread shutdowns led to plummeting office visits and, as a result, decreased FFS revenues. However, practices varied widely in how the pandemic ultimately impacted their finances for the year as a whole.

- **About half of the 21 practices experienced limited financial impact from the pandemic in PY 4.** These practices recovered quickly and almost fully from the initial financial shocks suffered in Spring PY 4, with the following factors facilitating their quick rebound:
 - Having a robust telehealth approach in place before the pandemic, or the capacity to roll out telehealth quickly and flexibly, on a wide scale.
 - Having sufficient cash reserves on hand when the pandemic first hit, allowing practices to weather the initial shutdown without laying off or furloughing staff. In turn, this allowed practices to ramp up both remote and office-based patient care quickly once conditions improved.
 - Setting up separate facilities to screen and treat suspected COVID-19 cases, which boosted confidence and safety for patients and office-based staff and ultimately protected patient office visit volumes and revenues.
- **For the remaining half of the deep-dive practices, the pandemic's adverse financial impact persisted throughout PY 4.** Substantial reductions in these practices' patient visit volumes and FFS revenues continued for much or all of the year. Most of these practices had to lay off or furlough staff or reduce staff hours substantially. Contributing factors included:

- Problems implementing telehealth on a wide scale, including technical and logistical issues and challenges involving patients (such as older patients or rural patients) who were not comfortable with or lacked access to telehealth platforms.
 - A pre-pandemic reliance on revenue from ancillary services—such as diagnostic tests—and other revenue sources that could not be provided remotely.
 - External factors such as regional COVID-19 surges that triggered shutdowns later in the year, slowing or reversing the return of office-based services.
- **In the deep-dive sample, system-owned practices were more likely than independent practices to report that the pandemic had a strong adverse impact on their finances.** Under normal pre-pandemic conditions, system-based practices typically had larger financial resources to draw on than independent practices. However, with the pandemic causing months-long shutdowns of systems' most lucrative services, such as elective surgeries and procedures, systems found a major revenue source for subsidizing their primary care practices temporarily cut off. Perhaps as a result, system-based practices in the deep-dive sample were more likely than independent practices to shut down completely in the first months of the pandemic, or to implement substantial staff layoffs or furloughs. In addition, the relative lack of bureaucracy in independent practices may have helped them respond more quickly and flexibly than system-based practices to rapidly changing conditions early in the pandemic—most notably, payment policy changes made by CMS and payer partners. For example, some small, independent practices reported pivoting quickly to alternative platforms such as FaceTime, Zoom, and telephone calls as soon as payers began covering services provided through those platforms, while some system-based practices were slower to respond. Given the small sample of practices interviewed, these results should be interpreted with caution and may not be generalizable. Nevertheless, these results suggest that the pandemic upended systems' business models enough to disrupt some of the key financial advantages they typically hold over independent practices.

A.2. Practices' perceptions of payment policy changes made by payers in response to the COVID-19 pandemic

Deep-dive practices found telehealth coverage expansions and payment increases to be the most helpful changes payers made in response to the pandemic. CMS and payer partners made several key changes to telehealth and other payment policies in an attempt to ease financial burden for practices and access challenges for patients. Among the 21 deep-dive practices interviewed about PY 4 payment, 15 responded to questions about which payment changes they found most helpful. Nearly all these practices (13 of 15) cited coverage expansions and payment rate increases that payers began offering for telehealth visits, which provided parity with in-person visits. Practices credited these changes with protecting both their own revenues and patient access, and expressed the hope that payers would make the changes permanent. The other key change cited by multiple practices (5 of 15) as very helpful was the Health Insurance Portability and Accountability Act (HIPAA) waiver for telehealth. This decision by HHS not to impose penalties on providers for not complying with HIPAA during the pandemic made

telehealth far more accessible by allowing visits to take place via popular apps like FaceTime and Zoom.²¹

Practices that elected CMS’s advanced CPC+ payments found them helpful.²² CMS offered CPC+ practices the option of receiving their Quarter 3 2020 CPC+ payments early, in Spring 2020, to help alleviate cash flow disruptions caused by the pandemic; 48 percent of all CPC+ practices elected the advanced payments. Of the 21 deep-dive practices interviewed about CPC+ payments, the 11 practices that elected advanced CPC+ payments all found them helpful, and all used the advanced payments to ease cash flow problems and to help continue paying staff salaries. A few of these practices also used a portion of their advanced payments to fund COVID-19-specific needs, such as purchasing personal protective equipment. Among the 10 practices that did not elect advanced payments, the major reasons were confidence that the practice had sufficient cash flow without the advanced payments and concern that accepting the advanced payments would create challenges for existing budgeting processes.

A.3. Role of CPC+ payments in helping practices weather the COVID-19 pandemic

CPC+ payments helped practices maintain staffing levels and patient services. Among the 21 deep-dive practices interviewed about PY 4 payment, 15 credited CPC+ payments for allowing them to maintain key patient care activities—especially care management and care coordination—throughout the pandemic. As some practices noted, this allowed them to keep track of high-risk patients at a time when many of those patients could not be seen in person. Other practices used CPC+ funds to continue paying care managers but redeployed those staff to help with COVID-19 needs. Among the six practices that reported not finding CPC+ payments to be particularly helpful during the pandemic, five practices did use CPC+ payments to keep at least some care managers and other staff employed throughout the pandemic. As a result, our assessment is that CPC+ payments did allow these five practices to maintain important functions they could not otherwise have provided.

A.4. The COVID-19 pandemic’s influence on practices’ views of alternative payments

The pandemic led some practices to reassess the relative costs and benefits of traditional FFS versus alternative payments. Before the pandemic, practices’ views of alternative payments had varied widely. Among the 20 deep-dive practices that addressed questions about whether and how the pandemic had influenced their views of alternative payments relative to traditional FFS, 7 practices (35 percent) responded that the pandemic had made them more aware of the pitfalls of FFS and the potential benefits of capitation. However, most of these practices said they needed to better understand alternative payment models before they felt ready to commit to any new arrangement. Among the 20 practices, 4 (20 percent) already were

²¹ Under the HIPAA waiver, the use of public-facing products (e.g., Facebook Live, TikTok, Twitch) for telehealth is still prohibited.

²² Besides CMS, a number of other payers also offered advanced payments to practices. However, we were only able to collect systematic information about CMS’s advanced CPC+ payments because (1) not all respondents were knowledgeable about all the payments they received from all their contracted payers, and (2) some deep-dive practices reported that none of their payers other than CMS offered advanced payments. As a result, the sample of deep-dive practices for which we were able to collect information about other payers’ advanced payments was too small to be reported.

experienced with and enthusiastic about alternative payments and welcomed new opportunities to continue moving away from FFS. For this relatively small group, the pandemic reinforced already favorable views of alternative payments. The most sizable group of practices—8 of 20, or 40 percent—reported that the pandemic had not influenced their views of traditional FFS versus alternative payments at all.²³

Interviews with CPC+ regional payer conveners revealed that the pandemic motivated payers in multiple regions to begin discussing and exploring new alternative payment arrangements, but evidence from the deep-dive interviews with practices suggests that these payer efforts were still limited and nascent. Among the 20 deep-dive practices that discussed their views on alternative payments, only 2 practices reported being approached by payers about potential new alternative payment arrangements. And, in only one of those two cases have payers' overtures led to likely movement away from FFS.²⁴

To date, then, the pandemic has had limited effects on practices' views of alternative payments, and it has resulted in even less actual movement toward these arrangements. However, a handful of practices did note that the pandemic has increased their interest in payment reforms like Primary Care First that focus on prospective, population-based payments. A couple of practices also mentioned that the next iterations of their states' Medicaid payment reforms are likely to include capitated payment options, but that those changes are still being discussed and designed.

B. Enhanced payments



CPC+ payers continued providing substantial enhanced payments in PY 4 but, as in previous years, many payer partners did not provide Track 2 practices with higher payments. As in previous program years, CMS and about one-half of payer partners provided higher levels of enhanced payments to Track 2 than to Track 1 practices. However, this continued to fall short of CMS's goal that *all* payer partners provide greater financial support for Track 2 practices to reflect their more advanced care delivery activities.

As in the first three program years, payers continued to make two types of enhanced payments: (1) payments to support practices' *participation* in CPC+ (typically using care management fees) and (2) payments to reward their *performance* on cost, utilization, or quality measures. In PY 4, CMS and 92 percent of payer partners continued to provide *both* types of enhanced payments, as expected by CMS.²⁵

²³ Respondents at 1 of the 20 practices (5 percent) reported that the pandemic had made them more wary of the risks of alternative payments, but did not provide a further explanation of this view.

²⁴ Of the two practices approached by payers, one practice reported actively negotiating the terms of new capitation contracts with two different payers; the other practice—which characterized itself as risk-averse—rebuffed a payer's effort to discuss capitated arrangements.

²⁵ Four payer partners provided only one type of enhanced payment: three of these payer partners provided payments only for participation, and the other one provided payments only for performance.

B.1. Payments for participation offered to CPC+ practices

Care management fees remain the dominant form of payment for participation. In PY 4, CMS and 94 percent of payer partners continued to provide enhanced payments for participation (Figure 3.3).²⁶ Ninety-two percent of payer partners structured their payments for participation as care management fees, which are paid to practices on a regular interval—most commonly at the beginning of each quarter or month—for each patient a payer attributes to a practice. Six percent of payer partners structured payments for participation as enhanced FFS payments, which increase claims payments by a set percentage.²⁷

- **CMS's care management fees.** Since the start of CPC+, CMS has paid a risk-adjusted care management fee that was designed to average \$15 per beneficiary per month (PBPM) for Track 1 practices and \$28 PBPM for Track 2 practices.²⁸ In addition to care management fees, CMS also paid Track 2 practices a separate, small enhanced payment, referred to as the comprehensiveness supplement, for participating in CPC+.²⁹ This payment amounted to an average of \$0.57 PBPM in PY 4 (compared to \$0.22 in PY 1, \$0.47 in PY 2, and \$0.59 in PY 3).
- **Payer partners' care management fees.** The median amounts of payer partners' per member per month (PMPM) care management fees remained stable over the first four years of CPC+. Payer partners' median payments continued to be lower than CMS's average payments and to vary widely across payers' lines of business (Table 3.1). (For payer partners, we report medians rather than averages to eliminate the effects of outliers.)

²⁶ CPC+ practices receive care management fees from CMS as long as they continue to meet the care delivery, reporting, and other participation requirements described in the CPC+ Practice Participation Agreement.

²⁷ This six percent is composed of three payer partners; two used enhanced FFS payments *instead of* care management fees, while one used *both* enhanced FFS payments and care management fees.

²⁸ CMS risk adjusted its payments to CPC+ practices for Medicare FFS beneficiaries. CMS assigned each beneficiary to one of four risk tiers (for Track 1 practices) or five tiers (for Track 2 practices), with each tier corresponding to a monthly payment. The tiers reflect beneficiaries' hierarchical condition category scores and, for Track 2 practices, whether patients had a diagnosis of dementia. The PBPM payments corresponding to the four risk tiers in Track 1 are \$6, \$8, \$16, and \$30. The PBPM payments corresponding to the five risk tiers in Track 2 are \$9, \$11, \$19, \$33, and \$100.

²⁹ The comprehensiveness supplement is part of CMS's alternative payment approach. Track 2 practices receive a portion of their payments for services prospectively via the Comprehensive Primary Care Payment (CPCP), which is discussed in Section B. In addition to the CPCP, Track 2 practices receive the comprehensiveness supplement, which is equal to 10 percent of the CPCP. As the supplement is in addition to payments for services, we consider it an enhanced payment. Because the minimum CPCP percentage that Track 2 practices could elect increased over the first three program years (from 10 percent in PY 1 to 40 percent in PY 3), there was a corresponding increase in the average dollar amount of the comprehensiveness supplement. From PY 3 to PY 4, the minimum CPCP percentage remained unchanged at 40 percent; as a result, the average comprehensiveness supplement also remained generally stable over the same time period.

Figure 3.3. Enhanced and alternative payment approaches used by CMS and payer partners in PY 4

CMS and all payer partners offered CPC+ practices payment supports. Care management fees were the most common type of enhanced payment. With only 16 percent of payer partners offering an alternative to FFS payment approach, CMS's goal that all payer partners offer alternative payments was no closer to being achieved at the end of PY 4 than it had been earlier in CPC+.

Type of payment support	Used by CMS for Medicare FFS?	Percentage of payer partners using approach ^a (N=50)
Offer ANY type of payment support	✓	100%
Enhanced payments for CPC+ participation^b		
Care management fees, not adjusted based on practice performance	✓	60%
Care management fees, adjusted based on practice performance ^c		32%
Enhanced FFS payments, adjusted based on practice participation in CPC+ or another program		6%
Enhanced payments for performance^b		
Bonus payments for performance, prospectively paid	✓ for non-SSP practices ^d	10%
Bonus payments for performance, retrospectively paid		58%
Retrospective shared savings payments	✓ for SSP practices ^d	58%
Enhanced FFS payments, adjusted based on practice performance ^d		6%
Alternative to FFS payments^e	✓ for Track 2	16%

Sources: Mathematica's analysis of PY 4 CPC+ Payer Survey data and payer interview data.

^a Individual percentages may not sum to totals due to rounding and because subtypes of payments are not mutually exclusive. N includes the 50 of the 57 payer partners in 2017 regions that responded to the survey. All percentages have a denominator of N = 50.

^b Five payer partners made enhanced FFS payments in PY 4. One provided a base enhanced FFS payment based on participation, plus an additional enhanced FFS payment based on practice performance; we classified it as providing both enhanced FFS for participation and enhanced FFS adjusted based on performance. Two adjusted their enhanced FFS payment based on participation; we classified those as providing only enhanced FFS payment adjusted based on participation. Two adjusted their entire enhanced FFS schedule based on practice performance; we classified them as providing only enhanced FFS payment adjusted based on performance.

^c We classify all care management fees as payments for participation, even though some payer partners use practice performance metrics to determine eligibility for these payments or adjust the amounts of the payments.

^d For practices not in SSP, CMS uses a prospectively paid, retrospectively reconciled PBIP. For practices in SSP, CMS makes their Accountable Care Organizations eligible for the retrospective shared savings program.

^e In PY 4, we excluded from the analysis the four payers that operated only small, pilot alternative payment programs.

FFS = fee-for-service; PBIP = Performance-based Incentive Payment; PY = Program Year; SSP = Medicare Shared Savings Program.

Like CMS, 60 percent of payer partners in PY 4 paid these care management fees solely for participation, entirely separate from their payments for performance. However, 32 percent of payer partners, accounting for 51 percent of payer partners' attributed lives, used practice performance on cost, utilization, and/or quality metrics to determine care management fee eligibility or amounts. These proportions remained stable from PY 3 (the first year for which these data were available). Making care management fees contingent on practice performance diverges significantly from CMS's original vision that *all* participating practices would have access to a dedicated revenue stream that did not depend on performance.

Table 3.1. CPC+ payers' average PBPM and median PMPM care management fees in PY 4, by track and line of business

As expected, payer partners' median payments continued to be far lower than CMS's average payments and to vary widely across payers' lines of business.

Line of business	Number of payers providing care management fees	Track 1		Track 2	
		Range	Median except where noted ^a	Range	Median except where noted ^a
Medicare FFS	1	\$6.00–\$30.00	\$15.00 (average)	\$9.00– \$100.00	\$28.00 (average)
Commercial, fully insured	30	\$1.25–\$9.64	\$3.00	\$1.49–\$9.64	\$4.00
Commercial, self-insured	21	\$2.00–\$9.64	\$3.69	\$2.00–\$9.64	\$4.00
Marketplace plan	17	\$1.25–\$9.64	\$5.00	\$2.00–\$9.64	\$5.75
Medicare Advantage	26	\$1.00–\$13.35	\$5.14	\$1.00–\$19.00	\$6.00
Medicaid/CHIP managed care	26	\$0.90–\$12.50	\$3.83	\$1.50–\$16.10	\$3.83
Medicaid/CHIP FFS	6	\$3.83–\$12.33	\$5.24	\$3.83–\$19.00	\$5.24

Source: Mathematica's analysis of PY 4 CPC+ Payer Survey data.

Note: The 50 payer partners that completed the PY 4 Payer Survey are included in this analysis. Many of these payers included multiple lines of business in CPC+.

^a For payer partners, medians are presented to eliminate the effects of outliers.

CHIP = Children's Health Insurance Program; FFS = fee-for-service; PBPM = per beneficiary per month; PMPM = per member per month; PY = Program Year.

B.2. Payments for performance offered to CPC+ practices

Since the start of CPC+, CMS has used two mutually exclusive strategies to pay for performance, depending upon practices' SSP status, and payer partners continued using several approaches to reward performance. These strategies are as follows:

- **For practices not participating in SSP, CMS provided the *Performance-based Incentive Payment (PBIP)***, a prospective bonus payment that CMS later reconciled based on practice performance. Specifically, CMS paid practices this lump-sum payment (\$2.50 PBPM for Track 1 and \$4.00 PBPM for Track 2), representing the maximum possible PBIP payment, at the beginning of a performance year. After the end of the performance year, CMS calculated the proportion of the maximum PBIP that practices earned. The calculation was based equally on practices' performance on utilization and quality. Practices retained the portion of the PBIP they earned and had to pay back the unearned portion.
- **For practices participating in SSP as part of an Accountable Care Organization (ACO), CMS provided Medicare FFS *shared savings opportunities***. For primary care practices that participate with other providers in SSP ACOs, CMS compared an ACO's Medicare FFS spending to a benchmark. If savings were achieved, CMS paid out a portion of those savings to the ACO. If losses were incurred, ACOs that accepted downside risk had to pay back a portion of those losses to CMS. Each ACO could decide how much, if any, of the savings (or losses) to share with its various providers, including primary care practices.
- **Payer partners continued to use retrospective bonus programs and shared savings programs as their most prevalent ways of rewarding practices for performance**. Similar to the previous program years, 58 percent of payer partners provided retrospective bonus payments and 58 percent provided shared savings opportunities in PY 4. Over the first four years of CPC+, payer partners also consistently used the same metrics to calculate performance scores, relying most often on claims-based quality, utilization, and cost measures.

B.3. Level of enhanced payments received by CPC+ practices

As in the first three program years, practices in both tracks continued to receive substantial enhanced payments; 85 percent of payments were for participation and 15 percent were for performance (Figure 3.4).³⁰ The proportion of median payments for performance (15 percent) increased from 10

³⁰ Most payer partners' performance-based payments paid in PY 4 were based on practices' PY 3 performance; however, a few payer partners use rolling averages to assess practice performance and may have tied PY 4 payments partly to PY 4 performance.

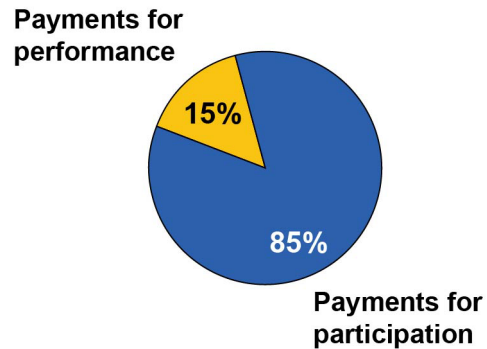
percent in previous years. This increase was driven primarily by increased shared savings earned by practices belonging to SSP ACOs. In addition, two payers started providing performance-based enhanced FFS payments for the first time in PY 4.³¹

In PY 4, the median enhanced payments that Track 1 practices received from CMS and payer partners totaled \$139,267 per practice, which represented a median of 11 percent of practice revenue (Figure 3.5). In PY 4, the median enhanced payment, calculated per primary care practitioner to account for differences in practice size, was \$44,255.

By design, Track 2 practices received larger enhanced payments from CMS and payer partners than Track 1 practices. Median payments were \$272,647 per practice, or 16 percent of total practice revenue, and \$63,922 per primary care practitioner. Median payments were higher for Track 2 practices compared to Track 1 practices because CMS and one-half of payer partners provided larger payments to Track 2 practices. Most of the other payer partners did not differentiate between payments to Track 1 versus Track 2 practices.³²

Figure 3.4. Median proportion of enhanced payments for performance and participation in PY 4

Payments for participation accounted for most of CPC+ enhanced payments.



Sources: Mathematica's analysis of data from the independent evaluation's PY 4 CPC+ Payer Survey, PY 4 practice-reported financial data submitted to CMS, and PY 4 payment data provided by CMS.

Notes: N = 2,599 CPC+ practices that were participating at the end of PY 4.

PY = Program Year.

Figure 3.5. Median enhanced payments from CMS and payer partners in PY 4, by track

CPC+ practices received substantial payments from CMS and payer partners in PY 4.



Sources: Mathematica's analysis of PY 4 practice-reported financial data submitted to CMS and PY 4 payment data provided by CMS.

Notes: N = 2,599 CPC+ practices that were participating at the end of PY 4.

PY = Program Year.

³¹ One of the two payers was a large payer (with at least 100,000 lives attributed to CPC+ practices) with a high market share (accounting for at least 50 percent of the total CPC+ attributed lives in its region). The other payer was a small payer (with fewer than 10,000 lives attributed to CPC+ practices) with a low market share (accounting for less than 10 percent of the total CPC+ attributed lives in its region).

³² Two payer partners provided care management fees only to Track 1 practices.

For both CPC+ tracks, median enhanced payments per practice and per practitioner increased by slight to moderate increments each year since PY 2 (the first year for which data were available) (Table 3.2).³³ This upward trend in enhanced payments was driven by a substantial increase in payments for performance, which in turn was driven by robust growth in shared savings earned by practices belonging to SSP ACOs. In contrast, payments for participation—the far larger component of enhanced payments—have changed little since PY 2, reflecting the underlying stability in both the number of patients attributed to CPC+ practices and the care management fees per attributed life contributed by CMS and payer partners.

Table 3.2. Median enhanced payment amounts in PYs 1 through 4

Practices in both tracks received substantial median enhanced payments that increased from PY 2 to PY 4, stemming from an increase in payments for performance, which in turn stemmed from increased shared savings earned by practices belonging to SSP ACOs. Payments for participation—the larger component of enhanced payments—remained largely stable from PY 2 to PY 4.

	Median payments per practice			Total enhanced payments as a percentage of total practice revenue
	Total median enhanced payments	Payments for participation ^a	Payments for performance	
PY 1				
Track 1	NA	\$88,104	NA	8% ^b
Track 2	NA	\$195,469	NA	11% ^b
PY 2				
Track 1	\$122,065	\$93,284	\$11,343	10%
Track 2	\$263,606	\$210,730	\$22,033	15%
PY 3				
Track 1	\$136,201	\$95,094	\$19,461	10%
Track 2	\$268,560	\$215,334	\$33,111	15%
PY 4				
Track 1	\$139,267	\$93,667	\$24,453	11%
Track 2	\$272,647	\$211,549	\$36,283	16%
Cumulative (PY 1 through PY 4)				
Track 1	\$521,671	\$377,682	\$87,361	12%
Track 2	\$1,081,465	\$838,438	\$136,202	15%
Cumulative per practitioner (PY 1 through PY 4)				
Track 1	\$163,155	\$133,314	\$17,995	12%
Track 2	\$251,003	\$195,327	\$22,512	15%

Sources: Mathematica's analysis of practice-reported financial data submitted to CMS and payment data provided by CMS for PY 1 through PY 4.

Notes: N = 2,905; 2,716; 2,675; and 2,599 CPC+ practices that were participating at the end of PYs 1, 2, 3, and 4, respectively. For the cumulative columns, N = 2,599 CPC+ practices that participated in CPC+ from PY 1 through PY 4.

Because this table reports medians, which cannot be summed, the payments for participation and payments for performance rows do not sum to the total enhanced payments row. Similarly, the individual PY columns do not sum to the cumulative columns. Instead, we calculated the medians for each row and each column separately.

³³ Because data on both enhanced FFS payments and payments for performance became available only in PY 2, we were not able to calculate the amount of total enhanced payments paid in PY 1. Data on care management fees (the dominant component of both payments for participation and total enhanced payments), which were available for all four program years, were stable across all four years.

Table 3.2. (continued)

^a Payments for participation in PY 1 did not include enhanced FFS payments because practices were only asked to report care management fees in PY 1. When we compared care management fees for PY 1 through PY 4, the total and median amounts received by practices were similar across all four program years.

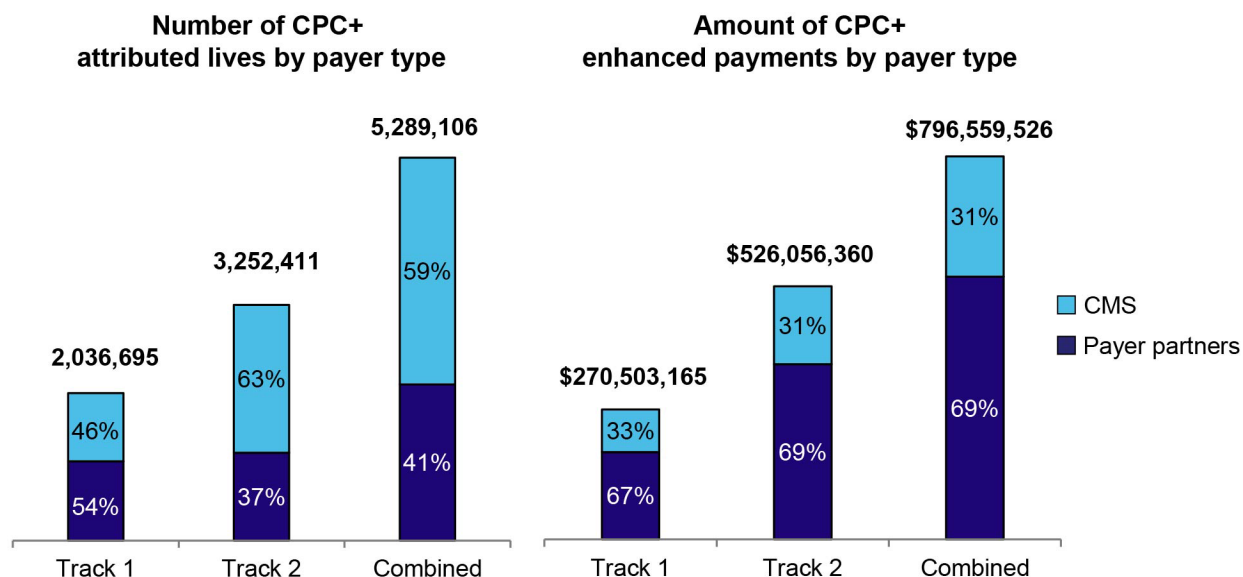
^b This calculation for PY 1 includes only care management fees as a percentage of total revenue.

NA = not available; PY = Program Year; SSP = Shared Savings Program.

As in previous years, CMS continued to contribute a disproportionate share of the enhanced payments to practices in both tracks in PY 4. Although CMS only covered 41 percent of attributed CPC+ patients in PY 4, it contributed 69 percent of the total enhanced payments practices received from all payers combined (Figure 3.6). Breaking the total enhanced payments into its components, CMS's share of total payments for *performance* (40 percent) aligned closely with its share of attributed lives (41 percent), but CMS's share of total payments for *participation* (80 percent) was nearly double its share of attributed lives (again, 41 percent). This disproportionate share resulted from CMS paying higher care management fees than those contributed by payer partners.

Figure 3.6. Relative contribution of CMS and payer partners to CPC+ enhanced payments in PY 4, by track

In PY 4, CMS's share of CPC+ payments continued to be substantially larger than its share of CPC+ attributed lives.



Sources: Mathematica's analysis of PY 4 practice-reported financial data submitted to CMS and PY 4 Medicare FFS beneficiary attribution lists payment data provided by CMS.

Notes: N = 2,599 CPC+ practices that were participating at the end of PY 4.

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

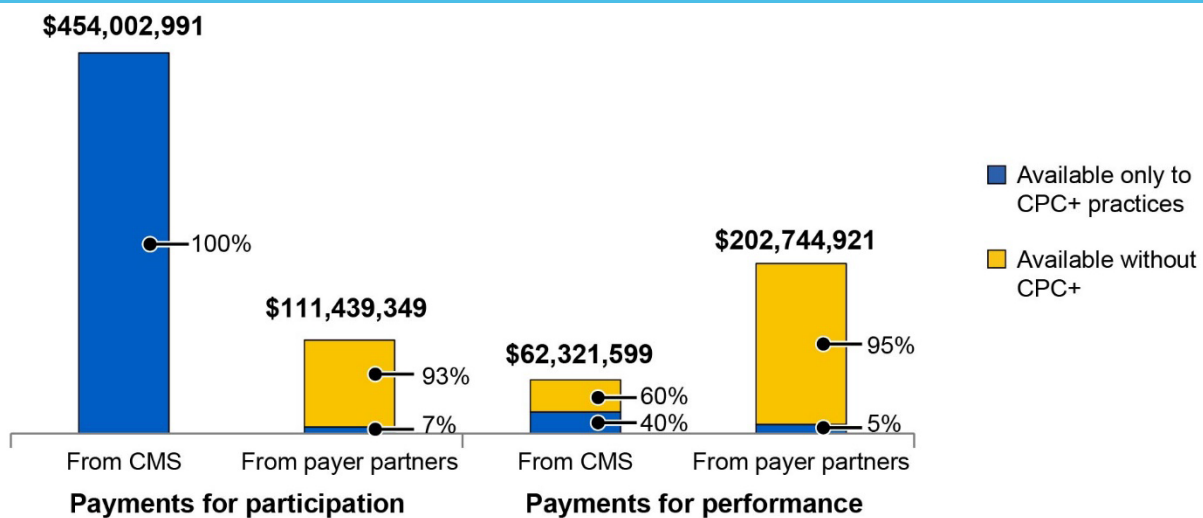
In PY 4, 60 percent of total enhanced payments were unique to CPC+. Sixty percent of enhanced payments were available only to CPC+ practices (we refer to these payments as *unique to CPC+*), whereas the remaining 40 percent of the enhanced payments were available to at least some practices not participating in CPC+ in PY 4. In PY 4, CMS provided 96 percent of the unique funding for CPC+, with the remaining 4 percent of unique funding coming from payer partners. The distinction between unique and non-unique payments is important because the non-

unique portion would have been available to practices in the absence of CPC+. It is the unique portion that captures the financial contribution CPC+ makes toward that practice’s ability to invest in transforming care delivery, and is therefore expected to drive CPC+ impacts.

- CMS made unique payments for participation in CPC+, but many payer partners did not.** For payments for participation, CMS continued to provide CPC+ practices with care management fees that were available only to CPC+ practices (that is, payments that are 100 percent unique to CPC+) (Figure 3.7). In contrast, only 7 percent of payer partners’ payments for participation in PY 4 were unique to CPC+. The remaining 93 percent of payments for participation from payer partners would have been available to primary care practices participating in these payers’ other advanced primary care initiatives, even if CMS had not launched CPC+.
- Most payments for performance were not unique to CPC+.** CMS’s *payments for performance* for practices not participating in SSP consist of PBIPs, which are fully unique to CPC+ (that is, not available to practices not participating in CPC+). In contrast, CMS’s payments for performance for practices that belong to an SSP ACO consist of SSP shared savings, which are *not* unique to CPC+ (that is, practices are eligible to receive SSP payments whether or not they participate in CPC+). In PY 4, CMS’s PBIPs accounted for 40 percent of all of CMS’s CPC+ payments for performance, while SSP payments accounted for the remaining 60 percent. As for payer partners, in PY 4, only 5 percent of their payments for performance were unique to CPC+; the remaining 95 percent were available to some practices participating in payer partners’ other value-based payment programs. These proportions were similar in PYs 2 and 3.

Figure 3.7. Enhanced payments from CMS and payer partners and the proportion of enhanced payments that were unique to CPC+ in PY 4

CMS’s care management fees were unique to CPC+. In contrast, about two-thirds of CMS’s payments for performance and a large proportion of payer partners’ enhanced payments (for participation and performance) were available to practices participating in payers’ other value-based payment programs.



Sources: Mathematica’s analysis of data from the independent evaluation’s PY 4 CPC+ Payer Survey, PY 4 practice-reported financial data submitted to CMS, and PY 4 payment data provided by CMS.

Notes: N = 2,599 CPC+ practices that were participating at the end of PY 4.

PY = Program Year.

B.4. Practices' perspectives on CPC+ payments

This analysis of practices' experiences with CPC+ payments draws from both quantitative data (the PY 4 Practice Survey of nearly 2,500 practices) and qualitative data (PY 4 payment interviews with a sample of 21 deep-dive practices). The survey provides a broad, comprehensive overview of practices' perspectives on key topics such as adequacy and usefulness of CPC+ payments, while the interviews yield in-depth insights on issues such as the major payment challenges practices face and how these challenges have changed over time.

B.4.1. Adequacy of CPC+ payments

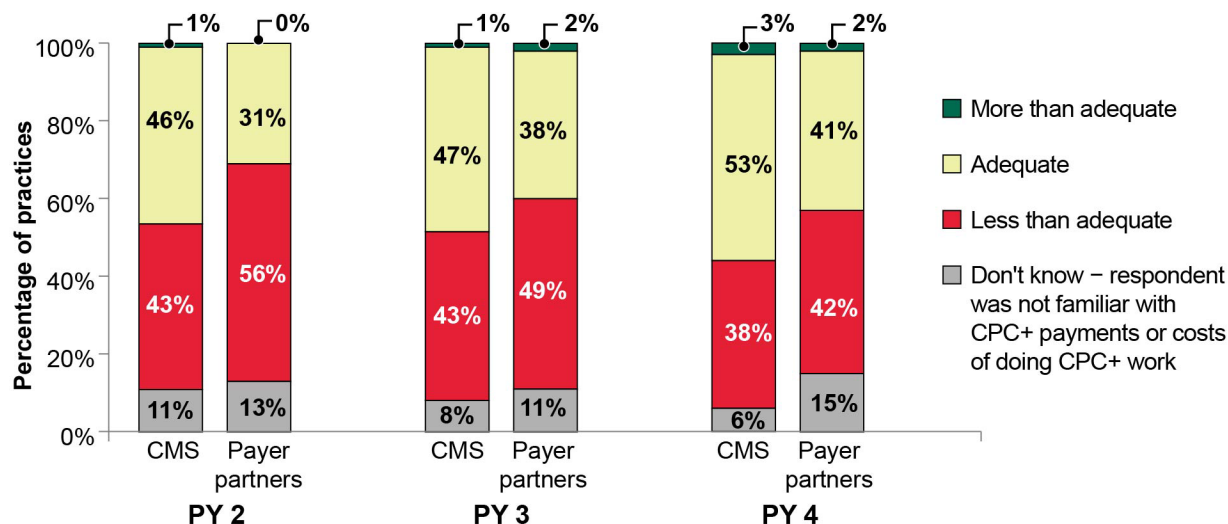
More than half of practices find CMS payments adequate or more than adequate, while more than 40 percent find payer partners' payments adequate or more than adequate. On the PY 4 Practice Survey, 56 percent of practices found the CPC+ payments from CMS to be adequate or more than adequate, given the amount of work required by CPC+; in comparison, 43 percent of practices reported that CPC+ payments from payer partners were adequate or more than adequate (Figure 3.8). This pattern of CMS payments receiving more favorable ratings has persisted since PY 2, when questions on payment adequacy were first included in the CPC+ Practice Survey.

Practices that received higher CPC+ payments tended to rate their payments more favorably. Median enhanced payments were 28 percent higher for practices that rated payments adequate or more than adequate than for practices that rated payments less than adequate. Track 2 practices, which receive substantially more CMS funding than Track 1 practices but also have to meet more care delivery requirements, continued to hold more favorable views of CPC+ payments (60 percent rated PY 4 CMS payments as adequate or higher, versus 51 percent for Track 1). For payer partners' payments, the gap between Track 1 and Track 2 ratings continued to be much smaller, likely reflecting that many payer partners make little or no distinction between the payments provided to practices in the two tracks.

Practices' survey ratings for both CMS and payer partner payments have improved since PY 2. Consistent with the slight-to-moderate enhanced payment increases received by practices over the first four years of CPC+, practices' ratings of both CMS and payer partner payments have trended upward over time. The percentage of practices rating CMS payments adequate or more than adequate increased from 47 percent in PY 2 to 56 percent in PY 4, while the percentage rating payments from payer partners adequate or more than adequate improved from 31 to 43 percent over the same period.

Figure 3.8. Practices' ratings of adequacy of payment supports provided by CMS and payer partners in PYs 2, 3, and 4

Practices consistently rated CPC+ payments from CMS higher on adequacy than they rated CPC+ payments from payer partners. Ratings for both CMS and payer partners improved over time.



Sources: Mathematica's analysis of data from the independent evaluation's PY 2, PY 3, and PY 4 CPC+ Practice Surveys.

Notes: N = 2,471 CPC+ practices that responded to the CPC+ Practice Survey in each program year. Data for practices' ratings for payer partners come from the 2,054 practices that reported contracting with CPC+ payer partners. The percentage of missing responses each year was less than 2 percent.

PY = Program Year.

B.4.2. Understandability and usefulness of CPC+ payments

Most practices found CMS payment methodologies to be understandable and fair, and the proportions doing so have increased over time. In PY 4, 91 percent of practices agreed or strongly agreed that they understand how CMS calculates PBIP scores—a substantial increase from 71 percent in PY 2. Similarly, in PY 4, 84 percent of Track 2 practices agreed or strongly agreed that they understand how CMS calculates CPCPs—a slight increase from 76 percent in PY 2.

Ratings of the fairness of CMS payment methodologies also have trended upward since PY 2, though they remain lower than ratings of how understandable CMS's payment methodology was. The proportion of practices rating PBIP methodology to be fair increased from 46 percent in PY 2 to 61 percent in PY 4, while the proportion of Track 2 practices judging CPCP methodology to be fair rose from 54 percent to 69 percent over the same period.

Most practices continued to find CPC+ payments useful for primary care, even when they judged payment amounts to be inadequate. Eighty-nine percent of all practices surveyed found CPC+ payments to be useful for improving primary care (with 58 percent rating them very useful and 31 percent somewhat useful). Ratings of usefulness have improved since PY 2 and continue to be similar across the two CPC+ tracks. Even among the 28 percent of practices that deemed payments from both CMS and payer partners inadequate, 88 percent still considered the payments very or somewhat useful for improving primary care.

Practices continued to rate care management fees the most useful CPC+ payment support by far, and used these payments as the main funding source for salaries for care managers and other staff. All of the 21 deep-dive practices interviewed about PY 4 payment continued to describe care management fees as the most useful type of payment support they received. These payments provide a large, stable, and prospectively paid funding stream for paying staff salaries. All deep-dive practices reported using care management fees to pay for care managers and/or care coordinators. Other staff positions commonly funded by these payments include behavioral health providers, data analysts, population health coordinators, and clinical pharmacists.

B.4.3. Key payment-related challenges

Concerns about inadequate CPC+ payments from payer partners headed the list of payment-related challenges cited by practices. Among the 21 deep-dive practices interviewed about payment, nearly two-thirds noted lack of sufficient CPC+ funding from payer partners as a key barrier to implementing practice changes. Practices cited two factors, both related to payer partners' payments: lack of payments unique to CPC+, and low contributions per attributed life. Other key challenges included (1) uncertainty about how practice changes could be sustained after CPC+ ends (nearly half of practices), (2) lack of alignment among payers' payment approaches (almost 4 in 10 practices), and (3) unclear or unfair payment methodologies used by one or more payer partners (one in five practices).

Key challenges cited by practices have remained mostly stable over time, but sustainability has become a more pressing concern, while a couple of other challenges have subsided. As the end of CPC+ funding approaches, deep-dive practices are voicing increasing concerns about how they can sustain key practice changes, most notably care management and care coordination, at or near current staffing levels beyond 2021, when the model ends. At the same time, a couple of concerns commonly cited by practices in PY 1 have subsided over time: administrative burden and confusion resulting from CPC+ program requirements, including annual financial reporting, and the perception by practices that CMS and/or payer partners were not correctly attributing patients.

B.5. Practices' response to CMS's payment incentives

The steps that PBIP practices took to retain maximum payments have remained consistent over time. Among the 11 deep-dive practices we interviewed about payment that received PBIPs in PY 4, the approach to earning maximum payments has changed little since PY 2. On the quality side, these approaches included refining or adding to quality improvement processes, helping providers improve eCQM documentation so they can earn full credit for services already provided, and giving individual providers timely feedback on performance metrics to help them meet benchmarks. On the utilization side, approaches included educating patients about emergency department (ED) alternatives—for example, 24/7 nurse advice lines steering patients to other settings like urgent care centers—and focusing care management services on reducing avoidable admissions among high-risk patients.

As in PY 2, several deep-dive practices noted that the actions they took to retain maximum payment were responses to the aggregate incentives they faced across *all* the value-based programs (VBPs) in which they participated, rather than responses to any single program. Practices explained that no single VBP, including the PBIP, offered large enough incentives on their own to justify significant quality improvement investments.

Most practices continued to pool PBIP earnings with other VBP earnings to reward staff performance and to increase quality improvement investments. In PY 4, most deep-dive PBIP practices continued the practice of combining the rewards they earned from all the performance-based programs in which they participated. Practices used these pooled funds primarily for two purposes: (1) paying bonuses to practitioners and other staff, and (2) investing in more quality improvement infrastructure and staffing, aimed at helping the practice continue to improve the rewards they earn from performance-based programs. Practices typically did not rely on PBIPs or other VBP earnings to pay any portion of staff salaries because these payments are relatively small and the amounts earned are neither guaranteed nor, in most cases, paid in advance.³⁴

Overall PBIP scores increased substantially in PY 4, primarily driven by pandemic-related reductions in utilization.³⁵ Over the first three years of CPC+, practices eligible for PBIPs (that is, those not participating in SSP) made substantial gains in their overall PBIP performance. Practices sustained this trend in PY 4, increasing their median overall PBIP score to 93 percent—20 percentage points higher than in PY 3 (Figure 3.9).³⁶ The overall PBIP score is equally composed of quality and utilization components, and a substantial improvement in the utilization score, from a low in PY 1, was the most important factor in boosting the overall PBIP score over time. In PY 4, the median utilization score increased sharply to 96 percent (from 67 percent in PY 3), indicating that the pandemic substantially reduced hospitalizations and emergency department visits on a net basis. The median quality score—which began at a relatively high baseline in PY 1—reached the maximum of 100 in PY 3 and remained there in PY 4.

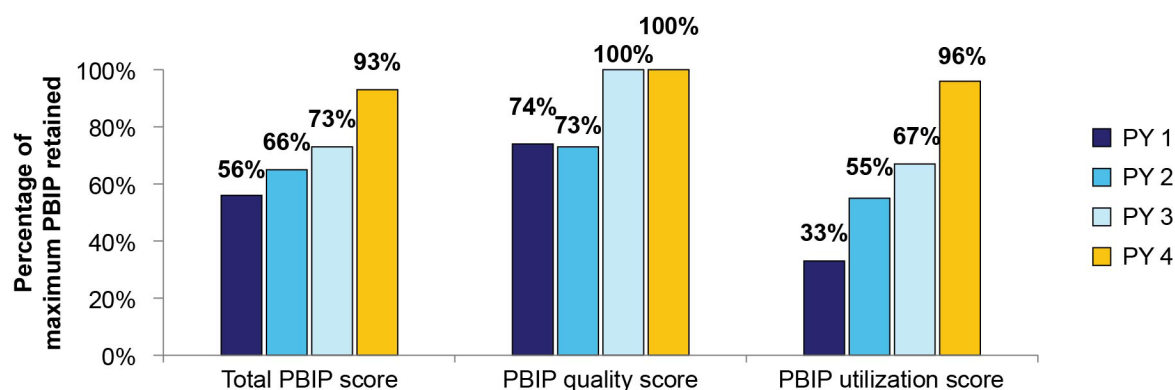
³⁴ Although PBIPs are paid in advance—unlike most other payments for performance—they are subject to retrospective recoupment. Nearly all deep-dive practices receiving PBIPs have reported setting the full amounts aside until CMS determined the final earned amounts.

³⁵ The sample for this PBIP analysis excludes (1) practices that were not eligible to receive PBIPs for all four program years (i.e., practices that either withdrew from CPC+ or joined or left SSP after CPC+ began), and (2) practices that changed either their practice size or practice ownership status (typically through mergers or acquisitions). We excluded these practices because we did not consider their PBIP scores to be representative of actual PBIP performance trends over time.

³⁶ The amount of total PBIP payments that a CPC+ practice retains equals the practice's normalized PBIP score multiplied by the maximum PBIP payments the practice was paid prospectively at the beginning of each program year. For a detailed description of PBIP scoring and recoupment calculations, see https://cpcpluscom.files.wordpress.com/2020/09/pbip_quick_reference_guide_2020.pdf.

Figure 3.9. Median PBIP scores in PY 1 through PY 4

Overall PBIP scores increased substantially over the first four years, driven especially by improvements in utilization from a low PY 1 baseline.



Source: Mathematica's analysis of payment data provided by CMS.

Notes: N = 899 CPC+ practices that received PBIPs in PY 1 through PY 4 and did not change practice size or ownership status during that time.

All differences detected across program years are significant at the $p = 0.001$ level.

PBIP = Performance-based Incentive Payment; PY = Program Year.

CMS modified PBIP scoring methodology and recoupment calculations for PY 4 in response to the COVID-19 pandemic. CMS's PBIP scoring methodology remained largely consistent for the first three years of CPC+. In response to the COVID-19 pandemic, CMS made one key change to PBIP score calculations for PY 4: The Patient Experience of Care (PEC) Survey, which generates the data to determine 40 percent of the PBIP quality score, was not fielded in PY 4. Instead, CMS used PY 3 (2019) PEC results to calculate the quality component of PY 4 PBIPs. For practices whose PY 3 PEC Summary Scores were higher than the mean PY 3 PEC Summary Score, CMS used the practices' own PY 3 scores to calculate PY 4 PBIP scores. For practices whose PY 3 PEC Summary Scores were below the mean PY 3 Summary Score, CMS used the PY 3 PEC mean score to calculate those practices' PY 4 PBIP scores. Because the mean PEC score was above the PEC threshold necessary to retain the full PBIP, this methodology change for PY 4 did not disadvantage any practices. In fact, 12 percent of practices benefited by having their own, lower PEC Summary Scores replaced by the PY 3 mean score. All other aspects of the PY 4 PBIP scoring methodology, including benchmarks, remained unchanged from previous years.³⁷ Because the pandemic led to steep declines in hospital and ED utilization, the retention of earlier benchmarks benefited practices.

In addition to the PEC scoring change, CMS also changed its recoupment calculation for PY 4 to make it easier for practices to retain more of their PBIPs. Prior to the pandemic, CMS used a practice's overall PBIP score for a given year to determine how much of its PBIP the practice could retain for that year. However, for PY 4, CMS compared the practice's PY 3 and PY 4 overall PBIP

³⁷ Specifically, CMS made no changes to the specifications, benchmarks, and reporting requirements for electronic clinical quality measures (eCQMs, which account for 60 percent of the PBIP quality score), acute hospital utilization (67 percent of the PBIP utilization score), and emergency department utilization (33 percent of the PBIP utilization score).

scores, and used the higher of the two scores to determine the PBIP amount the practice could retain. Nineteen percent of practices had their PY 4 scores replaced by higher PY 3 scores.³⁸

At the start of CPC+, PBIP scores differed markedly by practice ownership status, with independent practices outperforming system-owned practices, especially on utilization, but this performance gap narrowed steadily over time. By PY 4, the performance gap had largely disappeared, with system-owned practices attaining a median overall score of 95 percent, compared to 97 percent for independent practices.³⁹

C. Alternative to FFS payments



For Track 2 practices, CMS and payer partners agreed to use an alternative to the historically common FFS payment approach (“alternative payments”).

C.1. CMS’s hybrid payment approach

In CMS’s alternative payment approach for Track 2 practices (called the “hybrid payment approach”), CMS calculates each practice’s average Medicare PBPM payments for selected evaluation and management (E&M) services for the 24-month period before CPC+ started. Then, it pays the practice a proportion of that amount prospectively on a quarterly basis, in the form of a Comprehensive Primary Care Payment (CPCP). Since PY 3, Track 2 practices have been able to elect to have either 40 or 65 percent of their payments paid prospectively via the CPCP.⁴⁰ CMS correspondingly reduces FFS payments for those E&M services by that chosen proportion (together with the CPCP, this is known as the “hybrid payment”).

In PY 4, more than three-quarters of practices continued to elect the minimum CPCP in CMS’s hybrid payment approach. The pattern of most Track 2 practices electing the minimum CPCP percentage possible persisted over the first four program years. However, the proportion of practices choosing the maximum CPCP level of 65 percent more than doubled from PY 1 to PY 4 (from 10 percent to 24 percent). Although this still represents a small proportion of all Track 2 practices, it suggests that some practices had favorable experiences with CPCPs early in CPC+ and sought to increase the percentage they received prospectively, beyond the minimum percentage they were required to accept.

³⁸ All PBIP scores reported in this section, including in Figure 3.9, reflect practices’ actual PY 4 PBIP scores rather than the higher of their PY 3 or PY 4 PBIP scores.

³⁹ Medians for PBIP quality component: 100 for system-owned practices; 100 for independent practices. Medians for utilization component: 95 for system-owned practices; 97 for independent practices.

⁴⁰ In PY 1, practices could also elect a 10 or 25 percent CPCP; in PY 2, they could also elect a 25 percent CPCP (but no longer had a 10 percent option). This planned increase in the minimum CPCP level over the first three program years was designed to allow practices with less experience in alternative payment arrangements to adjust gradually to CMS’s hybrid payment approach.

C.2. The alternative payment approaches that payer partners used

No payer partners added alternative payment approaches in PY 4. Among the 50 payer partners responding to the PY 4 Payer Survey, eight (16 percent) used an alternative payment approach in PY 4. These are the same eight payer partners that reported using alternative payment approaches in the three previous years of CPC+.⁴¹ In addition, there were four payer partners that first launched pilot programs in PY 2 to test alternative payment approaches with a few practices. None of these four payer partners expanded their pilots into full programs; instead, they kept those small alternative payment programs in place with a few practices. With no payer partners introducing new alternative payment approaches in PY 4, no progress was made toward CMS's goal that *all* payer partners provide an alternative payment approach to Track 2 practices by the beginning of PY 2.

All payer partners providing alternative payments to CPC+ practices used full or partial primary care capitation as their payment approach. Several of these payer partners had implemented longstanding alternative payment approaches that pre-dated CPC+. Unlike CMS, most of the payer partners offering alternative payments did so for both Track 1 and Track 2 practices.

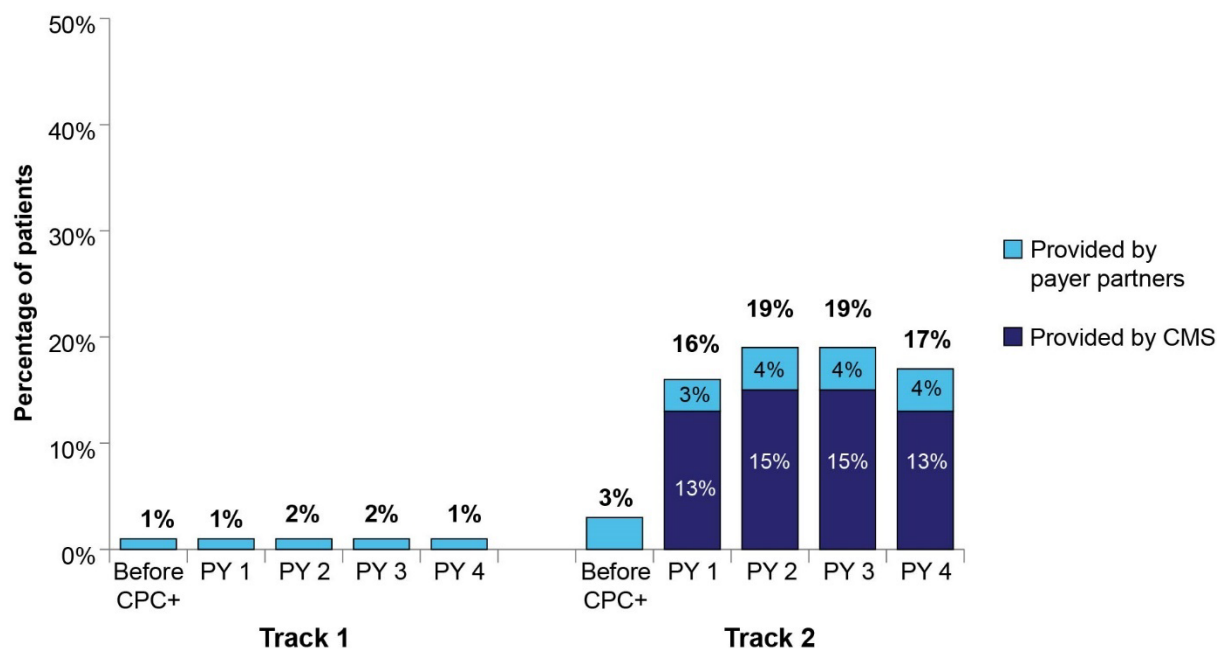
C.3. Alternative payments were not widespread in CPC+

Fewer than one in five patients in Track 2 practices were covered by payers with alternative payment approaches in PY 4. Nearly 80 percent of these patients were Medicare FFS beneficiaries attributed by CMS, rather than patients covered by payer partners. Before the start of CPC+, only 3 percent of patients in the practices that eventually joined Track 2 of CPC+ were covered by payer partners with alternative payment arrangements through longstanding capitation contracts. In PY 1, this proportion increased to 16 percent of patients because CMS launched its hybrid payment approach for Track 2 practices. This proportion remained stable over time (Figure 3.10). Given that alternative payments aim to offer practices the flexibility to deliver innovative and typically nonbillable services that might benefit patients (for example, group visits or home visits), these findings suggest that the number of patients who can benefit from such alternatives to traditional office visits remains quite limited. In addition, according to CMS's theory of action for the CPC+ model, a critical mass of payers needs to collectively support a new payment approach before practices will be sufficiently incentivized to make fundamental changes in how they deliver care. If that is so, then having so few patients covered by prospective, population-based payments would hinder any significant movement away from a volume-based mindset and patterns of care delivery.

⁴¹ Because the number of payer partners responding to the CPC+ Payer Survey serves as the denominator for calculating the percentage of payer partners providing alternative payments in each year, year-to-year fluctuations in this number of survey respondents lead to slight fluctuations from one annual report to the next in the percentage of payer partners providing alternative payments. However, the numerator (the actual number of payer partners reporting that they provide alternative payments) has remained unchanged at eight since PY 1, indicating no change in payer partners' use of alternative payment approaches.

Figure 3.10. Approximate percentage of all patients served by CPC+ practices for which CMS or payer partners provided alternative to FFS payments

During the first four years of CPC+, the proportion of patients covered by alternative payments was small and did not increase over time. This fell far short of CMS's expectations for moving Track 2 practices away from FFS.



Source: Mathematica's analysis of data from the CPC+ Payer Survey, payment data provided by CMS, and practice-reported financial data submitted to CMS for PYs 1 through 4.

Note: N = 1,185 Track 1 practices and 1,414 Track 2 practices that were participating at the end of PY 4. Track 1 practices reported serving 6,250,044 patients, and Track 2 practices reported serving 9,082,058 patients in PY 4.

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

C.4. Progress in using alternative payments to implement alternative visits

Due to COVID-19 pandemic disruptions and persistent hesitancy from many practices about moving away from FFS, PY 4 saw limited, if any, progress on use of alternative visits.⁴² Among the 15 deep-dive Track 2 practices interviewed about PY 4 payment, perspectives on CPCPs and movement away from FFS have changed little, if at all, since PY 2. The few practices that had embraced alternative payments and elected high CPCP levels from the start of CPC+ continued to favor a transition from FFS. These practices launched multiple types of alternative visits in the first two years of CPC+ and continued to expand those services to more patients, until these efforts were interrupted early in PY 4 by the pandemic, which caused them to suspend in-person alternative visits such as group visits and home visits due to safety concerns. These practices planned to resume the alternative visits and even expand them once the pandemic receded and patients became comfortable with in-person visits again.

⁴² Although practices rolled out telehealth broadly in response to the pandemic, as described earlier in this chapter, they billed payers for nearly all of these telehealth visits. Therefore, this PY 4 expansion in telehealth should not be viewed as progress in moving away from FFS.

However, enthusiasm about alternative payments remained the exception among the deep-dive Track 2 practices that were interviewed about payment. More than half of these practices had made limited, halting progress in implementing alternative visits in the first couple of years of CPC+, citing key barriers such as logistical challenges and lack of management and provider buy-in. Even without a pandemic, these practices would have likely achieved limited progress, at best, on alternative visits in PY 4. Aside from the practices struggling with implementing alternative visits, a few deep-dive Track 2 practices either continued to reject the premise that they should transition away from FFS at all or remained confused about what that transition would entail. By the end of PY 4, these practices still had no plans to use CPCPs to implement alternative visits.⁴³ (Section 4.3.1 provides more information on practices' work on alternative visits.)

3.2.2. Data feedback

A. Overview of data feedback to CPC+ practices



Since the start of CPC+, CMS has provided practices with actionable data feedback to guide their decision making, and payer partners have committed to sharing utilization of services and/or total cost-of-care data with practices at least quarterly.⁴⁴ Payer partners also agreed to pursue data aggregation efforts by either contributing their data to an existing multipayer claims data system or collaborating with other payer partners in their region to develop an aggregated report to share data with CPC+ practices.⁴⁵ In addition, payers agreed to align the measures that are included in data feedback to practices. Currently, payer partners are providing aggregated data feedback to practices in seven regions, and CMS is providing data on Medicare FFS beneficiaries in all regions through an interactive data feedback tool.

In this section, we describe the data feedback CMS and payer partners provided to CPC+ practices and how data aggregation efforts progressed in PY 4. We also describe how practices reviewed and used data feedback. In addition, we discuss lessons learned from CPC+ data feedback efforts to date and plans for sustaining data aggregation after CPC+ ends. For each of these topics, we describe findings for PY 4, and compare them to available findings from PYs 1 through 3.

⁴³ Two of these three practices reported setting their CPCPs aside to supplement reduced FFS payments throughout the year. The other practice reported pooling CPCPs with care management fees to pay for CPC+ activities, including care management staffing.

⁴⁴ Although their memorandum of understanding does not require them to do so, many payer partners also include quality data.

⁴⁵ As part of their memorandum of understanding, CPC+ payer partners committed to data-sharing efforts, though the extent of commitment varied based on the maturity of a structured multipayer claims data system in their region. If an appropriate data system existed or could be created in the payer partner's region to support a common approach for sharing data with practices, the payer partner agreed with CMS to make a reasonable effort to contribute their utilization and/or total cost-of-care data. If there was no appropriately structured data system available in the region, and, despite the best efforts of CMS and other payer partners one could not be created, the payer partner agreed to work with other payer partners in the region to develop a plan for their common approach for data aggregation. Payer partners also committed to ensuring, to the extent possible, that quality measures and specifications for these quality measures are aligned with those established by other payer partners in the CPC+ region.

B. What data feedback do CMS and payer partners provide to CPC+ practices?

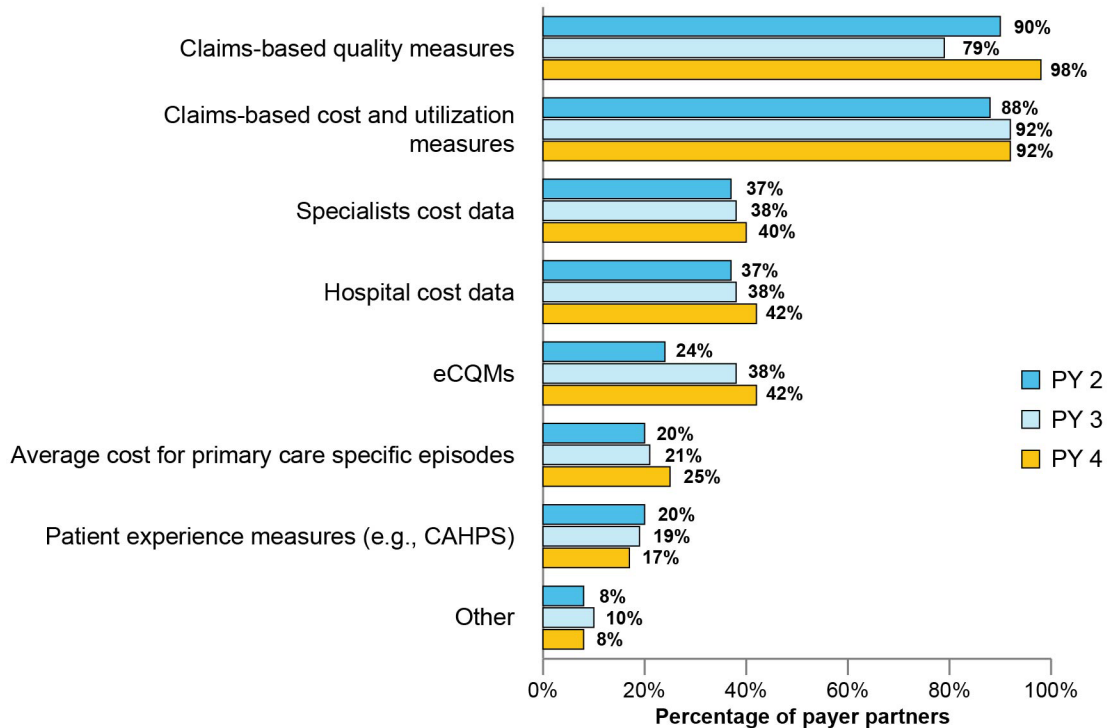
In PY 4, CMS and nearly all payer partners continued to provide CPC+ practices with data feedback on at least a quarterly basis. Among the 98 percent of payer partners providing data feedback to practices in PY 4, all provided data calculated at the patient level and nearly all (98 percent) provided data at the practice level. Many also provided data feedback calculated at the system and practitioner levels (68 percent and 88 percent, respectively). As in the first three program years, nearly all payer partners (96 percent) provided data feedback to practices not participating in CPC+ along with their CPC+ practices.

In PY 4, payer partners that provided data feedback continued to most commonly report providing claims-based quality measures and claims-based cost and utilization measures. The percentage of payer partners including different types of data in their reports has been fairly consistent since PY 2 (the first year we collected this information) (Figure 3.11). Consistent with previous program years, the percentages of payer partners in PY 4 reporting claims-based quality measures and claims-based cost and utilization measures were high (98 and 92 percent, respectively) and the percentages including measures of patient experience (17 percent) and costs of specific services, such as hospital and specialist care (42 and 40 percent, respectively) were lower.⁴⁶ The percentage of payer partners providing electronic clinical quality measures (eCQMs) increased from 24 percent in PY 2 to 38 percent in PY 3, due to one payer partner adding eCQMs to data feedback in several CPC+ regions. Feedback of eCQMs continued to grow but to a lesser extent in PY 4, with 42 percent of payer partners including eCQMs in their feedback reports.

⁴⁶ Between PYs 2 and 3, one payer partner stopped offering claims-based quality measures across several CPC+ regions, leading the percentage of payer partners reporting that they offered this measure to decrease from 90 to 79 percent. This percentage increased to 94 percent in PY 4, when the same payer partner began offering claims-based quality measures again.

Figure 3.11. Among payer partners providing data feedback, percentage that included types of data in their feedback reports and tools in PYs 2, 3, and 4

The percentages of payer partners that included various types of data in feedback reports and tools have been fairly consistent between PY 2 (the first year we collected this information) and PY 4. The most commonly provided feedback remained claims-based quality and claims-based cost and utilization measures.



Source: Mathematica's analysis of data from the independent evaluation's PYs 2, 3, and 4 CPC+ Payer Surveys.

Notes: N = 54 payer partners in PY 2, 53 payer partners in PY 3, and 49 payer partners in PY 4. Eight of the 57 payer partners in PY 4 were excluded from the analysis: 7 did not complete the PY 4 CPC+ Payer Survey, and 1 did not have any attributed lives in CPC+. We count multiregion payers separately for each region in which they partner.

Payer partners that reported "Other" indicated other types of data, such as engagement measures and pharmacy claims cost data.

This figure does not present data from the PY 1 CPC+ Payer Survey because there were significant changes in the wording of this question and the response options between the PY 1 survey and the PY 2–PY 4 surveys.

CAHPS = Consumer Assessment of Healthcare Providers and Systems; eCQM = electronic clinical quality measure; PY = Program Year.

More than half of payer partners (54 percent) offered interactive data feedback in PY 4, consistent with prior program years. Interactive reports enable practices to drill down into additional detail on key metrics to enhance the interpretation and actionability of the data.⁴⁷

⁴⁷ This includes payer partners that offered only an interactive data portal and those that did so in addition to another type of report (e.g., interactive data portal and static PDF report). We do not present data for PY 1 because there were substantial missing data for this question in the PY 1 Payer Survey. In PY 1, 25 percent of payers that reported providing data feedback did not respond to this question; there were no missing data in the PY 2, PY 3, and PY 4 surveys.

C. How did payer partners' data aggregation efforts progress in PY 4?

As part of CPC+, payer partners agreed to try to provide regional multipayer reports to practices covering performance of services for a large swath of their patient populations. These data aggregation efforts are intended to reduce the burden on practices to access and reconcile data from multiple payer partners, and to help them manage population health and identify areas for quality improvement. We summarize below the current status of data aggregation in CPC+ regions and the changes in data aggregation and feedback approaches that were made in PY 4.

In PY 4, 7 of the 14 regions were providing aggregated data feedback reports to CPC+ practices, up from 3 at the start of CPC+ (Figure 3.12):

- *Five regions* (Colorado, Ohio/Kentucky, Oklahoma, Oregon, and Greater Philadelphia [PA]) continued to provide aggregated data feedback reports in PY 4 that included Medicare FFS data and CPC+ payer partners' data. Three of these five regions built upon prior data aggregation efforts from CPC Classic (Colorado, Oklahoma, Ohio/Kentucky).
- *One region* (Tennessee) continued to provide aggregated reports with data from all payer partners in the region, but limited to their Medicaid lines of business (from the state and managed care organizations).⁴⁸
- *One region* (Michigan) began releasing aggregated data feedback for first time in PY 4, including data from Medicare FFS and payer partners.

Three regions were exploring pathways to aggregation but have not yet released reports:

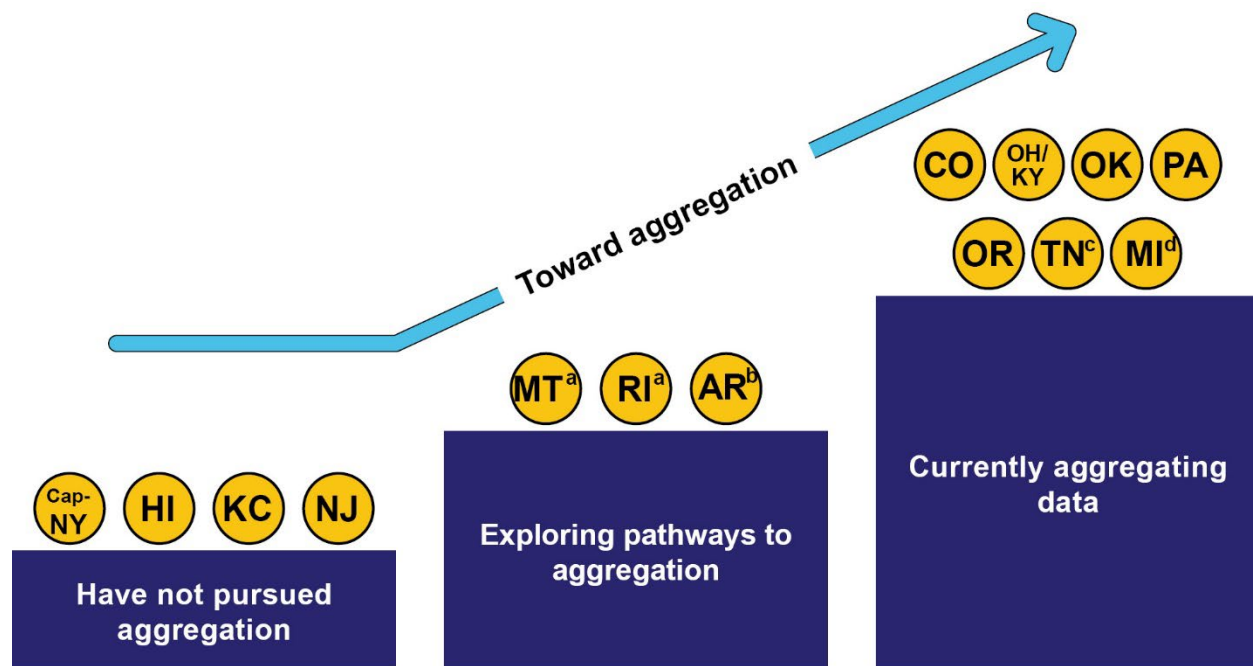
- *One region* (Arkansas) continued to work towards data aggregation in PY 4 but has not yet released aggregated claims data feedback to CPC+ practices. The region, however, has been supporting CPC+ practices by providing laboratory test results and admission, discharge, and transfer (ADT) notifications for CPC+ patients, first sending daily ADT reports for CPC+ attributed patients for commercial payer partners in PY 3 and for CPC+ attributed Medicare patients beginning in PY 4. These notifications alert practices each time one of their patients is admitted to the hospital, transferred to another facility, or discharged, allowing practices opportunities to manage the transitions and coordinate care.
- *Two regions* (Montana and Rhode Island) were still considering potential ways to provide aggregated data to practices through broader state health information exchange (HIE) efforts.

⁴⁸ Tennessee decided not to add Medicare FFS data to its aggregated reports because only Medicaid lines of business participate in CPC+ in the region and since it only contains measures wholly relevant to a Medicaid population. Tennessee also sends real-time admission, discharge, and transfer notifications to CPC+ practices as well as to non-CPC+ practices participating in the state's patient-centered medical home (PCMH) program.

As of PY 4, the other four regions have not pursued data aggregation (Greater Kansas City, Hawaii, New Jersey, North Hudson-Capital Region). As described in previous annual reports, these regions reported the following key challenges to accomplishing data aggregation: the relatively low number of payer partners in the region, lack of engagement from key payer partners, and robust existing data initiatives that would make additional efforts duplicative. Appendix 3.D includes additional detail about challenges that regions experienced as they pursued data aggregation.

Figure 3.12. Regional progress toward aggregating data feedback, as of the end of PY 4

Progress aggregating data for feedback reporting to CPC+ practices has been slower than expected, with seven regions currently aggregating data, three regions exploring future aggregation activities, and four regions not pursuing aggregation.



^a Considering activities such as health information exchanges as potential future pathways.

^b Released admission, discharge, transfer reports and exploring pathways to aggregation in future years.

^c Tennessee does not include Medicare FFS data in its tool.

^d Michigan released its first aggregated data feedback report in PY 4.

D. Challenges regions experienced aggregating data in PY 4

In PY 4, data aggregating organizations (referred to as data aggregators) in CPC+ regions noted similar challenges aggregating data as in previous years. First, data aggregators in most regions continued to cite lags in claims data and concerns about sharing proprietary cost data as key challenges in developing aggregated feedback. Aggregators in three regions sought to supplement claims data with more timely or richer data sources to improve the actionability of their tools, such as ADT notifications or health data feeds from HIEs.

Aggregators or convenors in three regions reported low engagement or use of the aggregated feedback tools by practices. One region reported that several factors likely contributed to low practice engagement, including difficulty engaging payer partners in addressing data submission issues, and the ability to deliver technical supports to practices. Two of these regions also noted that the pandemic contributed to low rates of use of the aggregated tools.

In addition, data aggregators in two regions newly described challenges aggregating data across payer partners that use different data file formats; three regions also had difficulty creating practice-level reports. For more information about regions' challenges aggregating data, please see Appendix 3.D. In Section G, we present information on practices' use of data feedback tools.

COVID-19 and data aggregation efforts in PY 4

While several data aggregators observed declines in practices' engagement with tools and trainings during the pandemic, most indicated that technical efforts to aggregate data were largely unaffected during this time. In addition, there are a few examples of positive collaboration around use of the aggregated tools:

- One aggregator used aggregated claims data to help a payer partner identify individuals at higher risk for contracting COVID-19 and provide additional outreach.
- Another data aggregator trained practices to identify individuals with ongoing respiratory issues potentially related to COVID-19 using information in the aggregated tool.

E. Lessons learned from efforts to aggregate data feedback

In interviews with data aggregators, we asked those with active data aggregation efforts in CPC+ regions about their lessons learned and strategies for enhancing collaboration and coordination.

Partnerships with regional convenors and multipayer workgroups were important for coordinating data aggregation efforts. Data aggregators in six of the seven regions with active data aggregation efforts highlighted the importance of partnering with the regional convener or a multipayer workgroup to facilitate communication, align priorities among payer partners, and bring together other stakeholders such as learning contractor staff to coordinate training resources. For example, one convener described that, in their dual role as the region's data aggregator and convener, they have been able to successfully leverage multipayer meetings to discuss data feedback priorities, including the importance of submitting data for aggregation and applications of the tool for quality improvement. In another region, one organization serves as both the data aggregator and the regional learning faculty (RLF), allowing it to readily train the practice facilitators to use the aggregated data feedback tool, so they could coach practices on how to use the tool.

Holding consensus-making discussions early in the initiative is vital for agreeing on key design decisions. A data aggregator in one region explained the importance of starting discussions with payer partners early to come to agreement about which cost and utilization metrics would be reported in the tool. A data aggregator in another region stressed the usefulness of holding individual conversations with payer partners to encourage them to submit their cost data, given payer partners' concerns with sharing the proprietary data. This data aggregator also explained that presenting examples to payers of how data would be displayed in the tool helped them demonstrate the usefulness of cost metrics to practices.

Leveraging regional learning faculty and payer partners to support practice training could increase practice engagement with data feedback. In particular, a data aggregator in one region described how payer partners offered transformation coaching including teaching practices how to use and interpret data in the tool, which helped to improve practices' engagement with the tool. In another region, where practices' use of the aggregated feedback tool has been consistently very low, the data aggregator suggested that stronger payer partner engagement and cross-training the RLF in using the tool could have bolstered providers' use of the tool. Data aggregators in two other regions suggested that discussing with the RLF earlier about how to support practices' use of data feedback and providing them with access to the tools would have better enabled them to train practices in using the aggregated data feedback tools.

F. Plans for sustaining aggregated data feedback after CPC+ ends

With CPC+ concluding at the end of 2021, by the end of 2020 (PY 4), most of the regions currently providing aggregated data feedback reports had developed or were in the process of identifying supports needed to sustain these efforts after CPC+.

Aggregators in six of the seven regions with current aggregation efforts are planning to work with payer partners and practices to secure funding for continuing or expanding data aggregation initiatives after CPC+ ends. A data aggregator in one region reported that it plans to sustain the same detailed level of reporting and features it currently provides for practices after CPC+ ends because it views its reporting tool as a valued service to practices as the state moves toward value-based payment programs. Specific initiatives like payers' value-based payment contracts, statewide PCMH programs, or federal initiatives like CMS's Primary Care First may also help data aggregators remain strategic partners of payers and practices. Indeed, a data aggregator in another region expressed hope for sustaining data aggregation efforts in its region by working alongside payer partners through future federally funded, multipayer initiatives such as Primary Care First (PCF).⁴⁹

However, the data aggregator in one region noted that data aggregation efforts will end with CPC+ as payer partners are not prioritizing funding for aggregated data (for either CPC+ practices or other providers).

⁴⁹ In Primary Care First (PCF), CMS will continue to support data aggregation efforts in CPC+ regions that achieved data aggregation by the end of CPC+ (CMMI 2021). CMS will also assess the readiness and commitment for data aggregation in new PCF regions. CMS will continue to provide quarterly data feedback to PCF practices through the PCF Data Feedback Tool, which includes summaries of Medicare FFS expenditure, utilization, and care delivery data. CMS will also provide claims line feeds to all PCF practices.

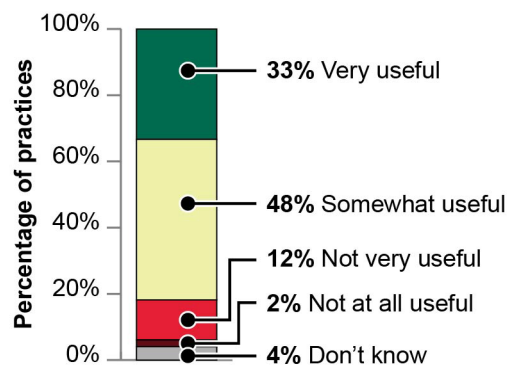
Data aggregators in three regions commented that moving toward more real-time notifications would help practices better act upon data feedback. To complement claims data, one region was planning to add real-time ADT notifications to its data feedback tool to improve the timeliness and actionability of the data feedback, while two other regions were considering integrating health data feeds from their HIEs. Data aggregators in these regions mentioned evolving their activities towards statewide solutions such as HIEs and all-payer claims databases with aims to increase the share of lives in aggregated data feedback tools.

G. Practices' use and perception of data feedback

In PY 4, many practices reported using the CMS data feedback tool and feedback from other individual payers. Eighty-seven percent of practices indicated in the CPC+ care delivery requirements reporting that they regularly used claims data feedback from CMS's CPC+ data feedback tool in PY 4, similar to PY 3.⁵⁰ In deep-dive interviews, practices said they used the tool for benchmarking their quality, cost, and utilization performance against other practices in their region. Most practices that used the CMS data feedback tool also said that they did so to identify candidates for longitudinal care management. A lower, but still high percentage (79 percent) of practices reported that they regularly used claims data feedback from other payers, similar to PY 3. One-third of practices (37 percent) reported that they used multipayer data from an HIE, all-payer claims databases, or data aggregators, likely in part due to these data being less consistently available to practices across regions. In the PY 4 CPC+ Practice Survey, one-third of practices reported that data feedback was “very” useful for improving primary care and an additional 48 percent reported that it was “somewhat” useful (Figure 3.13).

Figure 3.13. Practices' rating of the usefulness of data feedback support in PY 4

Many practices reported in the PY 4 CPC+ Practice Survey that data feedback was somewhat useful or very useful for improving primary care, suggesting that practices continued to find data feedback useful as in prior years.



Source: Mathematica's analysis of data from the independent evaluation's PY 4 CPC+ Practice Survey.

Note: N = 2,459 CPC+ practices.

⁵⁰ CMS asks practices to report on data availability and its use as part of their quarterly reporting on meeting care delivery requirements. However, the question asking practices about their use of data feedback from any of a number of sources changed in PY 3, so we do not have comparable data to report from PY 1 and PY 2. In PYs 1 and 2, practices were asked to rank the helpfulness of each type of data feedback. In PYs 3 and 4, practices were asked to first indicate which data feedback types they “regularly use” before providing an assessment of helpfulness. Since the PYs 3 and 4 care delivery requirement data are limited to regular users of data feedback, we did not make longitudinal comparisons.



Closer look: Data Feedback Using the CMS Data Feedback Tool

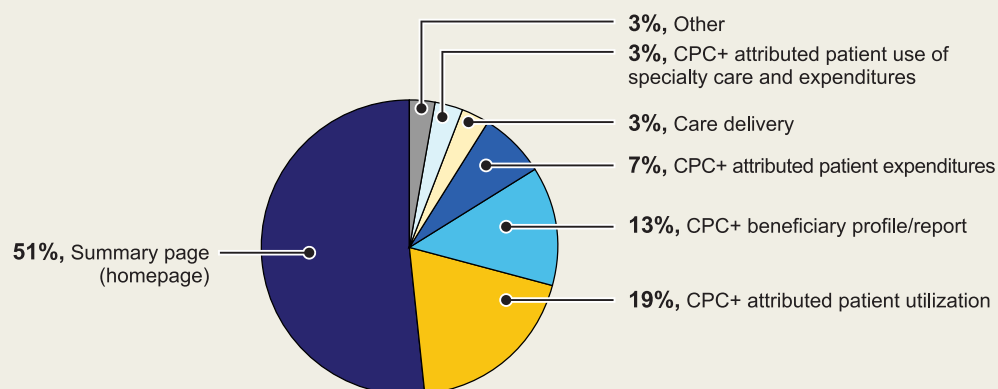
In August of PY 2, CMS introduced a new interactive data feedback tool for CPC+ practices, which allows them to view Medicare FFS expenditures, utilization, and care delivery data via an online portal. Practices also can drill down to patient-level data and produce customized beneficiary reports. Reports on the usage of this tool in PY 3 and PY 4 indicate that:

Fewer practices used the data feedback tool in PY 4. The percentage of practices that accessed the tool at least once during the year declined from 79 to 71 percent from PY 3 to PY 4. Total page views among users in practices fell markedly from 320,519 page views in PY 3 to 150,127 page views in PY 4. In our interviews with deep-dive practices (discussed in Section 3.2.E.), practices described that the COVID-19 pandemic reduced staff members' availability to access and use the tool. Similar to PY 3, in PY 4, more large and medium-sized practices used the interactive data feedback tool than small practices (76, 73, and 62 percent).*

In PY 4, the summary page (homepage) of the tool continued to be the most frequently viewed page because it is the default page when users access the tool (Figure 3.14). The summary page provides a snapshot of a practice's key performance indicators (such as total Medicare FFS expenditures, hospitalizations, and ED visits), relative to the practice's region-level average and the CPC+-wide average, and trends from prior quarters. Other pages that practices frequently viewed were the CPC+ attributed patient utilization page (19 percent) and the CPC+ beneficiary profile/report (13 percent; Figure 3.14).

*We defined these groups as: large practices (>5 primary care practitioners [PCPs]), medium practices (3–5 PCPs), and small practices (0–2 PCPs).

Figure 3.14. Percentage of CMS data feedback tool page views by page type, of the total practice page views in PY 4



Source: CPC+ Data Feedback Tool Practice Monthly Usage Reports, January to December 2020.

Note: N = 150,127 page views. The summary page tool is the default page of the tool, and users will always access the summary page at least once during each session. "Other" includes patient demographics and home/quick tips pages. The care delivery page includes statistics on the percentage of: active patients empaneled, ED discharges with a follow-up visit within one week, empaneled patients who are risk-stratified, empaneled patients who are under care management, hospital discharges with a follow-up within 72 hours or two business days, and average number of Patient and Family Advisory Council meetings in the last two quarters.

Some deep-dive practices described challenges to using the CMS data feedback tool's claims data in PY 4. Challenges with using data feedback that emerged in deep-dive interviews, similar to prior years, included:

- *Lags in claims data and need for timelier data feedback.* About one-third of all deep-dive practices noted that the lag in claims data, which may be three to six months after the date of service, presented challenges for population health management and timely quality improvement. About one-quarter of deep-dive practices expressed a preference for using their own electronic health record-enabled data feedback to access real-time information on quality performance, gaps in care, and other metrics. Many practices valued this timelier information even though it did not capture care from other providers or care settings.
- *Lack of staff availability.* About one-quarter of deep-dive practices noted that a lack of staff availability to work with the volume of data contained in the tool and the pandemic also hindered practices' ability to use data feedback to improve population health.

In PY 4, more than three-quarters of the deep-dive practices reported that they did not use cost data. About one-quarter of deep-dive practices indicated that providing the best quality patient care was the primary reason *for not using cost data* in guiding care delivery decisions. The few deep-dive practices that indicated they used cost data to change care delivery did so primarily to guide specialty referrals. For example, after learning that their region had particularly high specialist costs, one deep-dive practice developed collaborative care agreements with preferred specialists. As reported on the PY 3 Practice and Physician Surveys, practices reported using other data such as quality of care, patient experience, or utilization data more frequently than data on high-cost specialists or total cost of care to inform care delivery changes.

Practices that did not use cost data relayed a few reasons for not doing so, including concerns about the actionability of these data or uncertainty about how to access these data. For example, a few deep-dive practices reported that they were not able to leverage information on high-cost specialists to change referral patterns, due to a shortage of specialty providers in their regions or markets. A few deep-dive practices were also not sure how or where to access cost data either because of a general lack of awareness of data feedback tools, or because practice and system leadership did not share cost data broadly. There were no differences observed by SSP status.

In Appendix 3.E, we provide data aggregators' perspectives on practices' challenges in using data feedback and highlight some strategies CPC+ regions used to address these challenges.

3.2.3. Learning

A. Learning supports

In this section, we describe the learning supports CMS and payer partners provide to CPC+ practices, including how CMS evolved its learning strategy throughout the model from PY 1 to PY 4. We describe changes to the learning supports that CMS planned for and implemented in PY 4, and the unplanned changes implemented in response to the COVID-19 pandemic. We also characterize how CPC+ practices used and perceived the usefulness of the learning supports, and

the learning system’s role in helping CPC+ practices implement and prepare to sustain the changes practices made for CPC+ after the model ends.

A.1. Overview of learning supports

CMS planned, created, and funded a robust learning system for CPC+ practices. The learning system provides practices with detailed information and resources on the Comprehensive Primary Care Functions and care delivery requirements, facilitates peer learning among participating practices, and supports practices in improving CPC+ outcomes.

Our evaluation focuses primarily on the learning system funded by CMS and provided by its contractors because it was the main source of learning support for participating practices, as intended. CPC+ payer partners did not commit to providing CPC+ practices with learning support in their MOU with CMS, although most payers reported offering learning supports on their own in all PYs (see text box.)

CMS’s learning supports

CMS contracted with several organizations to provide national- and regional-level learning support to CPC+ practices. The National Learning Team (NLT) leads the national learning activities for CPC+ practices, such as hosting national webinars and disseminating information about CPC+ to practices through CPC+ Connect and the Implementation Guide. The Regional Learning Network (RLN) coordinates regional learning activities by overseeing the work of practice facilitators, who provide learning support to practices in their region, such as group learning events and tailored one-on-one support to individual practices (called “practice coaching”). In each program year, CMS tried to standardize learning supports across regions by creating minimum requirements for learning contractors and practice facilitators. The implementation contractor supports CMS’s work across a variety of learning activities, including onboarding practices, assistance with calculation of CPC+ payments, and maintaining a help desk for practices.

CMS provided practices with the same types of learning supports in PY 4 as in all prior program years: durable learning products and tailored support (Table 3.3).^{51,52} Durable products are available on demand to CPC+ practices, meaning they can be accessed at any time during CPC+ (for example, recordings of webinars or the CPC+ Implementation Guide). Durable products are typically created to apply to many or all CPC+ practices. Tailored supports are highly adapted to the needs of a practice or group of practices participating in the learning activity, making them more resource-intensive to produce. Tailored supports are typically interactive events or activities that happen in real time (such as practice coaching or regional

⁵¹ Throughout this section, we compare findings from PY 4 to findings from PYs 1, 2, and 3. When reporting findings from the CPC+ Practice Survey, we explicitly state that our findings only cover PY 2 to PY 4, because the PY 1 CPC+ Practice Survey did not ask about learning supports.

⁵² In previous annual reports, we categorized the CPC+ learning supports into three categories: information dissemination tools, group learning, and tailored support. In this report, we streamlined these three categories into two categories—durable products and tailored supports—to reflect the evolving emphasis on “durable” learning products, conveyed by CMS and its contractors in interviews in PY 3 and PY 4. The new categories also allow us to efficiently classify small group coaching, which became a requirement in PY 4 and—under the previous categorization schema—would apply to both the group learning and tailored support categories.

learning sessions) or close to real time (such as submitting a Help Desk ticket or emailing the practice's practice facilitator).

Table 3.3. Description of the CPC+ learning supports provided in PY 4

In PY 4, CMS provided to CPC+ practices four types of durable learning products (for example, CPC+ Connect and the Implementation Guide) and four additional tailored supports such as practice coaching, that were more individualized and occurred in real time.

Learning support	Description
Durable learning products	
CPC+ Connect	Web-based collaboration platform moderated by CMS learning contractors; used by practices to get guidance and share ideas and resources
CPC+ Implementation Guide	Document that details CPC+ care delivery and reporting requirements, as well as helpful examples, recommendations, and references
Podcasts	Podcast episodes, published on CMS's YouTube channel, where CPC+ practice staff describe their strategies for a particular care transformation concept
Webinars	Virtual events hosted by the NLT for all CPC+ practices
Tailored supports	
CPC+ Help Desk support	Point of contact for CPC+ practices to ask questions via phone or email
Practice coaching	Virtual or in-person interactions between practices and practice facilitators; practice facilitators provide one-on-one coaching with individual practices, as well as small group coaching sessions with multiple practices
Regional Implementation Networking Groups (RINGS)	Virtual topic- or role-based groups led by practice facilitators in each region
Regional learning sessions	Full-day, in-person meetings hosted in each region twice yearly

NLT = National Learning Team.

Payer partners' learning supports in PY 4

While the main source of learning support is CMS, payer partners continued providing learning supports to CPC+ practices in PY 4, as they did since before CPC+ began. On the CPC+ Payer Survey, 90 percent of payer partners reported that they supplemented CMS's learning supports with their own, which was similar to the more than 80 percent of payers that reported doing so in each of the previous years. Payers most commonly reported providing practice coaching or group learning sessions, which was consistent with PYs 1 through 3 (above 80 percent). Also like previous program years, practices reported using these payer partners' learning supports less often and rated them less favorably than CMS's learning supports, which is expected given that CMS devoted more resources to CPC+ learning supports than payer partners, and CMS intended to be the main source of such supports for CPC+.

In PY 4, about half of payers (52 percent) coordinated the technical assistance they provided with the RLN. This coordination looked different in each region, but interview respondents gave examples of how payers may have attended stakeholder calls, reviewed the regional learning plans, participated in learning sessions or RINGS, or coordinated when they schedule their learning events to avoid burdening practices.

A.2. CMS's learning strategy

Although CMS provided consistent learning supports across all PYs of CPC+, CMS continued to adapt its learning strategy and the focus of these supports as practices' needs evolved over time. CMS's initial learning strategy in PYs 1 and 2 was to provide similar content across all regions and to monitor practice performance on process measures (that described practice activities for each of the five primary care functions, such as whether the practice hired a care manager or conducted quarterly Patient and Family Advisory Councils (See Appendix 3.F)). PY 3 marked a significant change in strategy toward greater flexibility in adapting learning supports, an emphasis on peer learning, and helping practices improve outcomes (as measured by hospital or ED utilization rates, for example). In PY 4, CMS continued this shifted focus and contractors began adapting the learning supports to reach more practices through durable products (for example, podcasts on Behavioral Health Integration in CPC+). Learning contractors also began discussing with practices how to sustain the changes that they made for CPC+.

B. Key changes to CPC+ learning supports in PY 4

B.1. Planned key changes CMS made to CPC+ learning supports in PY 4

CMS continued to provide durable learning products and tailored supports, but in PY 4 CMS made changes to the learning supports to reach more practices at once and encourage regional flexibility, which were both stated goals of the overall learning system in PY 4. These changes included modified requirements for durable products and additional flexibility for practice facilitators in their practice coaching efforts and hosting RINGs. In January 2020, CMS's planned changes went into effect.

In PY 4, CMS implemented changes to the requirements for durable products by introducing podcasts and creating new requirements for practice facilitators on CPC+ Connect. 'CPC+ Tactics to Go' podcasts began in December 2019. Each podcast episode featured an interview with staff in one practice, in which they described their strategies for a particular topic—such as care management, population health, or team-based care. CMS also created new requirements for practice facilitators on CPC+ Connect. In PY 4, practice facilitators were required to generate new posts on their regional group page every week and respond to practices' posts within 24 hours.

Tailored supports, such as practice coaching and RINGs also evolved in PY 4. RINGs are virtual topic- or role-based groups led by practice facilitators in each region who encourage peer learning and discussion among practices. In PY 3, RINGs were optional. In PY 4, CMS required practice facilitators in each region to host three RINGs quarterly, at least one of which should be cross-regional. Practice facilitators had flexibility to determine the audience and topics for each RING. Practice facilitators continued RINGs for targeted audiences (for example, care managers), but other practice facilitators chose to focus RINGs on topics of particular interest to their region (such as telehealth or diabetes control). CMS also made changes to practice coaching by requiring practice facilitators to conduct multiple types of coaching: (1) at least three coaching sessions for each practice identified by the learning contractors as the lowest-performing practices in their regions in each quarter; (2) quarterly, one-one-one coaching sessions with 1 percent of the high-performing practices in their regions; (3) depending on the

region size, a minimum number of small group coaching sessions per quarter. Practice facilitators could also conduct any other type of coaching with any practice that needed or wanted it.

B.2. Unplanned changes to learning supports due to COVID-19

For the first three months of PY 4, the national and regional learning activities operated as planned, following the PY 4 requirements described above. In April PY 4, CMS temporarily canceled all regional learning activities to allow practices to focus on responding to the COVID-19 pandemic. The national learning activities continued at a smaller scale. Throughout the rest of PY 4, CMS continued monitoring how regions were faring during the pandemic.

To minimize burden on practices in the face of the pandemic and ensure communication was aligned across CMS models, CMS asked practice facilitators to refrain from proactively contacting practices and conducting regional learning activities from April to July of PY 4. However, practice facilitators were allowed to respond to practices' requests for communication and coaching. During this period, CMS also limited, but did not completely stop, the national learning activities. The NLT canceled the CPC+ national meeting and stopped tagging practices on CPC+ Connect, which they previously did to encourage conversations. They continued to share information on CPC+ Connect about critical topics (such as additional information on telehealth or updates to CPC+ reporting deadlines) and through the "On the Spotlight" e-newsletters.

Practice facilitators were concerned about potential negative effects of pausing support due to the pandemic; however, deep-dive practices did not report feeling adversely affected by this gap in learning support. Three of the eight practice facilitators we interviewed worried that the practices that needed support would not know to reach out to practice facilitators, because they were not accustomed to reaching out on their own. They worried that the lapse in communication during the pause would cause these practices to be more difficult to engage in the future. In contrast, none of the 40 deep-dive practices reported that the pause negatively affected their work on CPC+. Several practices said they were too focused on responding to the COVID-19 pandemic to attend learning activities or they had existing processes in place to allow them to continue their work on CPC+ without learning supports. Many practices reported they were able to consult other durable learning products, and their practice facilitator, to answer their questions. For example, practices raised questions related to CPC+ requirements, like whether conducting a blood pressure reading during a virtual visit would count towards their quality measure.

In the summer of PY 4, CMS began assessing how the CPC+ learning system could support practices' changing needs as the pandemic continued. At the start of the pandemic, CMS paused all models' learning supports, but by the summer, CMS program staff began to tailor activities for each model. The team running CPC+ adapted the CPC+ learning system to fit the needs of practices and began engaging with practices to understand practices' needs. CMS fielded a survey to approximately 100 CPC+ practices in June, and learned the pandemic affected practices differently and that practices wanted different levels of learning support. Some practices were overwhelmed by their new pandemic-related responsibilities, while other practices had extra time to focus on CPC+ due to a drop in patient volume and/or low COVID-19 case count in their regions. In response, CMS hosted a series of RING-like events in August 2020, where practices could attend virtual, interactive learning events with practices from

regions with similar COVID-19 case rates. These events confirmed that practices' needs varied regionally, and that each region would benefit from new learning strategies and plans tailored to their specific needs.

After receiving feedback that practices were ready to re-engage with learning supports, and feeling that practices had more knowledge and resources to deal with the pandemic than in prior months, CMS resumed regional learning activities in September 2020. CMS asked practice facilitators to resume their regional learning activities and gave facilitators additional flexibility to determine how to best meet the evolving needs of their region's practices given the local effects of the pandemic. For the rest of PY 4, CMS did not require a minimum number of regional learning sessions, RINGs, or practice coaching sessions for practice facilitators. Practice facilitators could decide which practices to engage and which learning supports to offer. For example, even though the regional learning sessions became optional, most regions still hosted them in various formats, such as a one-hour learning session during lunch over three consecutive days, or a shorter 90-minute learning session. After resuming learning activities, the CPC+ learning team shifted their focus from supporting practices in improving their performance on utilization measures to further focus on the two CMS electronic Clinical Quality Measures (eCQMs): diabetes hemoglobin A1c and high blood pressure control. This represented CMS's acknowledgment that the COVID-19 pandemic could affect changes in utilization patterns largely outside of practices' control.

C. CPC+ practices' use and perceptions of CMS's learning supports

In the PY 4 CPC+ Practice Survey, practices continued reporting a higher likelihood of using durable products than tailored supports, just as they had in previous years. The most used learning supports were durable products: the CPC+ Implementation Guide and CPC+ Connect (94 percent of practices reported using each of these products; Figure 3.15). For tailored supports, 88 percent of practices reported using the CPC+ Help Desk, and 65 percent and 51 percent of practices reported receiving one-on-one coaching and small group coaching, respectively, which is similar to what practices reported in PY 3. The practice survey data align with the data from the practice coaching logs, which showed that 64 percent of practices received at least one coaching session in PY 4 (lower than the 86 percent in PY 3 and 73 percent in PY 2).^{53,54} Although the PY 4 CPC+ Practice Survey did not ask about the other tailored supports—RINGs and regional learning sessions—several learning contractors reported satisfaction with how many practices attended and how they engaged with these supports, despite the switch to a virtual format.⁵⁵ In Appendix 3.G, we provide additional findings on practice facilitators' and deep dive practices' perceptions of learning supports.

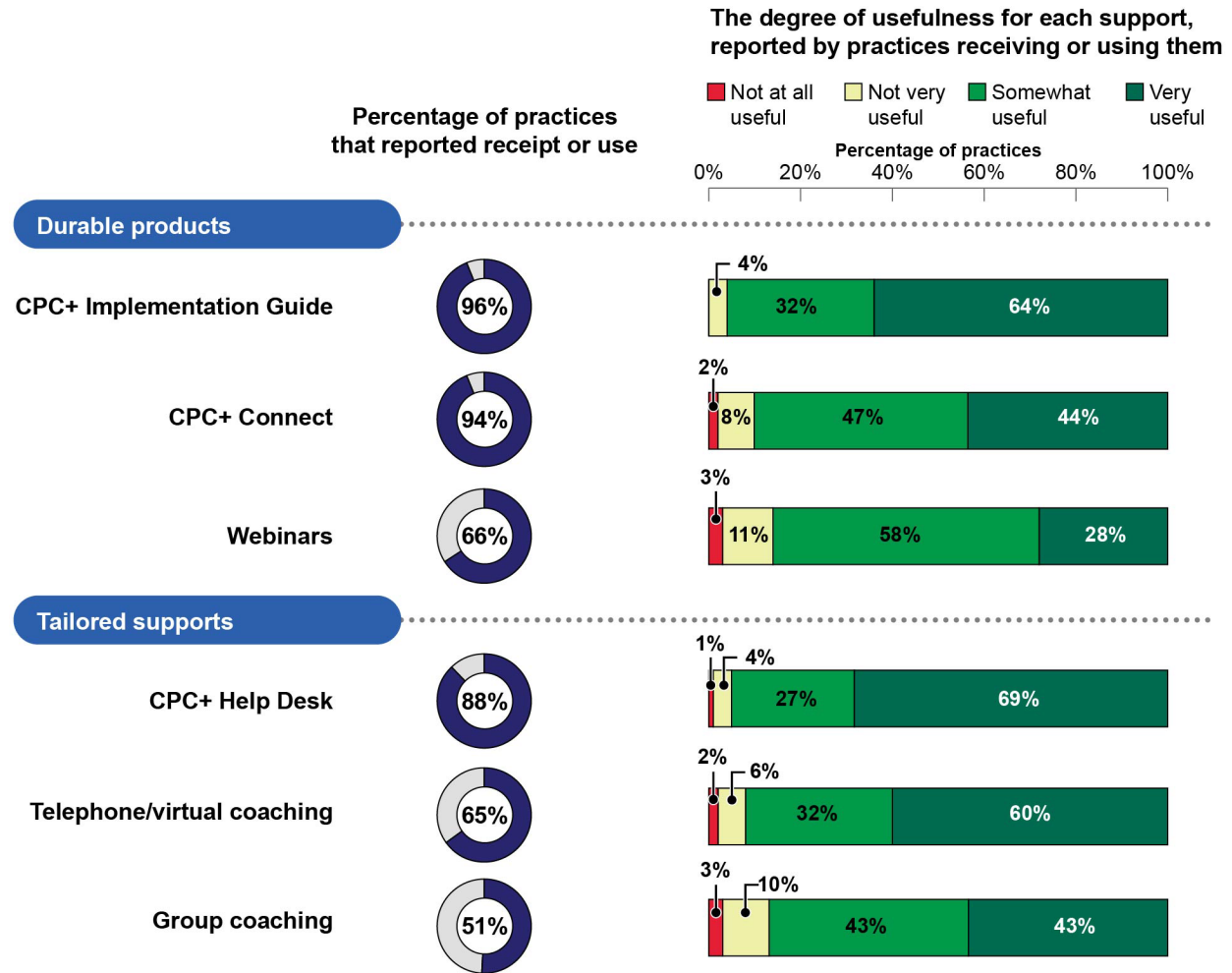
⁵³ Coaching log data are not precise and may undercount coaching interactions (for example, not all practices may be listed when they received small group coaching).

⁵⁴ CMS changed the coaching log tool that practice facilitators use to report data about their coaching sessions between PY 2 and PY 3, and again between PY 3 and PY 4. Therefore, these data may not be comparable across years and should be interpreted with caution.

⁵⁵ The PY 4 CPC+ Practice Survey did not ask practices to report if they had attended RINGs or regional learning supports in the past six months, because those supports were canceled from April through August 2020.

Figure 3.15. Practices’ use and perceptions of CMS’s CPC+ learning supports in the first half of PY 4

Practices were highly engaged with each of CMS’s learning supports in PY 4 and generally found them useful. The most used learning supports were the CPC+ Implementation Guide and CPC+ Connect. The CPC+ Implementation Guide, CPC+ Help Desk, and telephone/virtual coaching were all reported to be very useful by 60 percent or more of practices.



Source: Mathematica’s analysis of the independent evaluation’s PY 4 CPC+ Practice Survey.

Note: N = 1,124 Track 1 practices and 1,336 Track 2 practices. Not all practices responded to each question. The percentage of missing responses for each question was less than 1 percent, except for the question about webinars, which was missing for 4 percent of practices. The PY 4 CPC+ Practice Survey did not ask about regional learning sessions and RINGs since CMS paused them between April and August of PY 4.

PY = Program Year; RING = Regional Implementation Networking Group.

According to the PY 4 CPC+ Practice Survey, the rate at which practices engaged with learning supports was consistent over the years, except for webinars. The percentage of practices that reported using the Implementation Guide, CPC+ Connect, and CPC+ Help Desk in the last six months remained steady between PY 2, the first year the survey asked about learning supports, and PY 4 (about 90 percent), as did the percentage of practices that reported receiving practice coaching (about two-thirds of practices). In contrast, the percentage of practices that reported accessing webinars decreased from 90 percent in PY 2 and PY 3 to 66 percent in PY 4,

which is consistent with deep-dive data, where several practices reported they were too focused on responding to the COVID-19 pandemic to engage with the CPC+ learning supports. About half of practices reported receiving group coaching in PY 4, the first time the survey tracked this information.

Practices continued to report that the regional learning network overall and the individual learning supports were useful for improving primary care in PY 4. In PY 4, more than 60 percent of practices that reported using the Implementation Guide, CPC+ Help Desk, and practice coaching found them very useful for improving primary care—making these three learning supports the most highly rated learning support across PYs 2, 3, and 4. Similar to previous years, 86 percent of practices gave the RLN an overall rating of excellent, very good, or good, for its ability to meet practices’ CPC+-related needs and help improve primary care. Among practices that reported receiving the learning supports, at least 86 percent of practices reported finding each support somewhat or very useful for improving primary care in PY 4 (an increase from 75 percent in PY 3). Practice ratings of the learning supports did not vary greatly by practice characteristics, such as track, region, ownership status, or size.

Deep-dive practices and practice facilitators reported that they found learning supports valuable resources for providing information, facilitating peer learning, and providing highly personalized support. According to interviews with deep-dive practices and practice facilitators, durable products such as the Implementation Guide and CPC+ Connect were helpful resources that provided comprehensive information they can refer to frequently, including links to articles, videos, or other resources. RINGs and regional learning sessions were valued for their focus on peer learning and knowledge sharing. Practices also appreciated that, during practice coaching sessions, practice facilitators coordinated peer learning by connecting similar practices to each other, conducting coaching sessions in small groups, and disseminating insights and ideas from other practices. Finally, deep-dive practices also reported that practice coaching was valuable because practice facilitators gave them highly individualized, one-on-one support where they needed it.

D. Sustainability of learning supports

In PY 4, CMS held a webinar to initiate conversations with practices about potential ways to sustain the care delivery changes they have made after CPC+ ends. This webinar opened the door to conversations between practice facilitators and their practices about sustainability, which was a topic of particular interest. Half of the eight practice facilitators we interviewed noted that practices have long been asking for more learning support about sustaining their CPC+ work, because they plan their budgets years in advance (for large organizations, especially), so this information would have been helpful earlier.

Three of the eight practice facilitators reported concerns that, without the continued support of a practice facilitator, practices may struggle to sustain the changes they made for CPC+ in the long term. They heard from practices that they are nervous about joining other primary care transformation models that do not have the highly tailored support of a practice facilitator, to guide them through the next stages of primary care transformation. Two of these practice facilitators reported trying to mitigate some of the practices’ concerns by connecting practices to their peers and introducing practices to resources they can access after CPC+ ends—

such as learning resources through national or regional membership associations, ACOs, or payers.

3.2.4. Health IT vendor support



In this section, we describe CPC+ practice requirements to use health IT functionalities and the role of health IT vendors in providing support to CPC+ practices. We then report results from the CPC+ Practice Survey covering both Track 1 and Track 2 practices, and interviews with selected Track 2 practices that switched health IT vendors between PY 2 and PY 3—to better understand practices’ perceptions of the burden of meeting the health IT requirements and the usefulness of vendor support. We also examine how these perceptions are associated with practice characteristics and the characteristics of practice-vendor partnerships. In addition, we report results from interviews in PY 3 with 12 health IT vendors (eight EHR, four population health) that worked with 1,038 Track 1 practices (83 percent) and 1,247 Track 2 practices (87 percent), or 85 percent of all CPC+ practices.

A. Overview of CPC+ health IT requirements for practices and vendors

Health IT functionality requirements. CPC+ practices are required to meet specific health IT functionality requirements that differ by track. Practices in both tracks are required to adopt Certified Electronic Health Record Technology (CEHRT) and meet requirements for eCQM reporting, and Track 2 practices are required to meet additional, advanced health IT functionality requirements.

CMS introduced advanced health IT requirements at the start of CPC+ in response to the challenges practices identified in CPC Classic regarding inadequate health IT for primary care transformation (Peikes et al. 2018c). These requirements included seven standalone health IT functionalities related to the five Comprehensive Primary Care Functions (for example, a requirement to use health IT-based functionality to assesses patients’ health-related social needs in support of the comprehensiveness and coordination function). CMS revised the health IT functionalities in PY 2 to reduce practice burden and made no major changes during PYs 3 or 4, requiring practices to:

1. Display eCQM results at the CPC+ practice site level.
2. Conduct targeted care management optimized by health IT through risk stratification and care plans.
3. Assess health-related social needs using health IT (CMMI 2019b).

Health IT vendor support. Because health IT functionalities are complex to develop and implement, CMS formally integrated health IT vendors into CPC+ to provide advanced functionalities and support all CPC+ practices that chose to adopt these functionalities. Formal integration of health IT vendors into CPC+ differentiates this model from CPC Classic and other advanced payment models, which do not include vendors as partners.

To provide health IT support under CPC+, all partnering health IT vendors signed an MOU with CMS in which they committed to “gain an understanding of the technology needs of Track 2 primary care practices” and to participate “in a wide range of national learning activities” that the CMS Innovation Center facilitates for this model (CMMI n.d.).

Over the first four program years of CPC+, health IT vendors have increased their provision of advanced health IT functionalities to fulfill the CPC+ requirements. All 12 health IT vendors we interviewed reported that they provided functionalities to meet the Track 2 advanced health IT requirements for the comprehensiveness and coordination function. Ten of the 12 vendors also reported providing practices functionality to meet the care management function. Eleven of the 12 vendors said that these functionalities represented major refinements in their offerings. Vendors incorporated most of these functionalities into core and add-on products, making them available to Track 1 as well as non-CPC+ practices. Over these four years, vendors also participated in CMS learning activities, such as Affinity Groups and CPC+ Connect, in addition to using private meetings to provide technical assistance to their CPC+ practices.

In PY 4, Track 2 practices formally partnered with 60 health IT vendors to obtain support. Though only Track 2 practices formalized a health IT vendor relationship, practices in both tracks could choose to work with health IT vendors through CPC+-sponsored learning supports or other vendor-initiated forums outside of CPC+.

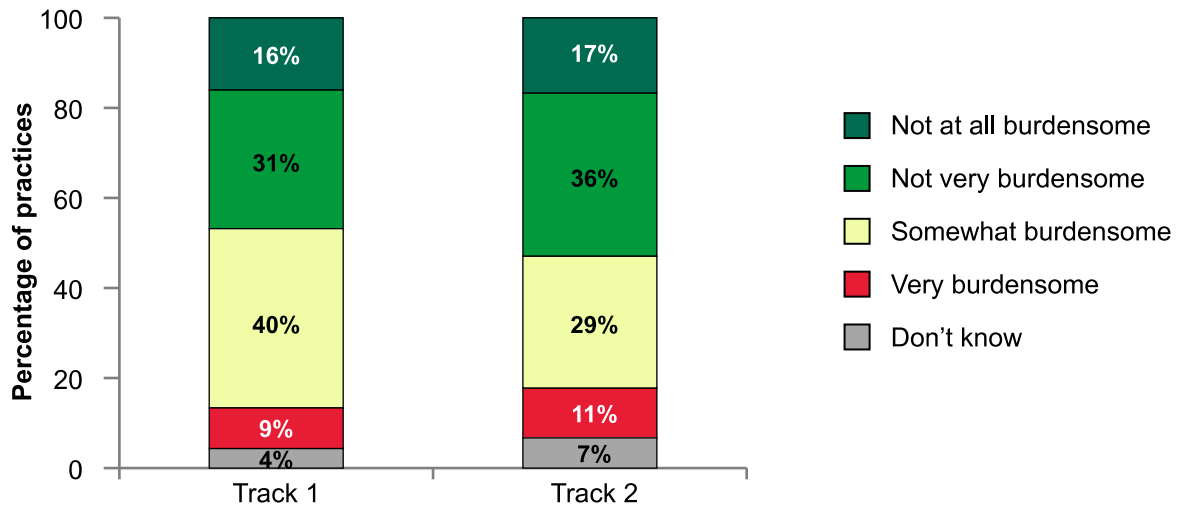
B. Practice perceptions of health IT burden and vendor support in PY 4

In PY 4, almost half of CPC+ practices continued to report that health IT requirements were burdensome, and support for use of health IT functionalities has remained the lowest-rated of all CPC+ supports from PY 1 to PY 4. Variation in practices’ perceptions of the burden of meeting requirements and the usefulness of health IT vendor support may reflect the specific functionalities vendors offer and the way the vendors interact with practices, as well as practices’ broader resource availability to focus on health IT. Appendix 3.H provides additional findings on the practice and vendor characteristics that are associated with variation in practices’ perceptions of burden and usefulness.

The percentage of practices reporting that meeting health IT requirements is burdensome has declined over time. Sixty percent of practices reported burden in PY 2, compared to 49 percent in PY 3 and 44 percent in PY 4 (Figure 3.16). These declines likely reflect CMS reducing health IT requirements in PY 2.

Figure 3.16. Percentage of practices reporting that meeting health IT requirements is burdensome, by track

Around half of CPC+ practices reported on the PY 4 CPC+ Practice Survey that meeting CPC+ health IT requirements was somewhat or very burdensome.



Source: Mathematica's analysis of data from the independent evaluation's PY 4 CPC+ Practice Survey.

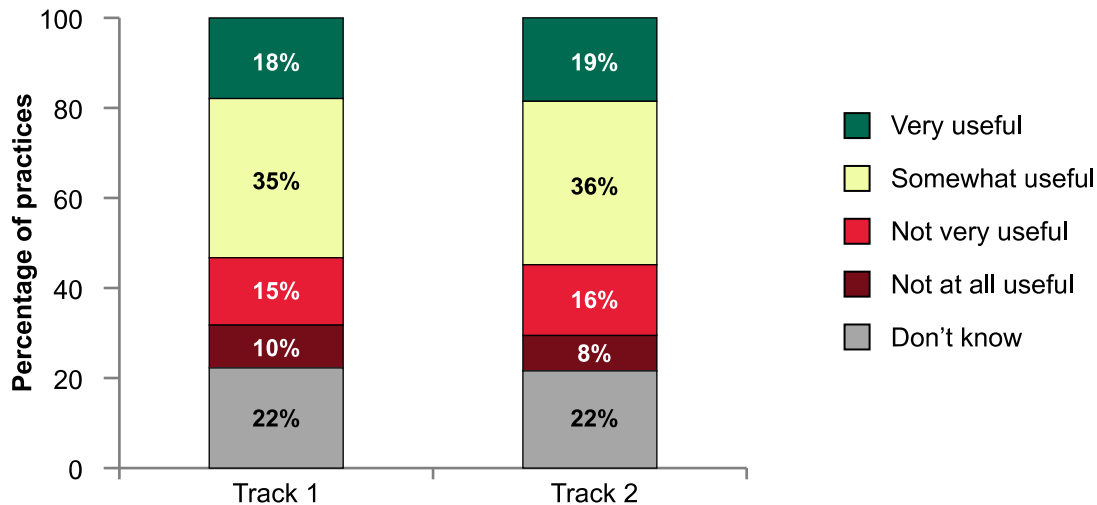
Note: 2,416 practices that responded to the CPC+ Survey between September and December 2020 and reported working with at least one EHR vendor in the CPC+ Portal health IT vendor reporting for PY 1 through PY 4.

EHR = electronic health record; PY = Program Year.

Around half of CPC+ practices surveyed reported health IT vendor support was somewhat or very useful for improving primary care in PY 4, consistent with earlier years. Fifty-four percent of practices reported health IT vendor support was very or somewhat useful (Figure 3.17). Health IT vendor support has been the lowest-rated support each year, as discussed earlier in this chapter.

Figure 3.17. Percentage of practices believing health IT vendor support was useful for improving primary care, by track

Around half of CPC+ practices reported on the PY 4 CPC+ Practice Survey that health IT vendor support was somewhat or very useful for improving primary care.



Source: Mathematica's analysis of data from the independent evaluation's PY 4 CPC+ Practice Survey.

Note: 2,416 practices that responded to the CPC+ Survey between September and December 2020 and reported working with at least one EHR vendor in the CPC+ Portal for PY 1 through PY 4.

EHR= electronic health record; PY = Program Year.



Closer look: Practices' perceptions of features that contribute to burden and the usefulness of support

We interviewed 11 Track 2 practices that had recently switched vendors to explore why they decided to make this change and the effects that doing so had on their CPC+ participation (see Chapter 2 for more detail). Though few of these practices switched vendors specifically to meet CPC+ health IT requirements, we also asked them generally about the burden of meeting health IT requirements and the usefulness of vendor support because of their unique ability to directly compare vendor offerings for CPC+.

Practices that switched vendors identified health IT product features of their EHRs that contributed to the burden of meeting requirements. These included (1) unformatted eQIM reports, (2) care plans that had to be built into the EHR from scratch, (3) product pathways that required several clicks to access risk scores and care plans, (4) inefficient processes to document behavioral health information, and (5) inadequate support in meeting requirements to provide patients resources related to health-related social needs. These aspects of EHR design lengthen practices' documentation and reporting time, contributing to the overall burden of meeting requirements.

Closer look (continued)

Practices that switched vendors identified responsive customer service and quick updates to products as the most useful types of support that any of their vendors offered. A few practices expressed appreciation for vendors' investment of time and resources in CPC+ and their willingness to collaborate with practices to develop functionality. A few practices also expressed appreciation for products that facilitated health information exchange with other providers. At the same time, a few practices also believed vendors could improve practice-vendor relationships, most frequently reporting a desire for vendors to respond faster to practice needs. For example, one practice reported that it would have liked to see its vendor make yearly updates to stay current with CPC+ eCQM requirements six months faster than typically occurred.

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4. CHANGES TO THE WAY CPC+ PRACTICES DELIVER CARE



Key takeaways

The coronavirus disease 2019 (COVID-19) pandemic made 2020 a challenging year for primary care, and CPC+ practices were no exception. Not surprisingly, the pandemic hindered practices' ability to work on CPC+ care delivery requirements by placing additional demands on staff time and making it difficult to see patients in person for necessary screening and preventive care. Many practices shifted resources to address patients' most pressing needs during the pandemic. While most practices reported that participation in CPC+ helped or had no effect on their ability to care for patients during the pandemic, they also noted that CPC+ enhanced payments helped sustain staffing levels, particularly care managers, during the pandemic. CPC+ practices increased their use of telehealth dramatically compared to prior years, largely in response to the COVID-19 pandemic and the availability of fee-for-service (FFS) reimbursement for telehealth.

Practices continued to be satisfied with their decision to join CPC+ and reported that it improved the quality of patient care. Practices appreciated the CPC+ primary care transformation road map and the additional staff and services its funding enabled. Practices also continued to report in Program Year (PY) 4 that CPC+ requirements—especially financial reporting—were burdensome. Practices continued to engage in activities related to CPC+ care delivery requirements, but they faced challenges making some changes and reaching all patients who would benefit from services (Table 4.1).

Looking across the first four program years, practices made the most changes to care delivery between PYs 1 and 2, with some additional change in PY 3. Practices made fewer changes between PYs 3 and 4. As in prior years, practices in both tracks made similar changes to primary care delivery for the care delivery requirements that CMS required of both tracks (e.g., care management). For the requirements that pertained only to Track 2 practices (e.g., comprehensive medication management), Track 2 practices typically reported more advanced activities than Track 1 practices, as expected. However, Track 1 practices reported making progress on some Track 2-only requirements, despite not being required to do so (e.g., connecting patients with supports for their health-related social needs). There were no consistent differences in care delivery changes between Medicare Shared Savings Program (SSP) and non-SSP practices within tracks, based on the data practices reported to CMS, on the CPC+ Practice Survey, or during in-depth interviews with practices.

Practices expect to sustain many of the processes they put in place for CPC+ after the model ends, affirming they see value in the work they did for CPC+. Still, practices expect to need ongoing supports to continue many aspects of the CPC+ model.

Table 4.1. Summary of practices' care delivery requirement activities and challenges faced in PY 4

Practices' efforts in PY 4	Challenges practices faced in PY 4
Access and continuity	
<ul style="list-style-type: none"> Increased use of telehealth to keep patients safe while continuing to provide care during the pandemic. Continued to provide patients with 24/7 access to a practitioner with real-time access to the EHR, consistent with prior years. Continued to offer same- or next-day appointments. 	<ul style="list-style-type: none"> Using telehealth technology, especially for video visits.
Care management	
<ul style="list-style-type: none"> Continued to risk stratify empaneled patients and most integrated risk stratification within their EHR or health IT system. Used designated care managers, typically registered nurses, to deliver longitudinal care management services, although their care managers' focus shifted to COVID-19-related care for part of PY 4. Maintained changes in timely hospital and ED follow-up that they had made earlier in CPC+. 	<ul style="list-style-type: none"> Providing longitudinal care management services to a larger proportion of their patients at higher risk. Devoting sufficient care managers' time to support patients with chronic conditions due to competing priorities, including COVID-19.
Comprehensiveness and coordination	
<ul style="list-style-type: none"> Increased their use of on-site behaviorists each year of CPC+, which was particularly valuable in PY 4 as the COVID-19 pandemic increased the demand for mental health care. Continued to screen patients for health-related social needs, consistent with PY 3 and up from PYs 1 and 2, especially for Track 1 practices. 	<ul style="list-style-type: none"> Using data on high-cost, high-volume specialists when making referral decisions (in addition to basing decisions on preexisting provider-specialist relationships or patient convenience). Integrating their inventory of social services resources into their EHR and connecting patients to resources to address their health-related social needs (which was especially challenging during the pandemic, given increased patient demand for resources alongside closures of many community-based organizations).
Patient and caregiver engagement	
<ul style="list-style-type: none"> Continued to convene Patient and Family Advisory Councils (PFACs), but PFACs met less frequently in PY 4 than in PY 3 partly due to pandemic social distancing protocols. Continued to take recommended steps to provide advance care planning (ACP) and systemically identify patients for ACP discussions. 	<ul style="list-style-type: none"> Overcoming challenges to implementing advance care planning (ACP) (such as insufficient time for discussing ACP with patients and barriers to completing, uploading, and updating ACP forms), which were exacerbated during COVID-19 in PY 4.
Planned care and population health	
<ul style="list-style-type: none"> Continued to receive and use data feedback on quality, utilization, and patient experience. 	<ul style="list-style-type: none"> Increasing awareness and use of data on cost.

ED = emergency department; EHR = electronic health record; PY = Program Year.

4.1. Comprehensive Primary Care Functions and related care delivery requirements

For CPC+, CMS requires participating practices to make many complex, interconnected changes in how they deliver care to their patients by focusing on five Comprehensive Primary Care Functions: (1) access and continuity, (2) care management, (3) comprehensiveness and coordination, (4) patient and caregiver engagement, and (5) planned care and population health. The five functions together support a model of primary care that CMS hypothesizes will improve patient health and reduce costs (see Chapter 1).

To promote improvements within these functions, CMS specifies a series of care delivery requirements for practices in each track at the start of each CPC+ program year (PY). CMS encourages practices to view the care delivery requirements as starting points to build on as they work to improve the care they deliver. Practices have autonomy to decide how they will approach their improvement work, including how to implement the care delivery requirements, which care delivery processes within each function to prioritize, which staff to involve, and how to monitor change. In PY 3, CMS reduced the number of care delivery requirements and shifted toward goal-oriented, evidence-based activities to improve care within each of the five functions. The care delivery requirements did not change between PY 3 and PY 4. (Table 4.2 describes the care delivery requirements for PY 4, by track, for practices that joined in 2017, and how the requirements changed between PY 1 and PY 4.) We do not discuss findings for practices that joined CPC+ in the four 2018 Starter regions in this annual report. The reason for this is that these practices account for only 5 percent of the total number of practices in CPC+. Findings in our Second Annual Report indicated that the implementation experiences of practices and payers that joined CPC+ in 2018 were similar to the experiences of those that started in 2017 (Ghosh et al. 2020).

Table 4.2. Care delivery requirements for 2017 Starters in PY 4


PY 4 requirements for Track 1 ^a	PY 4 requirements for Track 2	Changes to requirements for both tracks from PY 1 to PY 4
 1. Access and continuity		
Access		
Ensure patients have 24/7 access to a care team practitioner with real-time access to the EHR. ^b	Complete Track 1 requirement.	This requirement did not change between PY 1 and 4. In PYs 1 through 4, CMS required all practices to ensure patients have 24/7 access to a care team practitioner with real-time access to the EHR.
Continuity		
Optimize continuity of care for empaneled patients while preserving access.	Complete Track 1 requirement.	In PY 1, CMS required all practices to organize care by practice-identified teams to optimize continuity of care. In PY 2, CMS required practices to measure continuity of care. In PYs 3 and 4, CMS required practices to optimize continuity of care while preserving access.

Table 4.2. (continued)


PY 4 requirements for Track 1 ^a	PY 4 requirements for Track 2	Changes to requirements for both tracks from PY 1 to PY 4
Alternative care		
No Track 1 requirements.	Use CPC+ payments to deliver care in new ways that efficiently and effectively meet patient needs, leveraging the skills of the care team, beyond what the practice can currently accomplish in traditional fee-for-service (FFS) office visits.	In PYs 1 and 2, CMS required Track 2 practices to regularly offer at least one alternative to traditional office visits and/or expanded hours. In PYs 3 and 4, CMS instructed Track 2 practices to use their CPC+ payments to deliver care in new ways—beyond traditional office visits—that meet patient needs.
 2. Care management		
Risk stratification		
Ensure all empaneled patients are risk stratified.	Complete Track 1 requirement.	In PY 1, CMS required all practices to risk stratify all empaneled patients and Track 2 practices to use a two-step risk-stratification approach. In PY 2, CMS required all practices to use a two-step risk-stratification process and required Track 2 practices to maintain and review that process. In PYs 3 and 4, CMS required all practices to risk stratify all empaneled patients and encouraged, yet no longer required, practices to use and maintain a two-step risk-stratification process.
Longitudinal care management		
Ensure patients who have complex needs and are likely to benefit receive proactive, relationship-based care management.	Complete Track 1 requirement.	In PYs 1 and 2, CMS required all practices to provide targeted, proactive, relationship-based care management to all patients identified through the risk-stratification process as at increased risk and likely to benefit from intensive care management. In PYs 3 and 4, CMS encouraged, but no longer required, practices to use risk stratification to identify patients for longitudinal care management.
Care plans		
No Track 1 requirements.	Not an explicit requirement in PYs 3 and 4.	In PYs 1 and 2, CMS required Track 2 practices to use a plan of care for patients receiving longitudinal care management. In PYs 3 and 4, CMS encouraged, but no longer required, practices to use a plan of care.

Table 4.2. (continued)


PY 4 requirements for Track 1 ^a	PY 4 requirements for Track 2	Changes to requirements for both tracks from PY 1 to PY 4
Episodic care management		
Ensure all patients receive timely follow-up contact from the practice after ED visits and hospitalizations, as clinically indicated.	Complete Track 1 requirement.	In PYs 1 and 2, CMS required all practices to provide short-term (episodic) care management to a high and increasing percentage of empaneled patients who have an ED visit or hospitalization. CMS required practices to deliver this care within specific time frames. In PYs 3 and 4, CMS encouraged timely follow-up, but no longer required follow-up to occur within specific time frames.
 3. Comprehensiveness and coordination		
Coordination with specialty care		
Ensure coordinated referral management, especially with specialists to whom they frequently make referrals and/or high-cost specialist care.	Complete Track 1 requirement.	In PY 1, CMS required all practices to identify high-cost, high-volume specialists serving their patients and Track 2 practices to enact collaborative care agreements with at least two groups of those specialists. In PY 2, CMS required all practices to enact these agreements with at least two groups of specialists. In PYs 3 and 4, CMS required all practices to ensure coordinated referral management, and encouraged practices to employ tools such as collaborative care agreements to facilitate coordination.
Behavioral health integration		
Provide integrated behavioral health care.	Complete Track 1 requirement.	In PY 1, CMS required Track 2 practices to choose and implement at least one behavioral health integration option. In PY 2, CMS required Track 2 practices to build on this work and Track 1 practices to plan for integrating behavioral health care. In PYs 3 and 4, CMS required all practices to provide integrated behavioral health care.
Comprehensive medication management		
No Track 1 requirements.	Provide comprehensive medication management to patients receiving care management and in transitions of care who are likely to benefit.	In PY 2, CMS required Track 2 practices to develop a plan to provide comprehensive medication management to patients discharged from the hospital and those receiving longitudinal care management. In PYs 3 and 4, CMS required Track 2 practices to implement their plan to provide comprehensive medication management.

Table 4.2. (continued)



PY 4 requirements for Track 1 ^a	PY 4 requirements for Track 2	Changes to requirements for both tracks from PY 1 to PY 4
Health-related social needs		
No Track 1 requirements.	Identify patients' high-priority health-related social needs and resources available in the community to meet those needs.	In PY 1, CMS required Track 2 practices to assess their patients' psychosocial needs and conduct an inventory of resources to meet those needs. In PY 2, CMS required Track 2 practices to maintain the inventory and establish relationships with at least two resources to meet their patients' most significant psychosocial needs. In PYS 3 and 4, CMS required Track 2 practices to identify patients' high-priority health-related social needs and resources available to meet those needs.
Capacity to address the complex needs of a subpopulation of patients		
No Track 1 requirements.	Not an explicit requirement in PYS 3 and 4.	In PY 1, CMS required Track 2 practices to identify a capability to address the needs of a subpopulation of patients with complex needs, and in PY 2, CMS required them to develop that capability. In PYS 3 and 4, CMS encouraged, but no longer required, all practices to increase their capabilities to manage medical conditions in the practice to meet the needs of the practice population.
 4. Patient and caregiver engagement		
Patient and Family Advisory Councils		
Convene a Patient and Family Advisory Council and integrate recommendations into care and practice improvement activities.	Complete Track 1 requirement.	In PY 1, CMS required Track 1 practices to convene a Patient and Family Advisory Council at least once and Track 2 practices to do so twice a year. In PY 2, CMS required practices to hold more frequent Patient and Family Advisory Council meetings: three times a year for Track 1 practices and quarterly for Track 2 practices. In PYS 3 and 4, CMS relaxed the requirement by not specifying the frequency of meetings.
Advance care planning		
No Track 1 requirements.	Ensure patients' goals, preferences, and needs are integrated into care through advance care planning.	In PY 2, CMS required Track 2 practices to engage patients in advance care planning. In PYS 3 and 4, CMS required Track 2 practices to ensure patients' goals, preferences, and needs are integrated into care through advance care planning.

Table 4.2. (continued)

PY 4 requirements for Track 1 ^a	PY 4 requirements for Track 2	Changes to requirements for both tracks from PY 1 to PY 4
Self-management support		
No Track 1 requirements.	Not an explicit requirement in PYs 3 and 4.	In PY 1, CMS required Track 1 practices to assess their capabilities and plan for self-management support and Track 2 practices to provide that support. In PY 2, CMS required all practices to provide that self-management support. In PYs 3 and 4, CMS encouraged, but no longer required, practices to use self-management support as an integral part of the practice's longitudinal care management.
 5. Planned care and population health		
Continuous improvement		
Use data to continuously improve patients' health, experience, and quality of care, and decrease cost.	Complete Track 1 requirement.	In PYs 1 and 2, CMS required all practices to use feedback reports provided by CMS and payer partners at least quarterly on at least two utilization measures at the practice level and practice data on at least three electronic Clinical Quality Measures (derived from the EHR) at both the practice and panel levels to inform strategies to improve population health management. In PYs 3 and 4, CMS required practices to use data to continuously improve patients' health, experience, and quality of care and decrease costs, but did not specify which data to use or how frequently to use them.
Care team meetings		
No Track 1 requirements.	Not an explicit requirement in PYs 3 and 4.	In PYs 1 and 2, CMS required Track 2 practices to conduct care team meetings at least weekly to review practice- and panel-level data from CMS, payer partners, and internal monitoring and use these data to guide testing of tactics to improve care and achieve practice goals in CPC+. In PYs 3 and 4, CMS encouraged, but no longer required, practices to hold data-focused care team meetings.

Source: Center for Medicare & Medicaid Innovation. "2020 CPC+ Implementation Guide: Guiding Principles and Reporting." January 28, 2020.

^a In PY 1, CMS required Track 1 practices that had previously participated in CPC Classic to satisfy some of the additional Track 2 requirements to build on their CPC Classic work. Specifically, in PY 1, CMS required Track 1 CPC Classic practices to enact collaborative care agreements with specialists, work to meet their patients' behavioral health needs, hold two PFAC meetings (as opposed to one as required for other Track 1 practices), and provide self-management support. In PYs 2, 3, and 4, CMS required all Track 1 practices, regardless of their participation in CPC Classic, to meet these requirements.

^b Practitioners include physicians, nurse practitioners, physician assistants, and clinical nurse specialists.

ED = emergency department; EHR = electronic health record; PY = Program Year.



Methods: Data source and analysis for understanding the ways CPC+ practices deliver care

We analyzed data from some of the sources described in Table 1.2 to understand changes in the ways CPC+ practices deliver care. Below we provide details about these data sources and our analysis.

Data sources

We relied on self-reported data to understand the ways CPC+ practices delivered care as well as the barriers and facilitators they faced while implementing the CPC+ model. We used data from the CPC+ Practice Survey (collected annually in PY 1 through PY4), care delivery data that practices reported to CMS (submitted by practices in the fourth quarter in PY 1 through PY 4), and interviews with practitioners and staff at a representative sample of “deep-dive” practices (conducted in PYS 2, 3, and 5, reflecting practices’ experiences with CPC+ during the prior year). In a few instances we also draw from the CPC+ Beneficiary and Physician Surveys (collected in PYS 2 and 3, and PY 3, respectively) and findings presented in the Third Annual Report (Peikes et al. 2021). The Appendices provide additional details about these data sources.^a

Data analysis

Characterizing interview data. We interviewed 40 deep-dive practices in PY 5 about their experiences with CPC+ in PY 4. When reporting findings from qualitative interviews with deep-dive practices, we use the word “couple” to denote 2 practices, “few” to denote 3 to 4 practices, “several” to denote 5 to 10 practices, “many” to denote more than 10 practices but fewer than three-fourths of practices, and “most” to indicate more than three-fourths of practices.

Understanding how findings differ by practice. Where possible, we considered whether there were meaningful differences by practice type, including differences by track, ownership (independent or owned by a hospital or health system), participation in the Medicare Shared Savings Program, and size.

Characterizing meaningful differences. For the quantitative analyses in this chapter, we did not conduct tests of statistical significance, given the risk of false positives due to the large number of variables examined. Instead, we focus on describing meaningful differences (which we define as differences of 10 percentage points or larger). When differences are not described, the findings were similar over time and across different types of practices and respondents.

^aThe Appendices further describe our methods and include survey instruments and additional analysis tables (where relevant) for care delivery data reported to CMS (Appendix 4.A), the CPC+ Practice Survey (Appendix 3.B), the qualitative deep-dive study (Appendix 4.B), and the study of exemplar practices (Appendix 4.C)

4.2. Practices' perspectives of and overall approach to CPC+ in PY 4

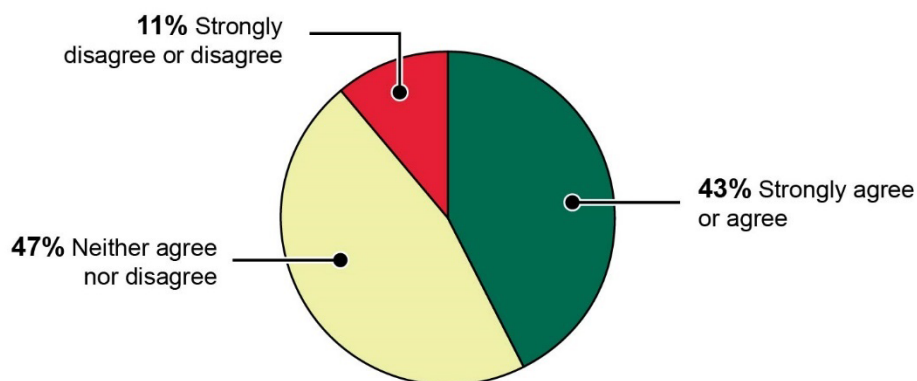
4.2.1. Practices' experiences with the COVID-19 pandemic



CPC+ helped practices meet patients' care needs during COVID-19. PY 4 was marked by COVID-19, which changed primary care delivery, shifting services online and reducing demand for non-emergent care. Most deep-dive practices reported that participation in CPC+ helped or had no effect on their ability to care for patients during COVID-19. Likewise, on the PY 4 CPC+ Practice Survey, 43 percent of practices reported that they agreed or strongly agreed that they were better positioned to meet patients' care needs during COVID-19 because of their participation in CPC+ (Figure 4.1). Eleven percent of practices reported that they disagreed or strongly disagreed that participating in CPC+ better positioned them to meet patients' care needs; however, it is unclear from the question wording whether these practices thought there was no effect or whether they thought CPC+ hurt their ability to meet patients' needs during COVID-19. Track 2 practices and those with a larger number of primary care providers (PCPs) were more likely to agree that CPC+ participation prepared them to meet patients' care needs during the pandemic.

Figure 4.1. Percentage of practices that reported that they were better positioned to meet patients' care needs during the coronavirus pandemic because of CPC+

Most practices reported that participation in CPC+ helped or had no effect on their ability to care for patients during the pandemic.



Source: Mathematica's analysis of data from the independent evaluation's PY 4 CPC+ Practice Survey.

Note: N = 2,464 practices.

CPC+ enhanced payments helped many practices sustain staffing levels during COVID-19.

Many deep-dive practices, particularly medium and large-sized system-owned practices, credited CPC+ financial support for enabling them to retain staff whom they had hired for CPC+ during COVID-19, including care coordinators, care managers, and behavioral health specialists. Many of these staff were repurposed during the pandemic. For example, care managers covered work outside of their original role, such as helping patients who were anxious or experiencing mental health issues during the pandemic. Only a few deep-dive practices reported furloughs or layoffs in PY 4. A few other practices reported temporarily reducing staff hours.

Many practices benefited from their prior investments in care management during the COVID-19 pandemic. On the PY 4 CPC+ Practice Survey, practices that agreed or strongly agreed that CPC+ positioned them to meet patients' care needs during COVID-19 were asked to describe this in response to an open-ended question. Among the 4,541 responses, more than half mentioned care management. Care managers hired as part of CPC+ were key to meeting patients' physical and mental health needs during COVID-19. As one practice noted in response to the open-ended survey question, care managers were able to "field the complete onslaught of situations that came from [COVID-19]." Deep-dive practices also reported that they benefited from earlier investments in care management during the pandemic, with several noting that they leveraged risk-stratification techniques to identify patients at high risk for COVID-19 and prioritized outreach to these patients.

The patient-centered, team-based culture that practices fostered for CPC+ helped them navigate the uncertainty of COVID-19. Several deep-dive practices reported that participating in CPC+ fostered a patient-centered and adaptable culture that helped them implement changes needed to care for patients during COVID-19. Several other deep-dive practices noted that the team-based approaches that they implemented for CPC+, such as regular team meetings, helped staff communicate during COVID-19 even though in-person interactions occurred less frequently.

COVID-19 hindered practices' ability to work on CPC+ by placing additional demands on staff time and making it difficult to see patients in person for necessary screenings and preventive care. Many deep-dive practices reported that they put CPC+ work "on the backburner" at least temporarily to respond to COVID-19. For example, in an effort to shift resources to address patients' most pressing needs during the pandemic, deep-dive practices reported deprioritizing longitudinal care management, decreasing work on transitions of care, and offering fewer patient support groups. Furthermore, many deep-dive practices noted that they deprioritized proactive outreach to patients about gaps in care and routine screenings because they had limited capacity to see patients in person. These practices reported that they expect their performance on quality metrics to suffer, especially for measures that require in-person measurements such as the controlling high blood pressure electronic Clinical Quality Measure (eCQM), which affects CPC+ practices' Performance-based Incentive Payment. Finally, a few deep-dive practices noted telehealth was a poor substitute for in-person care for their patients.

4.2.2. Practices' overall impressions of CPC+

Practices continued to be satisfied with their decision to join CPC+ and noted that it improved the quality of care. As in prior years, more than half of practices reported on the PY 4 CPC+ Practice Survey that they would be “very likely” to participate in CPC+ again, though responses continued to vary by track (59 percent of Track 1 versus 72 percent of Track 2 practices; data not shown). Additionally, consistent with PY 2 (the first year these data were reported) and PY 3, most practices (97 percent) reported on the PY 4 CPC+ Practice Survey that participation in CPC+ improved the quality of care that they provide to their patients “somewhat” or “a lot” (Figure 4.2).

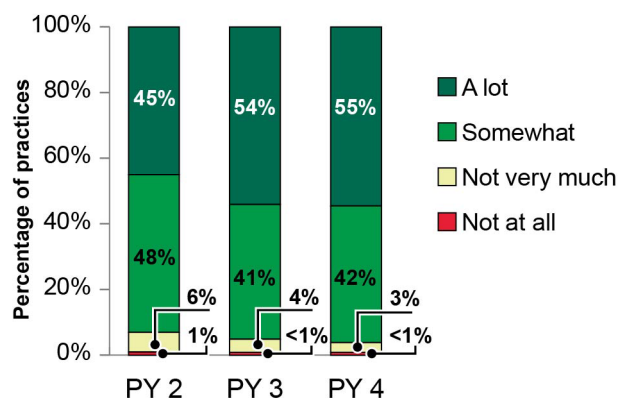
Deep-dive practices valued CPC+ for the primary care transformation road map and additional staff and services it allowed. These practices found that CPC+ brought a “common language” and “awareness of the whole picture” to practices’ efforts to transform care delivery, which encouraged changes to workflows and improved staff engagement. Many deep-dive practices also reported that using CPC+ resources allowed them to add staff such as care managers, behavioral health providers, and pharmacists, which was especially helpful for improving patient care and alleviating burden on primary care practitioners.

Although practices perceived value in CPC+ participation, many continued to report that CPC+ requirements—especially for financial reporting—were burdensome in PY 4.

Despite CMS’s efforts to decrease the burden of CPC+ on practices by easing reporting deadlines in PY 4, 73 percent of practices reported on the PY 4 CPC+ Practice Survey that completing financial reporting requirements was “somewhat” or “very burdensome,” consistent with PY 2 (the first year these data were reported) and PY 3. As in prior years, about half to two-thirds of practices reported that it was “somewhat” or “very burdensome” to meet health IT requirements (44 percent), meet care delivery requirements (60 percent), or complete care delivery reporting requirements in PY 4 (67 percent) (Figure 4.3). Many deep-dive practices said the burden of reporting and meeting care delivery requirements was one of the largest drawbacks of participating in CPC+.

Figure 4.2. Practices’ reported level of improvement to quality of patient care as a result of participating in CPC+ in PYs 2, 3, and 4

As in PYs 2 and 3, most practices continued to report that participating in CPC+ improved the quality of care they provided to patients.



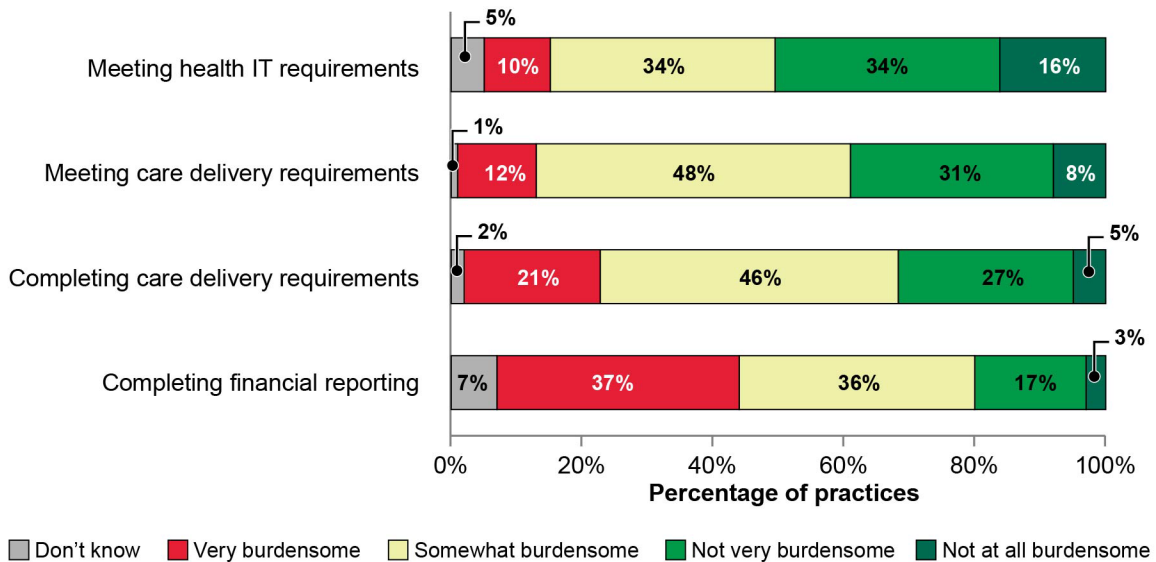
Source: Mathematica’s analysis of data from the independent evaluation’s CPC+ Practice Surveys.

Notes: N = 2,463 practices in PY 2; 2,457 practices in PY 3; and 2,462 practices in PY 4. Not all practices responded to each question. The percentage of missing responses to each question was less than 1 percent.

PY = Program Year.

Figure 4.3. Percentage of practices reporting the extent to which CPC+ requirements were burdensome in PY 4

Practices continued to report that CPC+ requirements, especially financial reporting, were burdensome in PY 4.



Source: Mathematica’s analysis of data from the independent evaluation’s PY 4 CPC+ Practice Survey.

Notes: N = 2,463 practices. Not all practices responded to each question. The percentage of missing responses to each question was less than 1 percent.

PY = Program Year.

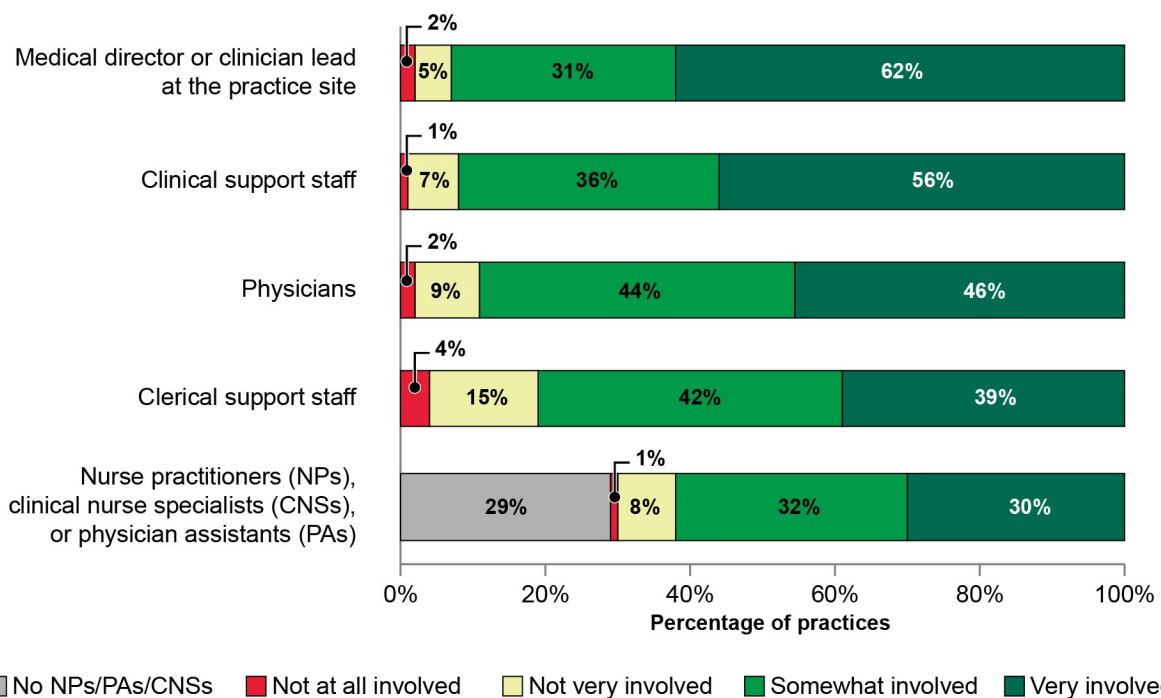
4.2.3 Practices' approaches to implementing CPC+

A variety of practitioners and staff continued to be involved in implementing CPC+.

Similar to previous years, 62 percent of practices reported on the PY 4 CPC+ Practice Survey that medical directors or clinician leads were most likely to be “very involved” in implementing CPC+, and 56 percent reported that clinical support staff were “very involved” (Figure 4.4). The reported levels of involvement of practitioners and staff did not change between PY 2 (the first year these data were reported) and PY4.

Figure 4.4. Practices' reported levels of staff involvement in CPC+ implementation in PY 4

Medical directors and clinician leads continued to be most involved in implementing CPC+, followed by clinical support staff.



Source: Mathematica’s analysis of data from the independent evaluation’s PY 4 CPC+ Practice Survey.

Notes: N = 2,462 practices. Not all practices have each staff type or responded to each question. The percentage of missing responses for each question was less than 2 percent, except for the question about the involvement of NPs, CNSs, or PAs in implementing CPC+, which was missing for 6 percent of practices. To account for a higher percentage of missing responses because some practices do not have these types of staff, we recoded practices' responses to “No NP/PA/CNSs” if they reported having no NPs, PAs, or CNSs earlier in the survey.

PY = Program Year.

CPC+ strengthened practices' teamwork. While several deep-dive practices reported that their efforts to improve teamwork preceded their participation in CPC+, many other deep-dive practices reported that participating in CPC+ helped practitioners and staff work as a team by:

- *Fostering a culture of shared responsibility.* Many deep-dive practices reported that CPC+ helped practice staff adopt a sense of shared responsibility over patient care and practice operations. At one deep-dive practice, a care manager said that CPC+ inspired practitioners and staff to work together to meet shared goals and helped them create “a culture [the practice had] tried to establish for a long time.” A practice manager at another deep-dive practice noted that CPC+ encouraged the practice to hold interdisciplinary meetings for staff to express concerns, ask questions, or propose changes, which strengthened shared governance at the practice.
- *Gaining a better understanding of practitioners' and staff members' roles.* Many deep-dive practices indicated that CPC+ increased team members' awareness of their respective roles and responsibilities at the practice. Deep-dive practices reported that these changes allowed Medical Assistants (MAs) and nursing staff to work to the top of their licenses, supported improvements in care delivery workflows, and helped practices better meet patients' needs.
- *Improving formal and informal communication.* Many deep-dive practices indicated that CPC+ enhanced communication by encouraging practices to conduct structured care team meeting and huddles; this promoted collaboration between practitioners, care managers, and other staff about patients who needed extra support or had gaps in care. A few deep-dive practices reported that CPC+ helped staff understand the reason for huddles and thus enhanced staff buy-in and use of huddles. Several deep-dive practices also reported that CPC+ strengthened the frequency and efficiency of informal communication (in-person, instant messaging) among team members.

The frequency with which practices conducted care team meetings and structured huddles has remained consistent throughout CPC+. As in prior years, nearly one-third of practices (43 percent) reported to CMS in PY 4 that they have scheduled care team meetings to discuss high-risk patients and planned care at least daily or weekly. About half of practices (49 percent) reported that they conducted structured huddles focused on patient care at least daily; an additional 29 percent of practices reported holding structured huddles at least weekly but not daily.

COVID-19 posed a challenge to teamwork in several practices. Several deep-dive practices reported that the reorganization of their physical space to meet COVID-19 safety protocols made it challenging for staff to communicate in person throughout the day and forced practices to conduct team meetings via video conference. On the other hand, a few deep-dive practices noted that the team-based culture that CPC+ encouraged was helpful during COVID-19 because practice staff knew how to cover for one another and share responsibility for patient care.

4.3. Practices' work by Comprehensive Primary Care Function

4.3.1. Function 1: Access and continuity



CPC+ encourages practices to improve patients' access to, and continuity of, primary care. CPC+ defines *access to care* as the availability of health services when patients need and want them, and *continuity of care* as the creation of long-term, trusting relationships between patients and practitioners to enable effective provision of care (CMMI 2020). Access to primary care is expected to promote health and the adoption of healthy behaviors that can help patients prevent and manage disease (ODPHP n.d.). Access to a regular source of primary care also can prevent unnecessary and costly care, such as avoidable emergency department (ED) visits.

A. 24/7 access

Consistent with earlier years, nearly all CPC+ practices reported to CMS that patients had 24/7 access to a practitioner with real-time access to the electronic health record (EHR) in PY 4. Avenues for providing 24/7 access have been stable over time: similar to previous years, in PY 4 many practices (81 percent) reported to CMS that they provided 24/7 access to a clinician or care team member at the practice and a smaller percentage (16 percent) used a centralized call center at a health system for after-hours coverage. Correspondingly, as reported in the Third Annual Report, more physicians in CPC+ practices reported that their patients had after-hours access to a physician or other clinical staff with real-time access to the practice's EHR than those in comparison practices on the PY 3 Physician Survey (about 90 compared to 80 percent, respectively) (Peikes et al. 2021). There were few changes over time in the proportion of CPC+ practices offering enhanced appointment availability. For example, in all program years, approximately 79 percent of practices reported to CMS that they always offered same-day or next-day appointments, and approximately 52 percent of practices in all program years reported that they always offered patients early morning, evening, or weekend office visits when needed.⁵⁶

B. Continuity of care

Nearly all practices tracked continuity of care in PY 4. Practices made the largest gains between PY 1 (78 percent) and PY 2 (91 percent); the percentage reporting to CMS that they tracked continuity of care then grew to 99 percent in PYs 3 and 4. Most practices reported to CMS that they used their EHR to track continuity of care throughout CPC+, increasing slightly from 86 percent in PY 1 to 92 percent in PYs 2, 3, and 4.

Although practices reported to CMS increased tracking of continuity of care over time, it is unclear whether CPC+ altered continuity of care. For example, as reported in the Third Annual Report, on the PY 3 CPC+ Physician Survey, physicians in CPC+ and comparison practices reported a similar likelihood of "usually or always" seeing their assigned patients for acute care visits (Peikes et al. 2021). Likewise, beneficiaries in CPC+ and comparison practices reported similar levels of continuity with their regular primary care provider on the PY 3 CPC+ Beneficiary Survey.

⁵⁶ See Appendix 4.C for additional findings from our study of exemplar practices' perceptions of how strategies to improve access influence reductions in acute hospitalizations.

C. Alternative visits

Practices increased their use of telehealth in PY 4 alongside the COVID-19 pandemic. From PY 3 to PY 4, practices reported striking increases to CMS in the use of video visits and visits over an electronic exchange, including telephone, from 59 to 79 percent.⁵⁷ The percentage of practices that reported using video-based visits increased from 15 percent in PY 3 to 60 percent in PY 4, and the percentage of practices that reported using electronic visit types (defined as phone, eVisit, portal, or email) increased from 55 to 74 percent from PY 3 to 4. These data correlate with the onset of the COVID-19 pandemic and are consistent with the experiences of deep-dive practices. Many deep-dive practices reported that they dramatically increased the ratio of telehealth to in-person visits starting in spring 2020, reducing that ratio later in the year based on factors such as rates of new COVID-19 cases locally and the preferences of the practices' patients.

CPC+ practices had a slightly larger proportion of billable primary care visits that were delivered by telehealth or non-face-to-face means than comparison practices in PY 4, but the differences are small. While use of non-face-to-face primary care ambulatory visits (as measured by Medicare claims data) was approximately 0.1 percent in the first three years of CPC+ for all practices, in PY 4 the percentage of such visits increased to approximately 17 percent for CPC+ Track 1 practices and 18 percent for those in CPC+ Track 2. Corresponding rates for comparison practices in PY 4 were 16 percent for Track 1 and 17 percent for Track 2.

Many deep-dive practices attributed the increase in telehealth to the COVID-19 pandemic and to reimbursement changes. Nearly all of these practices said adopting telehealth was a necessity or “the right thing to do” to ensure access to care during the COVID-19 pandemic. Several practices also reported that increased reimbursement rates for telehealth by payers helped to accelerate its use in PY 4. Just over half of deep-dive practices discussed whether CPC+ helped them offer telehealth in PY 4. Of these, many practices did not think CPC+ played a role in their adoption of telehealth. Several others, however, noted that CPC+ increased their awareness of telehealth and that CPC+ Connect offered information on different telehealth IT tools, two factors that enabled them to pivot more easily to using telehealth when the pandemic began.

In addition to helping deep-dive practices adapt to the COVID-19 pandemic, practices also saw value in telehealth for other reasons. Many deep-dive practices reported that telehealth helped them continue to provide care during the pandemic while keeping patients and staff safe; several of these practices noted that telehealth was especially helpful for patients who were afraid to make office visits during the pandemic. Moreover, most deep-dive practices also described additional benefits of using telehealth. Many practices emphasized that telehealth enhanced access and convenience for patients who have difficulty finding transportation to the

⁵⁷ The response options for this CPC+ portal item define video visits as telehealth and include telephone visits with eVisits as a type of “visit over an electronic exchange.” In contrast, deep-dive practices generally defined telehealth as consisting of telephone and/or video visits. This CPC+ portal item was only asked of practices in PYs 3 and 4. Practices reports include nonbillable telehealth visits.

office. Several practices described telehealth as more efficient than in-person visits. For example, one practice said telehealth visits tend to stay on schedule compared to in-person visits. Similarly, several practices noted that telehealth facilitated timely follow-up with patients.

Despite the benefits of telehealth, many deep-dive practices faced challenges with telehealth technology, especially for video visits.

For example, several practices described their telehealth platforms (the software systems practices use to provide telehealth) as complicated or difficult to use. A few deep-dive practices noted that non-HIPAA-compliant platforms like FaceTime, Skype, or Google Meet were more user friendly. Many practices also described poor internet connectivity and technical glitches, and many said some patients had difficulty accessing or using telehealth technology. These problems were typically more severe with video than telephone visits. Another drawback of telehealth many deep-dive practices identified was being unable to conduct physical examinations or, for telephone visits, to visually assess patients. However, given the benefits to patients and practitioners, many deep-dive practices said they plan to continue offering telehealth. At the same time, several practices commented that payers' reimbursement policies will affect whether and how much telehealth they offer in the long term.

“I think the benefits of using telemedicine are very real, from both ends. I think it’s convenience for the patients. I think the providers have come to value it as a useful tool, so I don’t foresee it going away.”

—Practice manager at a medium-sized, system-owned, Track 2 practice

Beyond telehealth visits, practices continued to offer most types of alternative visits at similarly low rates as in prior years in PY 4. As in PYs 1, 2, and 3, approximately 33 percent of practices reported to CMS that they offered home visits, 32 percent offered hospital visits, and 26 percent offered group visits in PY 4.

4.3.2. Function 2: Care management



CMS views care management for patients with complex needs or high health care costs as a hallmark of comprehensive primary care. The term “care management” describes a set of proactive activities intended to improve health outcomes and reduce overutilization, harm, and waste (CMMI 2020). CPC+ requires practices to implement two aspects of care management. Longitudinal care management is more intensive and relationship-based and is provided to patients who are identified as higher risk through a risk-stratification process and who would benefit from ongoing, proactive care. Shorter-term “episodic” care management focuses on care after acute care events such as ED visits and hospitalizations.⁵⁸

⁵⁸ See Appendix 4.C for additional findings from our study of exemplar practices’ perceptions of how strategies to improve care management influence reductions in acute hospitalizations.

A. Risk stratification

All CPC+ practices continued to risk stratify their empaneled patients and most integrated risk stratification within their EHR or health IT system. Similar to PY 3, in PY 4, 100 percent of practices reported to CMS that they risk stratify their empaneled patients. Most practices (96 percent) reported to CMS in PY 4 that risk stratification is done with the assistance of their EHR or health IT, up from 94 percent in PY 3 and 89 percent in PY 2, the first year these data were collected.

More physicians in CPC+ practices than comparison practices reported that their practice used a standard process for risk stratification. As reported in the Third Annual Report, on the PY 3 CPC+ Physician Survey, 80 percent of physicians in CPC+ practices reported that their practice or health system used a standard process for risk stratification compared to 35 percent of physicians in comparison practices (Peikes et al. 2021).

Deep-dive practices reported mixed perceptions on whether their risk stratification processes assigned the appropriate number of patients to the highest risk tier. Many deep-dive practices reported that the accuracy of their risk stratification processes, and thus the number of patients assigned to the highest risk tier, was influenced by EHR functionalities and the availability of staff to review and adjust risk scores. While several practices reported that these factors helped them assign accurate risk scores and place an appropriate number of patients in the highest risk tier, several others reported that insufficient EHR functionalities and staffing constraints hindered their ability to assign accurate risk scores to patients. A few deep-dive practices reported that they intentionally constrained the number of patients assigned to the highest risk tier because they had limited resources to provide longitudinal care management services to high-risk patients.

Deep-dive practices used risk scores in a variety of ways. Practitioners in many deep-dive practices reported that risk scores were helpful for identifying patients who might benefit from additional support, including longitudinal care management. Several practices noted that they used risk scores as one of a number of methods (such as practitioner or care manager referral, or disease registries on chronic conditions) to identify patients for longitudinal care management. In addition, several practices reported using risk scores to proactively reach out to high-risk patients during the COVID-19 pandemic and a couple used risk scores for other purposes, including identifying patients for advance care planning and scheduling high-risk patients for extended office visits.

Several practitioners said that they did not find risk scores helpful because they already know their patients' conditions and needs. A few other practitioners said they find other sources of information more helpful for identifying high-risk patients, such as their registry, which identifies patients with uncontrolled diabetes and other chronic conditions. In several practices, practitioners noted that they were unaware of or intentionally not involved in risk stratification, and other practice staff noted that practitioners were not involved in risk stratification.

Overall, many practices planned to maintain risk stratification processes after CPC+ ends.

Despite deep-dive practices' mixed views on the usefulness of risk stratification, 66 percent of practices reported on the PY 4 CPC+ Practice Survey that “most or all of the process” for risk stratifying patients is likely to be maintained after CPC+ ends.⁵⁹ An additional 30 percent reported that “a lot of the process” or “some of the process” is likely to be maintained.

“I don't really need a risk score number on a chart to identify my patients that I know are at risk, to say, 'gosh, I've got to see them more often. I've got to check this more often. I've got to do this and that.' I really don't need that.”

—Solo practitioner at a system-owned,
Track 1 practice

B. Longitudinal care management

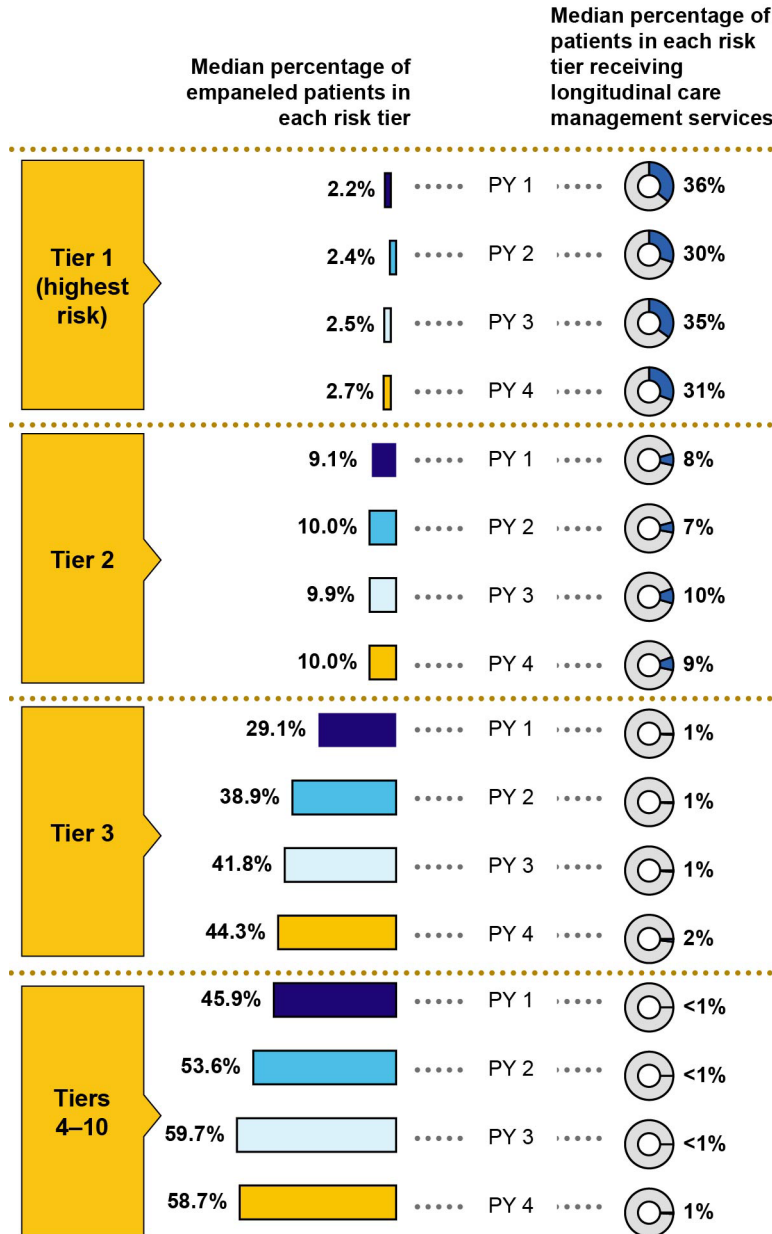
As in prior years, CPC+ practices continued to provide longitudinal care management services to a relatively small percentage of high-risk patients, considering CMS's recommendation. The CPC+ Implementation Guide suggests that a typical primary care practice's population distribution has about 3 to 5 percent of the patient population in the highest risk tier and that practices should “ensure patients with complex needs and likely to benefit receive proactive, relationship-based care management” (CMMI 2020).⁶⁰ As shown in Figure 4.5, CPC+ practices reported placing a median of 2.7 percent of patients in the highest risk tier in PY 4; among these patients, practices reported that a median of 31 percent were receiving longitudinal care management. In addition, practices reported placing a median of 10 percent of patients in the next highest risk tier in PY 4; of these patients, practices reported that a median of 9 percent were receiving longitudinal care management. This finding has been consistent across the four CPC+ program years.

⁵⁹ Discrepancies between the CPC+ Practice Survey and deep-dive findings may reflect different respondent types. Typically, practice managers or CPC+ project coordinators who are not involved in care delivery workflows responded to the CPC+ Practice Survey, whereas care managers and practitioners who are involved in care delivery workflows participated in deep-dive interviews.

⁶⁰ The CMMI Implementation Guide notes that: “A typical population distribution has about 3-5% of the patient population at high risk, with no less than 1% and no more than 10% of the empaneled population receiving care management services” (CMMI 2020).

Figure 4.5. Comparison of patients' receipt of longitudinal care management services in PYs 1, 2, 3, and 4

Practices continued to provide longitudinal care management services to a relatively small percentage of high-risk patients.



Source:

Mathematica's analysis of PYs 1, 2, 3, and 4 practice-reported care delivery data submitted to CMS.

Notes:

Practices defined the number and criteria for as many as 10 risk tiers used in risk stratification. For the purposes of this figure and the text, we use the term "Tier 1" to refer to the highest risk tier. We provide the median number of empaneled patients and the percentage receiving care management services that practices reported for Tiers 1–3 here and for combined Tiers 4–10. Practices were only included in each calculation if they were participating in CPC+ at the end of PY 4 and had at least one patient in that risk tier. The number of practices reporting in each risk tier varied by year.

For Q4 PY 1, Tier 1 included 2,642 practices; Tier 2 included 2,566 practices; Tier 3 included 2,417 practices; and Tiers 4 to 10 included 1,527 practices.

For Q4 PY 2, Tier 1 included 2,455 practices; Tier 2 included 2,502 practices; Tier 3 included 2,425 practices; and Tiers 4 to 10 included 1,514 practices.

For Q4 PY 3, Tier 1 included 2,521 practices; Tier 2 included 2,576 practices; Tier 3 included 2,522 practices; and Tiers 4 to 10 included 1,516 practices.

For Q4 PY 4, Tier 1 included 2,504 practices; Tier 2 included 2,555 practices; Tier 3 included 2,530 practices; and Tiers 4 to 10 included 1,470 practices.

PY = Program Year; Q4 = fourth quarter.

Deep-dive practices’ reports were mixed on whether they were able to provide longitudinal care management services to all patients who might benefit. The most common challenges many practices cited were: insufficient time; patients declining care management services or not responding to care managers’ outreach attempts; and challenges with practitioner engagement, such as physicians not referring patients to care managers as often as needed due to lack of buy-in or confusion about workflows. On the other hand, many other deep-dive practices reported that they provided longitudinal care management services to all patients who would benefit. Slightly more of the Track 2 deep-dive practices, compared to Track 1, reported providing longitudinal care management to all patients that would benefit.

Care managers had competing responsibilities that limited the amount of time they could spend providing longitudinal care management. About half (51 percent) of practices with a care manager reported on the PY 4 CPC+ Practice Survey that insufficient care manager time was a “major” or “minor” challenge to providing care management for chronic conditions. The most common reasons these practices offered for limited care manager time were: (1) the care manager was focused on episodic care management (36 percent), and (2) the CPC+ care management fee was too low to enable the practice to hire more care managers (25 percent). Many deep-dive practices echoed these sentiments, noting that care managers’ competing priorities made it difficult to devote sufficient time to support patients with chronic conditions. COVID-19 appears to have further exacerbated this problem—at least temporarily—as many deep-dive practices assigned new responsibilities to care managers, such as checking in with patients who tested positive for COVID-19 or assisting with COVID-19 testing and vaccination efforts. As a result, several deep-dive practices reported that support for patients with chronic conditions “fell by the wayside.”

“No, it’s not possible [to provide longitudinal care management to all patients who would benefit]. There’s too many patients, and I’m only one person... I’m extremely busy every day, and my priorities are the [ED and hospital] discharges. Then, I move on to my other follow up calls - the diabetes education, the other psychosocial issues, and all that good stuff. Then I have a fair number of incoming calls from patients as well. I wish there were four of me.”

—Care manager at a small, independent, Track 1 practice

In PY 4, several system-owned deep-dive practices reported that previously embedded care managers moved to centralized locations outside the practice. These practices reported that these changes were planned by their health systems as part of a broader effort to centralize care management staff and help care managers prioritize support for patients with complex needs. The use of off-site care managers is not consistent with CMS’ intended approach to care management which encourages the use of on-site, non-physician, practice-based or integrated shared care managers that monitor can coordinate care with assistance from other practice staff, as needed (CMMI 2020). Deep-dive practices had mixed views about the transition to centralized care managers. For example, a few practices said this setup made it more challenging for care managers and practitioners to communicate about patients with chronic conditions. In contrast, a care manager at one practice thought that the centralized approach reduced distractions: “I am much freer to be able to proactively contact patients and work with them on care planning needs....than when I was in the office, [where I was] distracted by so many things that came up on a day-to-day basis.”

Many practices expected longitudinal care management to continue after CPC+ ends. On the PY 4 CPC+ Practice Survey, 65 percent of practices reported that “most or all of the process” for longitudinal care management is likely to be maintained after CPC+ ends, another 20 percent reported that “a lot of the process” is likely to be maintained, and 11 percent reported that “some of the process” is likely to be maintained. Many deep-dive practices were uncertain if longitudinal care management would be sustained, but many reported that they hoped it would, noting how helpful it is for ensuring patients with complex conditions do not “fall through the cracks” and do receive the support they need. Practices’ responses suggested that the decision on whether or not to sustain longitudinal care management would be based on available resources and funding.

C. Episodic care management

Nearly all practices have identified patients for episodic care management since the start of CPC+. In each program year, nearly all practices reported to CMS that they identified patients for episodic care management when they were discharged from the hospital (99 percent) or the ED (96 percent).

For many deep-dive practices, having information-sharing relationships with hospitals and EDs was key to conducting timely hospital and ED discharge follow-up calls.

Several system-owned deep-dive practices reported having formal relationships through which they received automated alerts in their EHR when a patient visited a system-affiliated hospital or ED. When automated notifications were not in place, system-owned and independent practices established agreements for the hospitals or EDs to share information in other ways (e.g., fax the practice with their patients’ discharge notes). A couple of deep-dive practices had practitioners who completed rounds in a nearby hospital, which helped them track patients who were in the hospital and know when they were discharged. While many deep-dive practices reported having established relationships with local hospitals, several of these noted that they experienced difficulties sharing information with at least some of the hospitals that their patients visited. For example, several system-owned deep-dive practices reported challenges obtaining discharge information from non-affiliated hospitals.

“We are now—as a result of CPC+, and our desire to decrease readmissions—working with our two biggest hospital systems and finally, after all these years, getting reliable discharge information....This is big, because that was one of our biggest frustrations [before CPC+]. Even while working with our HIE, [we were] still not getting the information we needed when we needed it.”

—Care manager at a medium-sized, system-owned, Track 2 practice

Practices supported episodic care management by assigning specific staff to conduct follow-up calls with patients who were discharged from the hospital or ED. In PY 4, 69 percent of practices reported to CMS that care managers (registered nurses, licensed practical nurses, or social workers) were primarily responsible for monitoring and managing care transitions, similar to previous years. The remaining practices reported assigning this work to practitioners (12 percent), other clinical staff, such as MAs, Certified Medical Assistants, or Certified Nurse Assistants (13 percent), and non-clinical and other staff (6 percent). Deep-dive practices

described various staffing configurations for this work. Several deep-dive practices assigned a dedicated staff person to focus their time on tracking ED and hospital discharges, contacting hospitals for discharge notes when necessary, and conducting follow-up calls with patients. A few other deep-dive practices divided care transition activities between two types of staff within the practice, such as a nurse care manager and an MA. In these cases, the care manager conducted follow-up calls with patients with complex needs and the MA conducted follow-up calls with the remaining patients, using scripted talking points to guide their discussions. A few system-owned practices described relying on a centralized call center or system-level transition-of-care team to complete ED follow-up calls.

Several deep-dive practices said that the nature of episodic care management changed during the COVID-19 pandemic. A few practices, for example, shared that the composition of patients who received follow-up calls after a hospital or ED discharge changed during the pandemic, with most calls being made to patients who had been admitted for COVID-19. These practices cited two reasons for this change: (1) fewer patients visited the hospital or ED for reasons other than COVID-19 because of fear of exposure and (2) the practice intentionally focused resources on calling patients who had been admitted for COVID-19. A couple other practices reported making fewer follow-up calls to patients discharged from the hospital or ED than before the pandemic because staff who typically made the calls were reassigned to COVID-19 related activities, such as screening patients for COVID-19 symptoms before office visits or regularly disinfecting office spaces and exam rooms.

Practices valued episodic care management and planned to sustain the process after CPC+ ends. Most deep-dive practices reported that episodic care management was useful in educating patients about their health, providing practitioners and staff with detailed admission and discharge information, identifying gaps in care, and ultimately reducing readmissions. In general, deep-dive practices reported that they planned to continue providing episodic care management services after CPC+ ends, although a few noted that they might adapt their process to focus on specific groups of discharged patients who would benefit most from episodic care management, such as complex patients with a hospital or ED visit due to a new or exacerbated illness, rather than patients with issues like a broken bone. Likewise, on the PY 4 CPC+ Practice Survey, 72 percent of practices reported that they will continue “most or all of the process” that they implemented for short-term “episodic” care management for patients who had a recent hospital admission or ED visit, 20 percent reported that they will continue “a lot of the process,” and 6 percent reported that they will continue “some of the process.”

4.3.3. Function 3: Comprehensiveness and coordination



CMS encourages CPC+ practices to provide comprehensive and coordinated care. The CPC+ Implementation Guide uses the term “comprehensiveness” in the primary care setting to refer to a practice meeting most of its patient population’s medical, behavioral health, and health-related social needs. “Coordination” refers to the primary care practice’s central role in helping patients and caregivers navigate a complex health care system, including identifying and communicating with specialists and accessing community resources to meet their needs (CMMI 2020).⁶¹

A. Coordinated referral management

In PY 4, many practices continued to support coordinated referral management with at least one type of specialist and to have collaborative care agreements. Similar to PY 3, practices most commonly reported to CMS in PY 4 that they supported referral management with cardiology (72 percent of practices) and gastroenterology (57 percent of practices). Of these practices, 75 percent reported using a collaborative care agreement to facilitate coordination with cardiology and 68 percent reported using a collaborative care agreement to facilitate coordination with gastroenterology. Given deep-dive findings on confusion and mixed perceptions about the purpose and value of collaborative care agreements (discussed below), these data that practices reported to CMS should be interpreted with caution; they may overestimate use of collaborative care agreements in terms of how CMS intended them to be used in the CPC+ model (CMMI 2020).

Robust health IT and interoperability helped ensure coordinated referral management when present. In PY 4, several deep-dive practices, predominantly those owned by a health system, reported that coordinated referral management was supported by their EHR and its various features, such as the ability to send questions to specialists about patient treatment or submit electronic referrals. These features facilitated communication and data exchange with specialists who shared the same EHR. A few system-owned deep-dive practices also noted the importance of having access to local hospitals’ EHR systems so they could see notes about their patients from specialists working in the hospital. Correspondingly, a few other system-owned deep-dive practices reported that the lack of health IT interoperability from the use of different EHRs across practices and specialists made referral coordination difficult.

As in prior years, deep-dive practices reported mixed perceptions of the benefits of collaborative care agreements. Many deep-dive practices that reported using collaborative care agreements perceived value in these agreements and said that they resulted in clearer expectations for coordination, improved communication between primary care and specialist physicians, and facilitated access to specialists. The remaining practices with collaborative care agreements perceived limited benefits and reported that they were able to coordinate specialty care without a formal agreement prior to CPC+. Several deep-dive practices reported that they did not establish collaborative care agreements as part of CPC+. In general, practices that either did not establish agreements or perceived limited benefits of established agreements noted that

⁶¹ See Appendix 4.C for additional findings from our study of exemplar practices’ perceptions of how strategies to improve the comprehensiveness of care influence reductions in acute hospitalizations.

they had other methods in place to support coordination before joining CPC+. These methods included (1) referral management systems, (2) unwritten and informal referral processes, (3) established and informal relationships with specialists, (4) a requirement to refer to specialists within their systems, and (5) other coordination methods (such as those prompted by participation in other improvement initiatives).

While CMS hoped to increase the orientation of primary care practices to patients' total cost of care, many deep-dive practices did not consider data on high-volume or high-cost specialty care when making referral decisions.

As in prior years, deep-dive practices most commonly reported making referral decisions based on (1) physicians' existing relationships with specialists, (2) patient feedback, (3) payers' preferred in-network specialist lists, (4) patients' insurance type, and/or (5) patients' geographic proximity to the specialist's office. Many system-owned deep-dive practices noted that they tended to refer patients to specialists within their health system, either because they were required to, or they perceived better coordination with specialists that used the same EHR. Several deep-dive practices reported that they did not use data on high-volume and high-cost specialists to guide referral decisions because they had limited referral options. Among deep-dive practices that reviewed data on high-cost specialists, a few reported difficulties interpreting the data and determining whether costs were driven by patients' complexity or specialists' decisions.

“[When choosing who to refer to], we stress the value of knowing the specialist and also working with specialists who have access to our EHR.”

—Physician at a large, system-owned, Track 1 practice

B. Integration of behavioral health care with primary care

Almost all practices (99 percent) are implementing a strategy to address behavioral health needs. More practices continued to select the Primary Care Behaviorist model than the Care Management for Mental Illness model to address behavioral health needs (see text box). Similar to PY 3, 57 percent of practices reported to CMS that they opted for the Primary Care Behaviorist model, 36 percent opted for the Care Management for Mental Illness model, and 5 percent indicated that they use a combination of the two approaches. As in prior years, deep-dive practices described adapting the behavioral health integration (BHI) models to fit their practice context, needs, and resources. For example, several deep-dive practices reported that they established arrangements with external behavioral health providers instead of co-locating behavioral health specialists at the practice to improve access to behavioral health care.

The number of practices that had on-site behavioral health specialists grew each year of CPC+; care managers and physicians also supported patients' behavioral health needs.

Regardless of the BHI model (or combination of models) used, the proportion of practices that reported on the CPC+ Practice Surveys that they had a co-located behavioral health specialist—that is, clinical psychologist, psychiatrist, or clinical social worker—at the practice site has more than doubled since the beginning of CPC+, growing from 25 to 42 to 50 to 57 percent from PY 1 to PY 4. As in prior years, more Track 2 than Track 1 practices reported having these staff on site in PY 4 (68 versus 45 percent) (Figure 4.6). This may reflect that CMS required practices in Track 2 to integrate behavioral health in PY 1, two years earlier than required for practices in Track 1. Among practices with a care manager, the percentage that reported on the CPC+ Practice Surveys that their care manager had behavioral health training⁶² increased by 15 percentage points from 44 percent in PY 2 (the first year data were reported) to 59 percent in PY 4. Many deep-dive practices reported that physicians also played an important role in providing behavioral health care to patients. For example, many deep-dive practices noted that physicians provided medication management for behavioral health conditions for which they had training or experience treating, such as mild to moderate depression and anxiety.

Evidence-based models for behavioral health integration

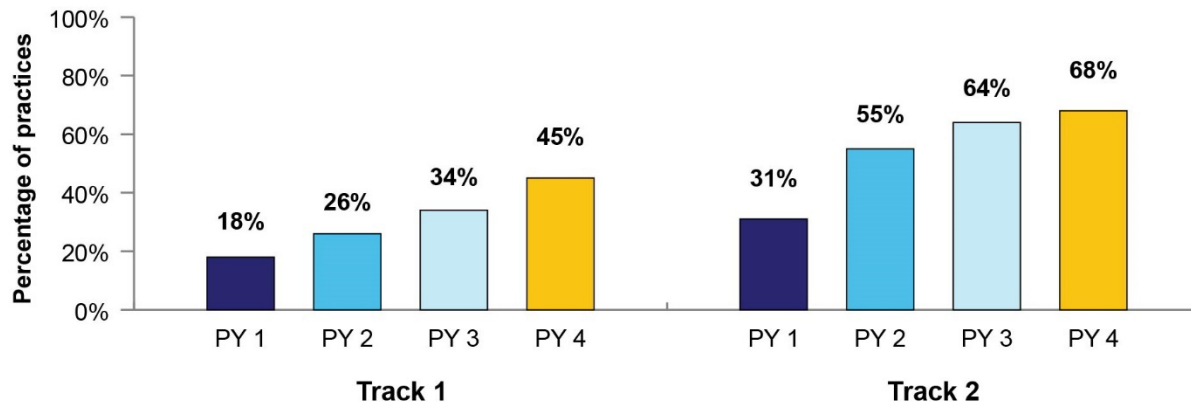
In PY 4, CMS required both Track 1 and Track 2 practices to follow an evidence-based approach (or combination of approaches) to provide integrated behavioral health care. The two evidence-based models of behavioral health integration (BHI) for CPC+ are:

1. **Primary Care Behaviorist model:** a behavioral health specialist (licensed clinical social worker, psychologist) is located on site at the primary care practice to provide time-limited therapy for patients with behavioral health needs.
2. **Care Management for Mental Illness model:** practices use a care manager with behavioral health training to support the care management of patients with behavioral health needs.

⁶² For example, care managers may be trained to screen for and monitor mental health conditions and provide education and self-management support.

Figure 4.6. Percentage of practices that reported having a full- or part-time behavioral health specialist at the practice site, by track and program year

Co-location of behavioral health specialists in CPC+ practices increased each year since the beginning of CPC+, especially for Track 2 practices.



Source: Mathematica's analysis of data from the independent evaluation's CPC+ Practice Surveys.

Note: N = 1,119 Track 1 practices and 1,337 Track 2 practices. Not all practices responded to the question each year. The percentage of missing responses each year was less than 1 percent.

PY = Program Year.

As in prior years, many deep-dive practices cited limited behavioral health resources in their community as a barrier to meeting patients' behavioral health needs. A couple of deep-dive practices reported difficulty hiring a behavioral health specialist because there were not enough qualified individuals in the community. Several deep-dive practices provided stopgap coverage to meet patients' needs while patients waited to receive external behavioral health services (particularly referrals to psychiatrists). In these practices, internal behavioral health staff provided frequent check-in calls, interim medication management, and an extended course of in-practice therapy.

Several deep-dive practices reported challenges engaging some patients in BHI. These practices noted that some patients declined behavioral health support due to shame or embarrassment, and other patients who initially agreed to services began skipping or repeatedly rescheduling appointments or became difficult to reach.

COVID-19 increased the demand for – and complicated the provision of – behavioral health care. Many deep-dive practices reported that the number of patients with anxiety, depression, substance abuse, insomnia, and other behavioral health concerns increased during the pandemic. This increased demand was accompanied by new challenges providing behavioral health care due to COVID-19. For example, several deep-dive practices noted that they could not do warm handoffs because behavioral health specialists

“...all the primary care clinics that have integrated behavioral health are going to [have] this challenge of how [to] make themselves viable and what is that going to look like. It's too bad because the patients are better: they're better employees, they're more compliant with medication, they are healthier. It seems like it's an investment we need to [make] no matter what.”

— Physician at a large, system-owned Track 2 practice

were working remotely, and patients were attending appointments by phone or video. Deep-dive practices reported mixed views on the use of telehealth for behavioral health care. While several practices highlighted benefits, such as increased access and convenience, reduced stigma, and the ability to see patients' entire face (versus seeing their masked face in the office), several others noted that providing behavioral health via telehealth made it difficult to build trust with patients, increased the number of "no-shows" at appointments, and posed challenges for patients who did not have the required technology to meet virtually.

Deep-dive practices valued BHI and want to sustain it, although several were uncertain how they would finance it. Consistent with prior years, most deep-dive practices reported that they valued BHI because it increased access and improved care for patients, enhanced communication and collaboration between behavioral health providers and physicians, and enabled practitioners and staff to focus on other responsibilities. Several deep-dive practices also highlighted that BHI led to increased patient uptake of behavioral health services, noting that before their practice integrated behavioral health care, patients often would not follow through with referrals to external behavioral health providers. Many deep-dive practices want to sustain BHI, given its value, although several were uncertain how they would finance it. Notably, several deep-dive practices indicated they were currently billing insurers for their behavioral health services.



Closer look: How are deep-dive practices implementing the Primary Care Behaviorist model?

The ways in which deep-dive practices implemented the Primary Care Behaviorist model varied along several dimensions, such as:

Behaviorist coverage. Only a few large, system-owned deep-dive practices reported having full-time behavioral health specialists. Many system-owned deep-dive practices said their behavioral health specialist split their time between multiple primary care practices.

Types of behavioral health services and support. Deep-dive practices described a variety of services provided by their behavioral health specialists including:

- **Comprehensive initial assessments** of patients' behavioral health needs.
- **Short-term therapy**, commonly using cognitive behavioral therapy techniques.
- **Help with physical conditions**, typically supporting patients struggling to adhere to a treatment plan to overcome behavioral barriers.
- **Referrals to external services when needed**, including longer-term services, psychiatry, and/or specialties beyond their areas of expertise (e.g., eating disorders).

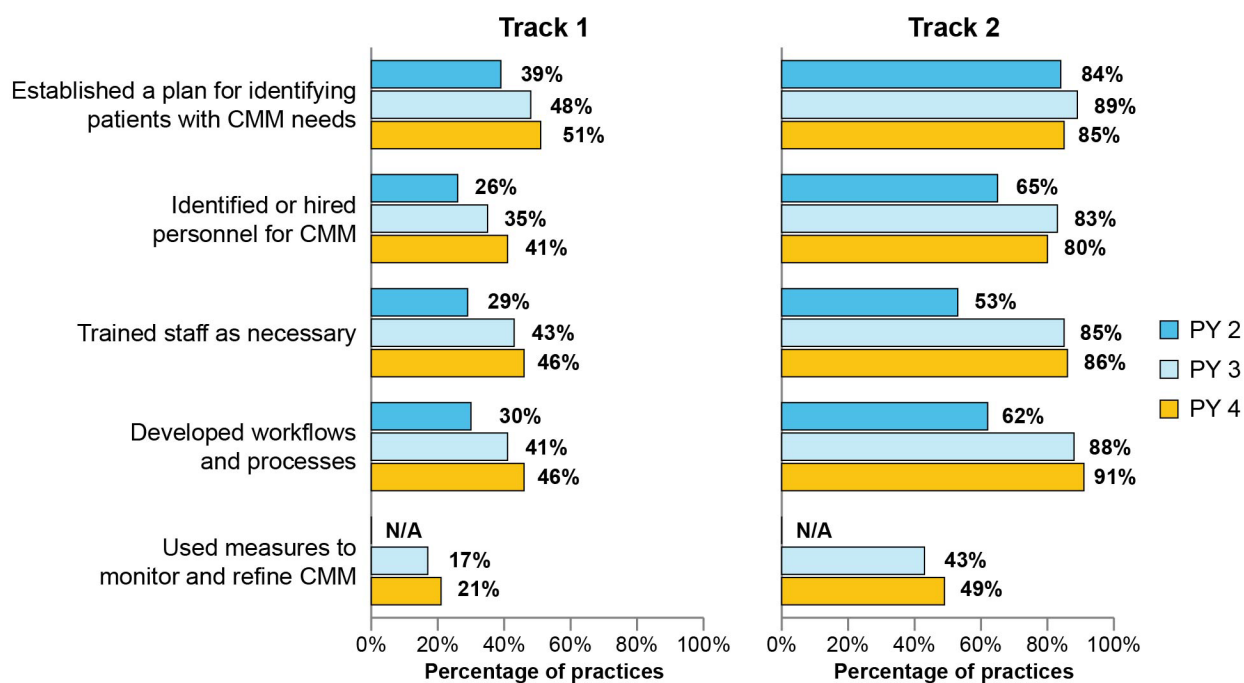
Duration of behavioral health services and support. A few deep-dive practices reported that the duration of behavioral health support ranged from 1–3 sessions, several reported offering 6–10 sessions, and several others reported providing longer-term services, including for "as long as patients needed."

C. Comprehensive medication management (CMM)

In PY 4, practices in both tracks reported that they maintained efforts to implement CMM. The percentage of practices that reported to CMS that they took each of the five recommended steps to implement CMM increased from PY 2 (the first year these data were reported) to PY 3, and remained steady in PY 4. As expected, given that CMS requires only Track 2 practices to provide CMM, more Track 2 practices than Track 1 practices took recommended steps in each program year—though Track 1 practices also made progress. Across both tracks, practices were least likely to report that they used measures to monitor and refine CMM, a step CMS added to the care delivery reporting requirements in PY 3 (Figure 4.7).

Figure 4.7. Percentage of practices that reported taking steps to implement CMM in PYs 2, 3, and 4, by track

Practices in both tracks maintained efforts to implement CMM, with more Track 2 than Track 1 practices taking steps, as expected.



Source: Mathematica’s analysis of PYs 2, 3, and 4 practice-reported care delivery data submitted to CMS.

Note: N = 1,145 Track 1 practices and 1,367 Track 2 practices in PY 2. N = 1,181 Track 1 practices and 1,400 Track 2 practices in PY 3. N = 1,181 Track 1 practices and 1,412 Track 2 practices in PY 4.

CMM = comprehensive medication management; PY = Program Year.

N/A = Not available. Information on practices’ use of measures to monitor and refine CMM was not collected in PY 2.

Similar to PY 3, about one-third of practices reported to CMS that they provided CMM to “most” or “all” patients who were under care management and/or in transitions of care in PY 4. This did not vary by track, even though only Track 2 practices were required to provide CMM. However, this finding should be interpreted with caution as many deep-dive practices continued to conflate CMM with medication reconciliation and medication review in PY 4. CMS defines CMM as a whole-person approach to medication therapy for high-risk patients, which includes assessing current and past medication appropriateness and value, developing action

plans and individualized therapy goals, and scheduling follow-up to monitor patients. In PY 4, many deep-dive practices described providing CMM as defined by CMS; however, many other deep-dive practices said they provided CMM, but they described services that were less comprehensive than those CMS envisioned or they did not offer sufficient detail to determine whether the services they provided aligned with CMS’s definition of CMM. Responses that indicated ambiguity or lack of clarity about CMM did not differ by track.

Consistent with prior years, Track 1 and 2 practices differed in how they delivered CMM.

Of practices providing CMM, a larger percentage of Track 2 than Track 1 practices reported to CMS in PY 4 that they “coordinated with a pharmacist, program, or service” located at their practice site (43 versus 28 percent). Conversely, a larger percentage of Track 1 than Track 2 practices reported that they delivered CMM using the practice’s primary care practitioners (53 versus 29 percent). These findings may be a function of CMS requiring only Track 2 practices to provide CMM in PY 4.

Across tracks—and similar to prior years—more system-owned practices than independent practices reported coordinating with an on-site pharmacist.

For example, almost half of system-owned Track 2 practices reported to CMS in PY 4 that they coordinated with a pharmacist located at their practice site, compared with 34 percent of independent Track 2 practices. About a quarter of system-owned Track 1 practices reported coordinating with a pharmacist located on site in PY 4, compared with only 8 percent of independent Track 1 practices.

“We have a population health pharmacist on our team [who helps] docs when they’re managing medications and if they have questions. [Also,] choosing the right medications for a problem and getting the patient the lowest cost possible medication that’s going to help them. They’re a great resource. They’ve been tremendously helpful.”

—Care manager at a medium-sized, system-owned, Track 2 practice

Practices used pharmacists to support CMM in a variety of ways. Almost half of deep-dive practices reported working with pharmacists to provide CMM. Pharmacists’ involvement ranged from providing direct clinical care to patients to acting as consultants to practitioners. Practices most frequently reported that pharmacists reviewed patients’ medications and recommended changes to practitioners as needed; provided education or follow-up to patients who were referred for CMM; found low-cost medications for patients; and created action plans for patients. Most of the deep-dive practices that reported working with pharmacists said that, in addition to referring patients for CMM who were under care management or in transitions of care, they also referred patients who had prescriptions for high-risk medications or combinations of medications, experienced challenges with medication adherence, or expressed difficulty paying for medication.

Most practices wanted to maintain the CMM process put in place during CPC+. Several deep-dive practices reported that, as a result of participating in CPC+, they created, expanded, or enhanced CMM services. Among deep-dive practices that reflected on the sustainability of CMM, most indicated that they wanted to maintain the changes made to CMM while participating in CPC+, such as collaborating with a pharmacist. A few of these practices indicated that financial support for the pharmacist came from a non-CPC+ source or that they planned to pursue non-CPC+ funding to sustain the pharmacist’s involvement. A couple of deep-

diver practices indicated that participating in CPC+ had not changed how they approached CMM and they planned to continue “as is.”

D. Assess and address patients’ health-related social needs

Most practices reported screening patients for health-related social needs in PY 4. All Track 2 practices reported to CMS that they screened patients for health-related social needs in PYs 4 and 3, compared to 98 percent in PY 2 and 86 percent in PY 1. Likewise, 91 percent of Track 1 practices reported screening patients for health-related social needs in PY 4, compared to 86 percent in PY 3, 78 percent in PY 2, and 72 percent in PY 1—despite Track 1 practices not being required to conduct this type of screening. Across tracks, approximately half of practices screened all patients for health-related social needs in PY 4, while the other half screened selected subpopulations. For example, several deep-dive practices reported that they screened patients enrolled in care management, new patients, and Medicare patients receiving annual wellness exams for health-related social needs.

“If you’re afraid someone’s going to hurt you, if you can’t afford food, if you’re going to be kicked out of your house, you’re not thinking about your blood pressure or your diabetes. So, you need to hit those needs first and make [patients] feel safe....before you can even get a patient to think about their health.”

—Care manager at a small, system-owned, Track 2 practice

Many practices in both tracks used tools integrated into their EHR or health IT system to screen for health-related social needs. For example, in PYs 4 and 3, 91 percent of Track 2 practices (up from 79 percent in PY 2 and 67 percent in PY 1) and 84 percent of Track 1 practices (up from 65 percent in PY 2 and 49 percent in PY 1) reported to CMS that their screening tool was integrated in their EHR or health IT system.

Practices continued to favor using screening tools developed in house rather than standardized tools. Among the 95 percent of practices that used a tool to screen for social needs in PY 4, 58 percent reported to CMS that they used a tool developed by the practice or health system and 43 percent used a standardized screening tool published by a third party, consistent with practices’ reports in prior years. In addition to using screening tools, many deep-dive practices also identified social needs informally through conversations with patients. Notably, physicians and care managers at several deep-dive practices reported that they *only* used informal methods to identify health-related social needs.

Several deep-dive practices reported that some patients were too afraid, embarrassed, or uncomfortable to ask for help with health-related social needs. A couple of deep-dive practices noted that COVID-19 may have exacerbated this issue, suggesting that patients

Health-related social needs increased during COVID-19

About one-quarter of practices providing open-ended responses to the PY 4 CPC+ Practice Survey mentioned that patients’ health-related social needs increased during COVID-19, especially those related to housing, transportation, food security, and other financial stress due to loss of employment.

reluctant to discuss their needs at an in-person visit before the pandemic would be less likely to do so during a phone or video visit.

Almost all practices had access to an inventory of social services resources; fewer integrated that inventory in their EHR. Similar to PY 3, 98 percent of all practices reported to CMS that they maintained an inventory of social resources in PY 4, yet only about one-third of practices reported that the inventory was integrated within the practice’s EHR or health IT system. While practices in both tracks were similarly likely to maintain an inventory, CPC+ encouraged Track 2 practices to integrate their inventories within their EHR, and more Track 2 practices did so (41 percent of Track 2 practices compared to 26 percent of Track 1 practices in PY 4, up slightly compared to PY 3). Many deep-dive practices in both tracks described using inventories developed in house that were not integrated into the EHR, including manuals, resource lists, and shared computer drives. Several deep-dive practices reported using resources developed by other organizations—either alongside their in-house tools or exclusively—such as county databases and community referral services.

Even though many practices helped patients connect with social supports, practices reported that their patients faced barriers to receiving resources, and their communities had insufficient services to meet patients’ needs. At most deep-dive practices, care managers and social workers connected patients to community resources, either referring patients to contact community organizations on their own, or contacting community organizations on behalf of patients. Despite these efforts, staff at several deep-dive practices reported that some patients had difficulty obtaining needed supports: some patients were reluctant to accept help, were too overwhelmed or depressed to make follow-up phone calls to access services, or did not have transportation to be able to access needed services. While several deep-dive practices noted that it was easy to identify community resources to meet patients’ social needs, many other deep-dive practices reported insufficient services in their communities, especially transportation and housing resources. A couple of deep-dive practices also reported that some community resources were either limited or eliminated due to COVID-19.

4.3.4. Function 4: Patient and caregiver engagement



CMS encourages practices that joined CPC+ in 2017 to promote patient and caregiver engagement in health care delivery. This process means using patients’ and caregivers’ experience and expertise to improve processes and accelerate practice change, for example through Patient and Family Advisory Councils (PFACs). It also means building collaborative relationships with patients in support of their health goals. Because patients and caregivers see and experience health care in ways that practices often do not, they can point out areas for improvement and identify solutions that practices may not have considered (CMMI 2020). Engaged patients equipped with information about their conditions and available services are expected to take a more active role and make more informed choices about their health care (CMMI 2020). Patient and caregiver engagement also includes integrating patients’ goals, preferences, and needs through advance care planning.

A. Engaging patients in Patient and Family Advisory Councils

Most practices continued to convene PFACs in PY 4 but the PFACs met less frequently than in PY 3. Practices reported to CMS that they held one PFAC meeting, on average, in the last two quarters of PY 4, compared to two meetings, on average, in the last two quarters of PY 3. Many deep-dive practices noted that COVID-19 hindered their ability to conduct PFAC meetings: for example, several deep-dive practices said that they did not convene PFAC meetings during the COVID-19 pandemic because of social distancing protocols, while several others noted that they convened meetings virtually. Consistent with prior years, 90 percent of practices reported to CMS in PY 4 that they incorporated PFAC recommendations into practice activities and 86 percent reported that they communicated PFAC recommendations to patients and staff.

About one-third of practices planned to continue most or all of their current PFAC processes after CPC+ ends. On the PY 4 CPC+ Practice Survey, 30 percent of practices reported that they will maintain “most or all” of their current PFAC processes to better understand what matters most to patients and to guide improvements at their practice after CPC+ ends. Another half of practices said they would continue “a lot” (24 percent) or “some” (28 percent) of the PFAC processes. Seventeen percent of practices reported they either did not plan to continue their PFACs after CPC+ ends or did not know whether they would do so.

B. Providing advance care planning

Similar to PY 3, just over half of practices took all four steps recommended for providing advance care planning in PY 4. Five percent of practices reported not taking any of the recommended steps. These steps included (1) establishing a plan for identifying patients with advance care planning needs, (2) identifying staff to support advance care planning, (3) training staff to provide advance care planning, and (4) developing workflows to support advance care planning. More Track 2 practices compared to Track 1 practices implemented each of the four steps, not surprising given this was only required of Track 2 practices. For example, 83 percent of Track 2 practices reported in PY 4 that they had developed advance care planning workflows and processes, compared to 62 percent of Track 1 practices, while 90 percent of Track 2 practices reported establishing a plan for identifying patients with advanced care planning needs, compared to 73 percent of Track 1 practices. The percentages of practices within each track that reported pursuing each step are consistent with those reported in PY 3 (the first year these data were available).

Nearly all practices identified patients who would benefit from advance care planning, with many relying on clinician referrals or patient characteristics. As in PY 3, of the 95 percent of practices that reported to CMS that they had taken steps to implement advance care planning, 99 percent said that they systematically identified patients for advance care planning in PY 4, up slightly from 94 percent in PY 2 (the first year these data were reported). Practices used various methods to identify patients for advance care planning. Among Track 2 practices in PY 4, 75 percent reported using clinician or care team referrals, 75 percent used serious illness and/or patient age, and 50 percent flagged patients identified as high risk using the practice’s two-step risk stratification methodology. These percentages reflect slight increases from PY 2 (the first year these data were reported); they have remained stable since then. Although Track 1 practices were not required to implement advance care planning, the percentages of Track 1 practices that reported identifying patients using each method over time were similar.

Perceived influence of advance care planning on referrals to hospice or palliative care

Many deep-dive practices reported that advance care planning activities had no direct impact on their referrals to hospice or palliative care. These practices believe that a patient’s decision to enter hospice is entirely separate from advance care planning activities.

However, several other deep-dive practices shared that advance care planning changed the nature of hospice and palliative care discussions. For example, a few deep-dive practices reported that discussing end-of-life issues with patients in the context of advance care planning made practitioners more comfortable having discussions about hospice. According to one care manager, “Normalizing the conversation at their regular wellness visit or when they’re not in dire need...makes it easier down the line.”

Many deep-dive practices engaged patients in advance care planning during Medicare Annual Wellness Visits. Practices said Annual Wellness Visits provide more time for patient-clinician discussion; in addition, Medicare allows practitioners to bill for advance care planning conducted as part of these visits. A few deep-dive practices reported that they offered group sessions focused on advance care planning, and several others shared information about advance care planning via posters or pamphlets.

Most deep-dive practices indicated that practitioners conducted advance care planning, often with the support of other staff. Many deep-dive practices reported that care managers, nurses, MAs, and other practice staff supported practitioners in this work by providing patient education on advance care planning; helping identify patients who would benefit from new or updated advance care plans; and distributing, collecting, and uploading advance care planning documents into the EHR. Many deep-dive practices reported that implementing advance care planning became easier over time, as practitioners and staff gained training and experience, although several other deep-dive practices continued to report that practitioners and staff found these conversations difficult.

Similar percentages of beneficiaries in CPC+ and comparison practices engaged in advance care planning in PY 3. As reported in the Third Annual Report, among a sample representative of *all* Medicare FFS beneficiaries in CPC+ and comparison practices, not only high-risk

beneficiaries, about 40 percent reported being asked about their end-of-life care wishes or about creating an advance care plan (Peikes et al. 2021).

Practices continued to report challenges to implementing advance care planning in PY 4; COVID-19 exacerbated these challenges. As in prior years, many deep-dive practices described challenges with advanced care planning in PY 4, such as insufficient time to talk to patients about advance care planning or patients' discomfort discussing advance care plans, as well as logistical challenges, including difficulties getting patients to complete and share advance care plan documents, as well as problems uploading them or accessing them through the EHR. Several deep-dive practices reported that the COVID-19 pandemic exacerbated these challenges in PY 4: they could not hold group sessions to discuss advance care planning and they found it difficult to have conversations about advance care planning by phone or video.

Many deep-dive practices reported that they planned to continue advance care planning after CPC+ ends because of its value to patients and their families. This is consistent with deep-dive findings from prior years.

4.3.5. Function 5: Planned care and population health



CPC+ encourages practices to organize care delivery to proactively address the needs of their entire patient population. This approach to care delivery, which CPC+ refers to as planned care and population health, calls for practices to use data and a team-based approach to identify patients' needs, reach out to patients to encourage them to seek care, and efficiently manage that care.

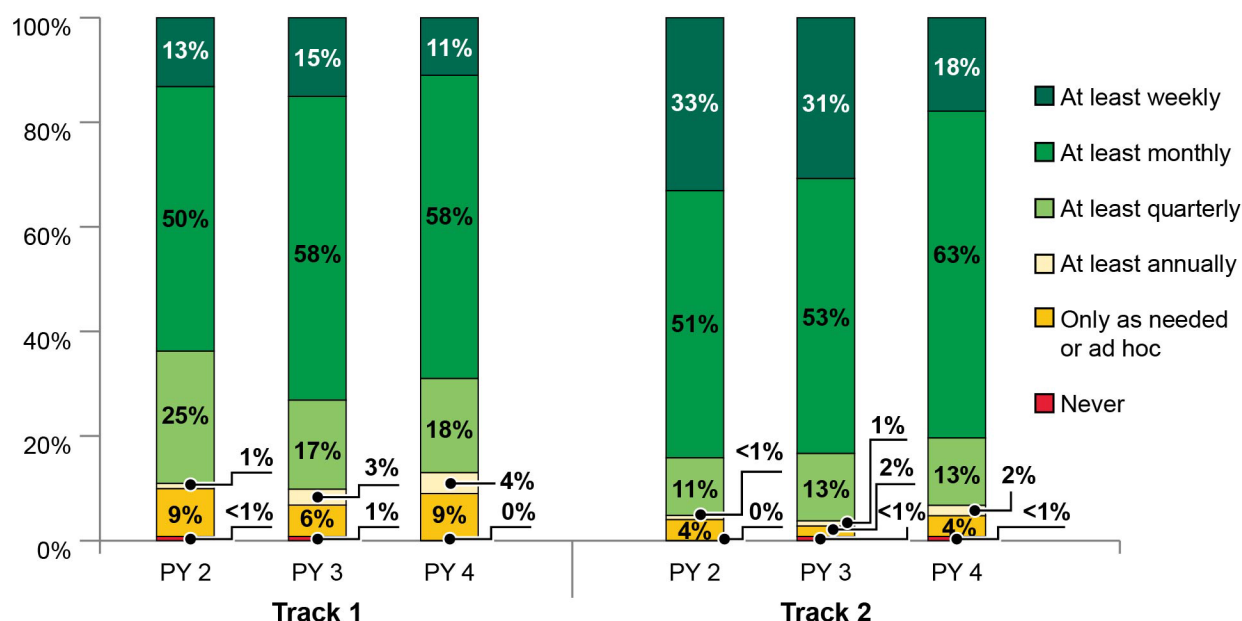
As reported in Chapter 3, CPC+ practices continued to receive and use data feedback in PY 4 (see Section 3.2.2). In PY 4, practices reported to CMS that they regularly used claims data from the CPC+ feedback tool (87 percent); claims data from other payers (79 percent); and multipayer data from a Health Information Exchange, all-payer claims database, or data aggregators (37 percent). Reports on the usage of the CPC+ data feedback tool in PY 4 indicate that the number of practices that accessed the tool and the total number of page views declined from PY 3, which deep-dive practices attributed to reduced staff availability to review data due to COVID-19. In addition, most deep-dive practices reported in PY 4 that they did not use cost data, most commonly because they did not find it actionable or were not sure how to access it.

Most practices continued to discuss quality improvement data during data-focused care team meetings, but held meetings less frequently than in prior program years. Although CMS no longer required practices to hold data-focused care team meetings in PYs 3 and 4, most practices (across tracks) reported holding these meetings “at least quarterly” (Figure 4.8). A few deep-dive practices described these meetings as valuable for helping staff understand their progress towards shared goals, which may have contributed to practices' decisions to hold data-focused care team meetings in the absence of a formal requirement. The percentage of Track 2 practices that reported to CMS that they held data-focused care team meetings “at least weekly” (a requirement for Track 2 practices in PYs 1 and 2) decreased from 31 percent in PY 3 to 18 percent in PY 4, whereas the percentage that reported conducting these meetings on a less frequent basis increased during this time period. Track 1 practices (that were never required to hold data-focused care team meetings) reported a similar, but smaller, decrease in the percentage

of practices that met to review quality improvement “at least weekly,” from 15 percent in PY 3 to 11 percent in PY 4. A couple of deep-dive practices noted that staff had less time to review data while responding to COVID-19, which may have contributed to less frequent meetings to discuss quality improvement data.

Figure 4.8. Percentage of practices that reported meeting and reviewing quality improvement data in PYs 2, 3, and 4 by meeting frequency and track

Practices continued to meet and review quality improvement data in PY 4, though they did so less frequently than in prior years.



Source: Mathematica’s analysis of PYs 2, 3, and 4 practice-reported care delivery data submitted to CMS.

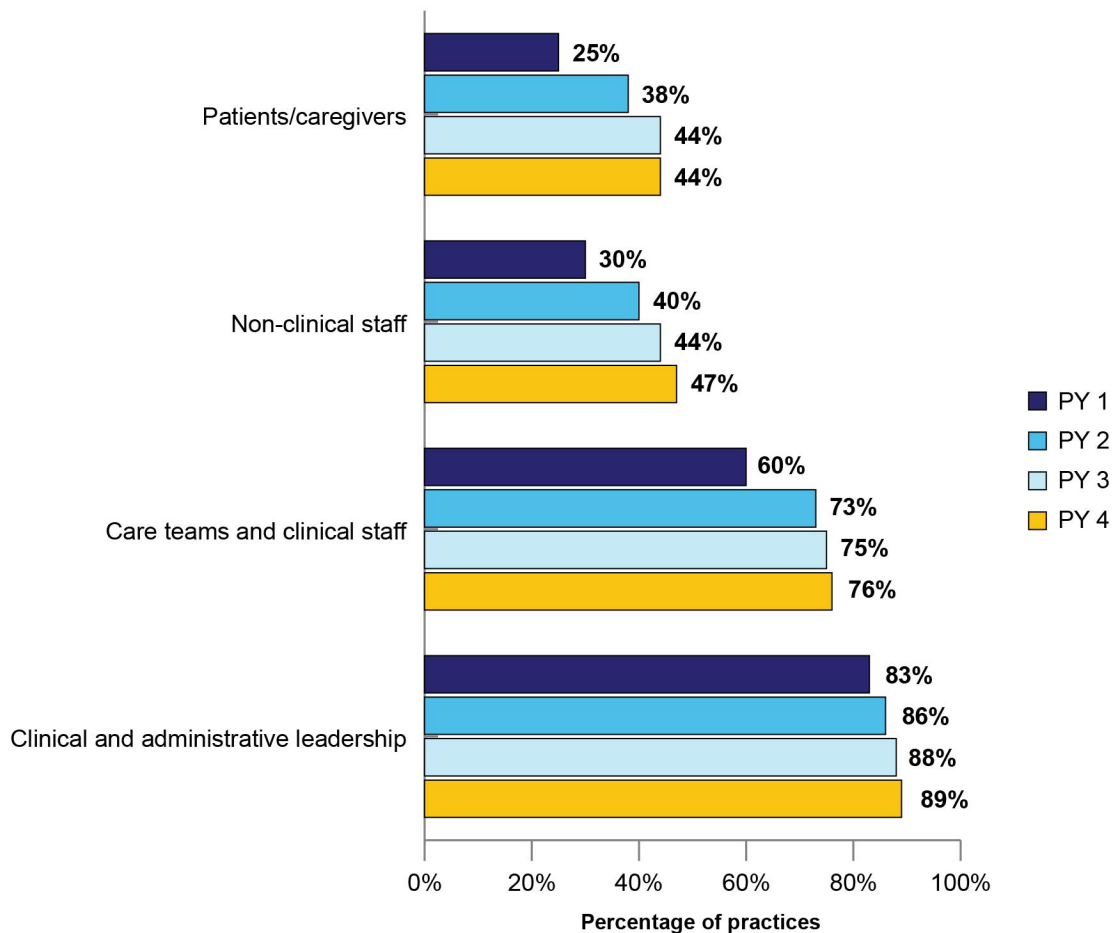
Note: N = 1,145 Track 1 practices and 1,367 Track 2 practices in PY 2. N = 1,181 Track 1 practices and 1,400 Track 2 practices in PY 3. N = 1,181 Track 1 practices and 1,412 Track 2 practices in PY 4.

PY = Program Year.

In PY 4, practices maintained changes they made to staff and patient involvement in quality improvement efforts earlier in CPC+. Each year since the start of CPC+, more than 80 percent of practices reported to CMS that clinical and administrative leadership “primarily generated improvement ideas and opportunities” (Figure 4.9). However, the percentage of practices that reported to CMS involving patients/caregivers, non-clinical staff, and care teams and clinical staff in quality improvement activities increased overtime, with the largest increases occurring between PYs 1 and 2. Several deep-dive practices described value in involving practice staff in discussions of quality metrics and improvement goals. For example, one practice manager noted that, over time, the staff have come to understand that “each one of us that work here in the clinic are responsible...for bringing all that together to meet the different metrics.”

Figure 4.9. Percentage of practices that reported primarily involving various types of staff and patients/caregivers in generating improvement ideas and opportunities in PYs 1, 2, 3, and 4

Clinical and administrative leadership were most commonly involved in generating improvement ideas and opportunities throughout CPC+. Practices maintained changes they made to staff and patient involvement in quality improvement efforts earlier in CPC+.



Source: Mathematica's analysis of PYs 1, 2, 3, and 4 practice-reported care delivery data submitted to CMS.

Note: N = 2,512 practices in PY 1. N = 2,512 practices in PY 2. N = 2,581 in PY 3. N = 2,593 practices in PY 4.

PY = Program Year.

Many practices expect to continue to use quality measures to guide practice improvement after CPC+ ends. About three-quarters of practices reported in the PY 4 CPC+ Practice Survey that they were likely to continue “most or all of the process” that they implemented to track and use quality measures to guide practice improvement. An additional 17 percent reported that they were likely to continue “a lot of the process” and 7 percent reported they were likely to continue “some of the process.”

4.4. Cross-cutting factors influencing practice change

CPC+ practices experienced several factors that affected implementation across two or more care delivery requirements. Practices’ experiences were heavily influenced by the COVID-19 pandemic in PY 4. For example, the pandemic created challenges for conducting activities that were typically done in person such as PFACs or group meetings about advance care planning. The pandemic also hindered practices’ ability to work on CPC+ by placing additional demands on staff time. On the other hand, the pandemic fostered practices’ adoption of telehealth visits to increase access to care. Practices in both tracks reported similar factors that supported and hindered their work.

Similar to previous program years, the factors that supported practices’ implementation of CPC+ in PY 4 included:

- **CPC+ financial support for hiring and retaining staff.** Practices reported that financial resources made available through CPC+ allowed them to dedicate staff to support specific CPC+ activities. These activities included, for example, providing longitudinal care management services, identifying and addressing patients’ social needs, and following up with patients during care transitions. Practices also reported that these financial resources allowed them to retain care managers, even when other practice staff had to be furloughed during the pandemic.
- **Teamwork.** Practices indicated that using a team-based approach to support CPC+ activities helped to increase staff members’ understanding of different roles within the practice, adopt a sense of shared responsibility in the delivery of patient care, and improve communication among staff. For example, working as a team made it easier for practitioners to coordinate care with behaviorists, care managers, and other practice staff—and was especially helpful during the pandemic when in-person interactions occurred less frequently.
- **Established relationships with external providers.** Practices reported that establishing relationships with external providers—hospitals, EDs, and specialists—helped practices coordinate care. For example, many practices reported that these relationships facilitated information sharing during care transitions.

Factors that hindered CPC+ implementation in PY 4 were also consistent throughout the program years:

- **Limited perceived benefits of some CPC+ activities.** Practices continued to place lower value on some activities in PY 4, especially risk stratification, the use of collaborative care agreements, and data on high-cost specialty care. Practitioners and staff are less likely to adopt workflows that support CPC+ requirements if they do not believe the changes are necessary or will improve patient care.
- **Insufficient health IT functionalities and limited interoperability.** In PY 4, practices faced challenges with telehealth platforms that were complicated or difficult to use, which hindered patients' access to virtual primary care and behavioral health services during the COVID-19 pandemic. In another example, the lack of interoperability of health IT systems between practices and external providers continued to make it difficult to coordinate care with specialists and conduct timely follow-up with patients who visited the hospital or ED.
- **Limited community-based resources.** Practices reported challenges linking patients to community-based services to address behavioral health and health-related social needs. Community-based resources were especially limited in PY 4, as many community organizations closed or experienced high demand during the pandemic.
- **Difficulties engaging patients.** Practices noted various barriers to engaging some patients in CPC+ activities including care management, behavioral health services, supports for health-related social needs, and advance care planning. Challenges included the perceived stigma surrounding these services and supports, patients' reluctance to discuss sensitive topics, and access issues such as limited transportation and financial resources.

4.5. Sustainability of CPC+ processes

CPC+ does not explicitly require practices to sustain changes made for CPC+ after it ends in 2022, but CMS and its payer partners hope that successful changes to care delivery resulting from CPC+ will endure in participating practices. In PY 4, practices reported plans to continue much of the processes they put in place for CPC+ after the model ends, suggesting that practices see value in the work they did for CPC+. Still, practices expect to need ongoing supports to continue many aspects of this work.

4.5.1. Practices' plans to sustain CPC+ processes

Practices expect to sustain many of the CPC+ processes, but plans vary by process. As CPC+ rounded out its second-to-last year, practices were asked in the PY 4 CPC+ Practice Survey and the deep-dive interviews about their plans to maintain current processes related to care delivery requirements after CPC+ ends. Practices from both tracks most commonly reported plans to continue most or all of the processes related to: (1) ensuring a range of options for how and when patients can access primary care from the practice, (2) tracking and using data to guide practice improvements, and (3) providing short-term (“episodic”) care management for patients who had a recent hospital admission or ED visit (Table 4.3). In contrast, practices were least likely to report that they will continue most or all processes related to: (1) using formal written agreements with specialists, (2) using PFACs to guide quality improvement efforts, and (3) providing on-site behavioral health care. Practices reported similar likelihood of sustaining processes across tracks, although Track 1 practices were slightly less likely than Track 2 practices to report plans to sustain most or all of their processes related to coordinating with

specialists and providing on-site behavioral health care. A few deep-dive practices expected to have to scale back or modify processes they plan to sustain, such as by focusing on specific groups of patients who might benefit most from them. (Additional information on why practices may be more or less likely to report sustaining various care delivery requirements can be found in Section 4.3. Practices' work by Comprehensive Primary Care Function.)

Table 4.3. Practice-reported likelihood of sustaining most or all of their current processes for CPC+ activities, by track

Primary care function	Care delivery process	Likelihood of sustaining most or all of the process ^a	
		Track 1	Track 2
Access and continuity	Offering access options	High	High
Care management	Using care plans for high-risk patients	Medium	Medium
	Providing longitudinal care management	Medium	Medium
	Providing episodic care management	High	High
	Stratifying patients by risk	Medium	Medium
Comprehensiveness and coordination	Using formal written agreements with specialists	Low	Low
	Coordinating care with specialists	Medium	High
	Addressing patients' health-related social service needs	Medium	Medium
	Providing on-site behavioral health care	Low	Medium
Patient and caregiver engagement	Using PFACs to guide quality improvement	Low	Low
Planned care and population health	Using data to guide quality improvement	High	High

Source: Mathematica's analysis of data from the independent evaluation's PY 4 CPC+ Practice Survey.

Notes: N = 2,447 practices. Not all practices responded to each question. The percentage of missing responses for each question was less than 2 percent.

^a The low, medium, and high categories were developed based on practices' responses to a question about whether they were currently doing various CPC+ activities, and if so, how likely they were to maintain "most or all," "a lot," "some," or "none" of their processes for different CPC+ activities. "Low" = less than 50 percent of practices reported plans to maintain "most or all" of the process; "Medium" = 50 to 70 percent of practices reported plans to maintain "most or all" of the process; "High" = more than 70 percent of practices reported plans to maintain "most or all" of the process. The exact percentage for each of these activities can be found in Appendix 3.B. We present qualitative context for their interpretation in Section 4.3.

PFAC = Patient and Family Advisory Council; PY = Program Year.

4.5.2. Supports practices expect to need for sustaining CPC+ processes

Having sufficient payments to help cover the costs of CPC+ processes is key to sustainability. As reported in Chapter 3, in PY 4, practices remained uncertain about the

adequacy of funding available to sustain their CPC+ processes after CMS discontinues CPC+ payments. Specifically, during deep-dive interviews about payment, practices expressed concern about their abilities to sustain current levels of care management and care coordination processes without CMS’s payments for CPC+ to support the salaries of staff responsible for that work. Similarly, practices expressed concerns about their ability to sustain integrated behavioral health and pharmacist-supported comprehensive medication management absent CMS payments.

Deep-dive practices also expressed uncertainty about the longevity of other funding sources that support care during the pandemic, particularly the higher fee-for-service reimbursement from payers for telehealth. At the time of writing this report, 51 percent of CPC+ practices that started CPC+ in 2017 will be participating in Primary Care First (PCF), which will provide continued support after CPC+ ends.⁶³

“Having care coordinators and that program...that’s been astronomically vital to what we’re able to do in primary care to line patients up with resources. My worry is when the funding dries up – how will we continue? I hope our system’s answer isn’t that we’re just not going to do it anymore. I know they used [CPC+] funding to drive that program.”

—Physician at a large, system-owned, Track 1 practice

Besides funding, practices also need assistance both to plan for sustaining CPC+ processes and to continue to hone and improve their CPC+ processes into the future. As reported in Chapter 3, practice facilitators said in interviews that practices had been requesting support for sustainability planning even before PY 4, especially large organizations that plan their budgets years in advance. Practice facilitators also reported that practices were concerned about their abilities to sustain CPC+ processes without the type of continued, tailored support that practice facilitators provide. Some resources and supports may be available to practices after CPC+ ends. These include regionally aggregated data feedback reports, health IT functionalities provided by vendors during CPC+, and peer learning supports through Accountable Care Organizations, regional membership associations, or other payers. (Additional information on sustainability plans for these supports can be found in Chapter 3.)

⁶³ The percentage is based on using the number of practices that ever participated in CPC+ as the denominator. The numerator is the number of CPC+ practices that ever participated in CPC+ and also returned a PCF practice application and did not withdraw from PCF (based on the October 13, 2021, PCF application tracker).

4.5.3. Assessing sustainability and spread in the final year of CPC+

In PY 5, the final waves of the deep-dive study and CPC+ Practice Survey will ask in more depth about practices' plans to sustain CPC+ processes after CPC+ ends, and the extent to which systems may have spread the changes made for CPC+ to their non-CPC+ practices and non-primary care areas. They will collect detailed data about how practices will approach the work of sustaining CPC+ processes, the changes they might make to the processes after CPC+ ends, factors that assist their sustainability efforts, and the challenges they face to sustaining. Further, interviews and surveys with the payer partners, health IT vendors, learning contractors, and regional data aggregators will focus on these stakeholders' intentions for continuing to provide supports to CPC+ and non-CPC+ practices into the future.

5. OUTCOMES FOR MEDICARE FFS BENEFICIARIES



Key takeaways

Over the first four years, CPC+ reduced key utilization measures (outpatient emergency department [ED] visits and hospitalizations) and improved some claims-based quality-of-care measures. However, CPC+ did not reduce Medicare expenditures without enhanced payments, so expenditures including enhanced payments (from CPC+ and the Medicare Shared Savings Program [SSP]) increased by 1.5 percent in Track 1 and by 2.6 percent in Track 2. Each year, the annual increases in expenditures with enhanced payments were generally about the size of the enhanced payments in these tracks. In Track 1, there were reductions in expenditures for some services (for example, expenditures for acute inpatient care) and these reductions became greater over time. If Track 1 practices are able to generate even greater reductions in expenditures for services in PY 5, they could plausibly achieve cost savings—even after accounting for the enhanced payments—by the end of the model period. On the other hand, while Track 2 practices also reduced expenditures for some services over time, it is unlikely that they will be able to achieve cost savings after accounting for enhanced payments since the size of CMS care management fees (CMFs) for Track 2 (\$28 PBPM) is almost double that of the CMFs for Track 1 (\$15 PBPM).

As expected according to the CPC+ theory of change, reductions in outpatient ED visits emerged early and persisted across the four years, with a nearly 2 percent average annual reduction in both Tracks 1 and 2. Reductions in acute hospitalizations emerged in later years starting in PY 3 (with a 1.7 percent reduction) for Track 2 practices and in PY 4 (with a 1.8 percent reduction) for Track 1 practices. The reductions in acute hospitalizations in the later years also translated into reductions in expenditures on acute inpatient care starting in PY 3 with a 1.5 percent reduction for Track 1 practices and a 2.3 percent reduction for Track 2 practices. However, these reductions were offset by increases in expenditures on other services (inpatient rehabilitation facilities, physician and nonphysician Part B noninstitutional services in any setting, and hospice), yielding estimated effects on total Medicare expenditures without enhanced payments that were small and not statistically significant in either track in any of the four years.

Consistent with CMS's expectations about possible alignment between incentives and supports offered by CPC+ and SSP, effects on Medicare expenditures varied by participation in SSP. Reductions in expenditures emerged in later years for SSP practices (but not for non-SSP practices), especially in Track 1. For SSP Track 1 practices, there was a 2.7 percent reduction in expenditures for acute inpatient care (with a 1.7 percent reduction in acute hospitalizations) in PY 3; by PY 4, there was a 4.2 percent reduction in acute inpatient expenditures (with a 3.3 percent reduction in acute hospitalizations) that also led to a 1.5 percent reduction in total Medicare expenditures without enhanced payments and a 0.8 percent reduction (albeit not statistically significant) in expenditures with enhanced payments (Table 5.2). If this trend is sustained or becomes stronger in PY 5, CPC+ could show cost savings even after accounting for the enhanced payments in the Track 1 SSP subgroup. In contrast, for the non-SSP practices in Track 1, there were increases in total Medicare expenditures without enhanced payments of 1.4 percent in PY 3 and 1.2 percent in PY 4. Part B noninstitutional expenditures were a large contributor to this increase, rising in both years for non-SSP practices. Track 2 estimates in PY 3 and PY 4 followed a similar pattern—with reductions in expenditures for SSP practices and increases in expenditures for non-SSP practices—though the estimates were generally not statistically significant.

Differential effects on Medicare expenditures were observed for only one other practice subgroup (besides SSP participation)—ownership status: among independent practices in Track 2, there was a 1

percent average annual reduction in expenditures and a 3 percent average annual reduction in acute hospitalizations. These estimates were driven by reductions that emerged in the later years (PY 3 and PY 4). There were no differential effects on Medicare expenditures by beneficiary characteristics.

CPC+ led to improvements in some quality-of-care measures. Over the first four years, the percentages of beneficiaries who received all recommended services for diabetes and females who received breast cancer screening increased by about 1 percentage point. Consistent with the emphasis on patient and caregiver engagement in CPC+, hospice use increased by 0.1 percentage point (or 3 percent). These improvements emerged early (in PY 1 or PY 2) in both tracks and persisted through PY 4. Average annual reductions in the potential overuse of prescription opioids of 0.4 percentage point in Track 1 and 0.5 percentage point in Track 2 were driven by reductions that emerged in PY 3 and persisted through PY 4. CPC+ did not have meaningful effects on measures of appropriate use of recommended medications, continuity of care, or incidence of readmissions and unplanned acute care and the few statistically significant effects that we observed for certain measures of appropriate use of recommended medications were not in the expected direction and seemed to indicate unfavorable (though small) effects of CPC+ on these measures. Given that the set of claims-based quality measures that we examined is limited (we could not use electronic clinical quality measures (eCQMs) because of lack of comparable data between the CPC+ and comparison practices), the magnitude of estimated improvements is small, and there is emerging evidence for unfavorable effects on some measures, we cannot draw definitive conclusions about the impact of CPC+ on quality.

In PY 4 (which coincided with the outbreak of the COVID-19 pandemic), beneficiaries in CPC+ practices experienced a greater shift toward telehealth than beneficiaries in comparison practices. Among ambulatory visits, the proportion of visits to primary care providers that were not face-to-face were 0.9 and 2.2 percentage points higher for CPC+ Track 1 and Track 2 beneficiaries, respectively, relative to comparison beneficiaries. The proportion of specialist visits that were not face-to-face were 0.3 and 0.8 percentage points higher for CPC+ Track 1 and Track 2 beneficiaries, respectively, relative to comparison beneficiaries.

Note that the COVID-19 pandemic could affect the estimated effects of CPC+ in PY 4 if the intensity of COVID-19 and the response—in terms of changes in service use and expenditures—differed for CPC+ and comparison practices. We adjusted our difference-in-differences estimation strategy to account for potential bias by adding COVID-19-specific region-level control variables to our regression models. Further, we interpreted the PY 4 impact estimates cautiously.

5.1. Four-year effects of CPC+ on Medicare FFS beneficiaries

What's new this year?

1. Additional year of data (through PY 4)
2. Modified empirical strategy and sensitivity tests to account for regional variation in severity and responses to COVID-19
3. Estimates for the impact of CPC+ on use of telehealth, made highly relevant by the pandemic
4. Estimates for the impact of CPC+ on additional quality-of-care measures
 - Unplanned acute care
 - Appropriate use of recommended medications using Part D claims
 - Long-term and potential overuse of prescription opioids

Primary care practice transformation is a complex process that takes time to implement and manifest in improved patient outcomes. At this stage, we expected that—if the CPC+ model were successful—we would see improvements in measures of service use and quality of care that can be affected by primary care in the short to medium term (for example, ED visits, process-of-care measures for patients with diabetes). We also expected to see some effects beginning to emerge on other outcomes, such as hospitalizations and Medicare expenditures. Specifically, CMS hypothesized that, within each track, CPC+ would reduce Medicare expenditures and hospitalizations in at least one of the five program years, with potentially larger effects in later years (Peikes et al. 2018b). Further, based on findings from the effects of longer-term practice transformation for practices that participated in CPC Classic (Appendix 5.I), we expected any effects of CPC+ on hospitalizations would emerge in the later years of the model. If these reductions in hospitalizations were large enough, we also expected CPC+ would reduce expenditures.

However, the COVID-19 outbreak began in the US in January 2020 (PY4) with a pandemic declared in March 2020, and this affected both the implementation of the model and the utilization of health care services by Medicare patients, the availability of and provision of care by providers, and Medicare regulations during PY 4 (Cox et al. 2020, Zachrisson et al. 2021, Waitzberg et al. 2021, Podulka et al. 2020). Utilization and spending on health care decreased during PY 4 relative to PY 3, with decreases peaking during the first three months of the pandemic (March to May 2020). The COVID-19 pandemic could affect the estimated effects of CPC+ in PY 4 if the intensity of COVID-19 and the response—in terms of changes in service use and expenditures—differed for CPC+ and comparison practices.

We adjusted our difference-in-differences estimation strategy to account for potential bias in our impact estimates due to the COVID-19 pandemic. Since our comparison practices are drawn from non-CPC+ regions, we were concerned about differential regional effects of COVID-19 on service use and expenditures in PY 4. Before conducting our analyses, we assessed the extent of variation in direct and indirect effects of COVID-19 in CPC+ and comparison regions and we found some differences, including, a 1 percent greater reduction in Medicare expenditures in CPC+ regions. To account for these regional differences, we added COVID-19-specific region-level control variables to our regression models. Details on the analyses, additional control variables added to our model, and their specifications are described in Appendices 5.D (Implications of COVID-19 for the CPC+ Impact Evaluation) and 5.E (Empirical Strategy). The control variables are briefly described in the “closer look” text box before section 5.1.1. Including these control variables in the model reduced the magnitude of regional differences (Appendix 5.D).

We also conducted two sensitivity tests for our main impact estimates to check for potential bias due to COVID-19. In addition to revising our main model to adjust for COVID-19 region-level control variables, we also conducted sensitivity tests to check for bias in our impact estimates. In particular, we (1) estimated effects on key outcomes by excluding claims during the first three months of the COVID-19 pandemic (March to May 2020), where we observed the greatest decreases in health care utilization in PY 4 relative to PY 3 (Appendix 5.D) and (2) estimated effects using a triple-differences or difference-in-difference-in-differences (DDD) model that nets out differences between CPC+ and comparison regions in their changes in outcomes between baseline (the year before CPC+ began) and the intervention period. (See Appendix 5.F:

Triple-differences Analysis; estimates for this test were also reported for the first two years in the third annual report [Peikes et al. 2021].) The triple-differences modeling approach has a unique set of assumptions, so we do not expect estimates from the two estimation strategies to be the same. But in discussing our results, we point out any large deviations from the DDD estimate—specifically, any instances in which our difference-in-difference (DD) estimate is outside the bounds of the 90 percent confidence interval of the DDD estimate (indicating a larger change than the highest change implied by the 90 percent confidence interval around the DDD estimate).

Finally, we interpret the PY 4 impact estimates cautiously. Specifically, we interpret any large deviations in PY 4 estimates from the pattern of estimates across the first three years of CPC+ with caution. As in previous years, we combine evidence from the magnitude of the effect, the *p*-values, findings on related outcomes, subgroups, and sensitivity tests, and other data sources about model implementation, thus reducing the risk of COVID-19-related bias in our conclusions about the effectiveness of the model.

In this report, we include a number of additional measures (listed below) that were of interest to CMS for the CPC+ evaluation. A detailed description of the new measures is provided in Appendix 5.C (Claims-based Measures).

- *Telehealth outcomes.* As payers expanded coverage for telehealth (regardless of CPC+), health care delivery shifted during the COVID-19 pandemic and telehealth visits increased sharply after March 2020. But because the CPC+ model already encouraged practices to provide comprehensive care outside of the traditional office visits, it might have been easier for CPC+ practices to offer telehealth visits at scale than comparison practices. We learned from the deep-dive interviews with CPC+ practices that independent practices were more likely to be flexible and nimble in adopting alternative telehealth platforms (such as FaceTime and phone calls) than system-owned practices. We explored the possibility of differential effects of CPC+ on telehealth adoption by practice ownership status.
- *Unplanned acute care measures.* The CPC+ care delivery requirements for timely follow-up after hospital discharges and ED visits, combined with the practices' enhanced resources and primary care capabilities, should help CPC+ practices to manage hospital- or ED-to-home transitions better than comparison practices. CPC+ patients are therefore expected to have a lower rate of use of unplanned acute care services (ED visits, observation stays, and hospital readmissions) in the 30 days after an acute care hospitalization or an ED visit or observation stay. Because unplanned acute care events are likely to be more frequent than hospital readmissions, we expect these two new measures to yield greater statistical power than the current 30-day readmission measure.
- *Measures for appropriate use of recommended medications.* We examined five new measures constructed using Part D claims that capture appropriate use of recommended medications among beneficiaries with certain clinical conditions. These measures include percentage of beneficiaries with cardiovascular disease who were prescribed statin therapy; percentage of beneficiaries on diabetes medications, renin-angiotensin system antagonists, and statins with proportion of days covered by medication greater than 80 percent (three different rates); and percentage of beneficiaries with both coronary artery disease (CAD) and diabetes who were prescribed and filled angiotensin-converting enzyme (ACE) inhibitors or angiotensin receptor blockers (ARB) therapy. These measures provide additional tests for

whether CPC+ led to improvements in population-level receipt of recommended care. We also examined a sixth measure constructed using Part D claims that tests whether CPC+ led to a reduction in high-risk medication use by Medicare beneficiaries. Examples of “high-risk” medication classes include antispasmodics, antithrombotics, and non-benzodiazepine hypnotics.

- *Long-term use and potential overuse of prescription opioids.* Although CPC+ does not have an explicit goal of reducing high-dose opioid prescribing, the participating primary care practices are required to implement several approaches (for example, comprehensive medication management and screening for behavioral health conditions) that could change prescribing behaviors. Therefore, we examined the effect of CPC+ on both the long-term use of opioids and potential overuse of opioids.

In Table 5.1, we summarize our findings on the impacts of CPC+ in the first four program years for the practices that began CPC+ in 2017.⁶⁴ For each outcome, we provide (1) the annual impact estimates averaged over the first four program years, and (2) the annual estimates for PY 3 and PY 4 to capture effects on outcomes that were expected to emerge in later years as the model was more fully implemented. We show estimated impacts separately by track and use a dash to denote where we did not observe meaningful effects (estimates that were not significantly different from zero, were less than 0.5 percent in magnitude, or did not indicate any consistent pattern across multiple measures in a particular domain). In Table 5.2, we show the SSP and non-SSP group specific estimates in each track for key outcomes (hospitalizations, expenditures, and the three biggest expenditure categories [acute inpatient care, Part B noninstitutional, and outpatient expenditures]). Here, we show all estimates for all key outcomes (regardless of whether they are statistically significant) to illustrate the magnitudes of the estimates for SSP and non-SSP practices; asterisks denote whether particular estimates are statistically significant. In Table 5.3, we show estimated effects on Medicare expenditures and acute hospitalizations by ownership status of practices (since there was a differential effect on Medicare expenditures by ownership status among Track 2 practices); there were generally no statistical differences in effects between other subgroup categories (see Appendix 5.A for details).

⁶⁴ In this annual report, we do not analyze or report on the practices that joined CPC+ in 2018, as these practices account for only 5 percent of the total number of practices participating in CPC+, and previous analyses found that the experiences of these practices were very similar to the experiences of those that joined CPC+ in 2017 (Anglin et al. 2020).

Table 5.1. Summary of CPC+ impacts on outcomes for Medicare FFS beneficiaries over the first four program years



	Significant findings over the first four program years (average annual estimate) ^a		Significant year-specific findings for PY 3 ^a		Significant year-specific findings for PY 4 ^a		What does it mean?
	Track 1	Track 2	Track 1	Track 2	Track 1	Track 2	
 Service use							
Outpatient ED visits	-1.8%	-1.7%	-1.7%	-1.6%	-2.9%	-2.5%	<i>During the first four years, CPC+:</i> Reduced the rate of ED visits, with reductions of similar magnitude in each year. The magnitude of the PY 4 estimate in Track 2 should be interpreted with caution as it is larger than the highest reduction implied by the 90 percent confidence interval around the DDD estimate (see Appendix 5.F. for details on DDD estimates).
Acute hospitalizations	-0.9%	-1.1%	–	-1.7%	-1.8%	-1.9%	Reduced the rate of acute hospitalizations, with statistically significant reductions in PY 4 in Track 1 and PY 3 and PY 4 in Track 2. The magnitude of the PY 4 estimate in Track 1 should be interpreted with caution as it is slightly larger than the highest reduction implied by the 90 percent confidence interval around the DDD estimate.
Ambulatory primary care visits ^b	–	-1.0%	–	–	–	–	Slowed the growth of billable ambulatory primary care visits for Track 2 during the first four program years, driven by reductions in PY 1 and PY 2.
Ambulatory specialty care visits ^b	–	–	–	–	–	–	Did not impact the rate of ambulatory specialty care visits.
Proportion of ambulatory primary care visits that are non-face-to-face ^{c,d}	NA	NA	NA	NA	0.9pp	2.2pp	Higher proportion of ambulatory primary care visits that are not face-to-face for CPC+ beneficiaries relative to comparison beneficiaries in PY 4.

Table 5.1. (continued)

	Significant findings over the first four program years (average annual estimate) ^a		Significant year-specific findings for PY 3 ^a		Significant year-specific findings for PY 4 ^a		What does it mean?
	Track 1	Track 2	Track 1	Track 2	Track 1	Track 2	
Proportion of ambulatory specialist visits that are non-face-to-face ^{c,d}	NA	NA	NA	NA	0.3pp	0.8pp	Higher proportion of ambulatory specialist visits that are not face-to-face for CPC+ beneficiaries relative to comparison beneficiaries.
Medicare expenditures							
							<i>During the first four years, CPC+:</i>
Without CMS's enhanced payments for CPC+ and SSP ^e	–	–	–	–	–	–	Did not impact expenditures for Medicare Part A and Part B services without enhanced payments.
With CMS's enhanced payments for CPC+ and SSP ^f	1.5%	2.6%	1.4%	2.1%	–	1.9%	Increased the growth of expenditures when <i>including</i> enhanced payments. Exception: CPC+ did not meaningfully affect expenditures with enhanced payments in Track 1 in PY4.
Expenditures for acute inpatient care ^g	-1.1%	–	-1.5%	-2.3%	-2.4%	-1.8%	Reduced the growth of expenditures on acute inpatient care in PY 3 and PY 4 in both tracks.
Part B noninstitutional expenditures ^h	0.7%	–	0.9%	–	1.2%	1.1%	Increased the growth of Part B noninstitutional expenditures in Track 1 (and in Track 2 in PY4 only).
Outpatient expenditures	–	–	–	–	–	-2.4%	Generally, did not affect outpatient expenditures, except a reduction in PY 4 in Track 2. The magnitude of PY 4 estimate in Track 2 should be interpreted with caution as it is slightly larger than the highest reduction implied by the 90 percent confidence interval around the DDD estimate.

Table 5.1. (continued)

	Significant findings over the first four program years (average annual estimate) ^a		Significant year-specific findings for PY 3 ^a		Significant year-specific findings for PY 4 ^a		What does it mean?
	Track 1	Track 2	Track 1	Track 2	Track 1	Track 2	
 Quality of care							
							<i>During the first four years, CPC+:</i>
Beneficiaries with diabetes receiving all recommended services ⁱ	+1.1pp	+1.0pp	+0.9pp	+1.4pp	+1.5pp	–	Increased the percentage of beneficiaries who received all recommended services for diabetes.
Female beneficiaries receiving breast cancer screening	+0.7pp	+0.8pp	+0.8pp	+1.0pp	+0.7pp	+0.8pp	Increased the percentage of female beneficiaries who received breast cancer screening.
Beneficiaries with appropriate use of recommended medications ^j	–	–	–	–	–	–	Did not increase the percentage of beneficiaries with appropriate use of medications.
Continuity of care ^k	–	–	–	–	–	–	Did not meaningfully affect continuity of care.
Readmissions and unplanned acute care ^l	–	–	–	–	–	–	Did not impact readmissions or unplanned acute care.
Hospice use ^m	+0.1pp; 4.5% ^m	+0.1pp; 3.8% ^m	+0.1pp; 4.6% ^m	+0.1pp; 5.6% ^m	+0.1pp; 5.7% ^m	+0.1pp; 3.8% ^m	Increased hospice use.
Long-term opioid use ⁿ	–	-0.1pp	–	–0.2pp	-0.2pp	-0.2pp	Decreased long-term opioid use.
Potential opioid overuse ^o	-0.4pp	-0.5pp	-0.9pp	-1.1pp	-0.8pp	-0.7pp	Decreased potential opioid overuse.

Source: Mathematica’s analysis of Medicare claims data from January 2013 through December 2020 for service use, expenditures, and quality-of-care measures.

^a This table includes estimates that were statistically significant at the 10 percent level on a two-sided test. Dashes indicate findings that are not statistically significant or meaningful in size (less than or equal to 0.5 percent) or findings that did not indicate any consistent pattern across multiple measures in a particular domain. All estimates (except for proportion of ambulatory care visits that are non-face-to-face) are from a difference-in-differences analysis that reflects the difference of the average outcome for Medicare FFS beneficiaries attributed to CPC+ practices in the first four years of CPC+ compared with the average outcome in the baseline year, relative to the same difference over time for Medicare FFS beneficiaries attributed to comparison practices, while controlling for beneficiary characteristics, practice fixed effects, and COVID-19 related regional control variables (in PY 4 only). Estimates in **bolded red, italicized font** should be interpreted cautiously because they are outside the 90% confidence interval of the DDD estimates.

^b Ambulatory visits with primary care practitioners and specialists include office-based visits and visits at home, as well as visits in other settings, such as FQHCs, RHCs, and CAHs.

Table 5.1. (continued)

^c Ambulatory visits are identified as face-to-face or non-face-to-face based on procedure codes, telehealth modifiers, and place of service (carrier file only) on Medicare claims. Visits such as telephone and online assessment and management and evaluation and management are included in the non-face-to-face measure, making it broader than CMS's definition of "telehealth" visits. Because non-face-to-face visits were close to zero in the baseline period and in the first three intervention years for both CPC+ and comparison practices, we estimated impacts on these outcomes only in PY 4 and used a straight differences model for the estimation.

^d Measures include only beneficiaries with non-zero counts of visits.

^e Expenditures for Part A and Part B services in PY 3 and PY 4 include QPP payment adjustments, based on practitioner performance two years before. They are applicable for both CPC+ and comparison practices. The adjustments are composed of (1) Merit-based Incentive Payment System adjustments, which are applied directly to physician and outpatient claims (as a percentage of the charges on the claims); and (2) lump-sum incentive payments to eligible practitioners who participated in Advanced Alternative Payment Models in 2017 and 2018 (calculated based on 2018 and 2019 claims for these practitioners, respectively). The first QPP adjustments were paid in PY 3 (two years after the start of QPP), so there are no QPP payments in PYs 1 and 2. For Track 2 practices, Medicare Part A and B expenditures *without* enhanced payments also include the base CPCPs, but not the 10 percent comprehensiveness supplement. We include CPCPs in Part B spending because Track 2 practices agreed to lower Part B payment for evaluation and management services in exchange for CPCPs.

^f For Track 2 practices, Medicare Part A and B expenditures *with* enhanced payments include the base CPCPs, as well as the 10 percent comprehensiveness supplement.

^g Acute inpatient care includes short-stay acute hospital admissions and admissions to CAHs.

^h Expenditures, with QPP payment adjustments, on Part B noninstitutional services include expenditures for (1) primary care ambulatory visits, (2) ambulatory visits to specialists, and (3) non-ambulatory physician visits as well as services provided by other noninstitutional providers.

ⁱ The recommended services for diabetes are: HbA1c test, eye exam, and attention for nephropathy.

^j Appropriate use of recommended medications is measured using six outcome measures: (1) percentage of beneficiaries ages 21 and older with cardiovascular disease who were prescribed and filled statin therapy; (2) percentage of beneficiaries ages 18 and older on diabetes medications with proportion of days covered by medication > 80%; (3) percentage of beneficiaries ages 18 and older on renin-angiotensin system antagonists with proportion of days covered by medication > 80%; (4) percentage of beneficiaries ages 18 and older on statins with proportion of days covered by medication > 80%; (5) percentage of beneficiaries ages 18 and older with both coronary artery disease (CAD) and diabetes who were prescribed and filled angiotensin-converting enzyme (ACE) inhibitors or angiotensin receptor blockers (ARB) therapy; (6) percentage of beneficiaries ages 65 and older who received two or more prescriptions for high-risk medications in the same class.

^k Continuity of care is measured using three outcome measures: (1) the percentage of primary care ambulatory visits that were provided by practitioners affiliated with the beneficiary's assigned practice; (2) the percentage of ambulatory care visits with the most frequently seen practitioner (of any specialty); and (3) the reversed Bice-Boxerman Continuity-of-Care Index (rBBI), which measures care fragmentation by capturing the number of practitioners providing ambulatory services to a beneficiary and the percentage of care each practitioner provides. We also examined another version of outcomes (2) and (3) in which all practitioners in the beneficiary's assigned practice are treated as a single practitioner.

^l Unplanned acute care is measured using two outcome measures: (1) percentage of index acute care hospital discharges that were followed by an unplanned acute care hospitalization or ED visit (including observation stays) within 30 days; and (2) percentage of index ED (including observation stay) discharges that were followed by an unplanned acute care hospitalization or ED visit (including observation stays) within 30 days.

^m The first number is the impact on the percentage of beneficiaries receiving hospice services. The second is the impact on days of hospice use for beneficiaries receiving hospice services in the measurement year.

ⁿ Long-term opioid use is defined as having 90 or more days' supply of opioids in a year with no more than a 7-day gap between prescriptions.

^o Potential opioid overuse is defined as the use of opioids at a daily dosage of 90 morphine milligram equivalents or more among long-term users of opioids.

CAH = Critical Access Hospital; CPCP = Comprehensive Primary Care Payment; DDD = difference-in-difference-in-difference; ED = emergency department; FFS = fee-for-service; FQHC = Federally Qualified Health Center; NA = not available; PY = Program Year; QPP = Quality Payment Program; RHC = Rural Health Clinic; SSP = Medicare Shared Savings Program; pp = percentage points.

Table 5.2. Summary of CPC+ impacts on service use and Medicare expenditures for Medicare FFS beneficiaries in PY 3 and PY 4, by SSP status



	Track 1, SSP		Track 1, non-SSP		Track 2, SSP		Track 2, non-SSP		What does it mean?
	PY 3	PY 4	PY 3	PY 4	PY 3	PY 4	PY 3	PY 4	
 Service use									
Outpatient ED visits	-1.6%**	-3.8%***	-1.8%**	-1.7%	-1.6%*	-5.1%***	-1.6%*	-0.3%	<p><i>During PY 3 and PY 4, CPC+:</i></p> <p>Reduced outpatient ED visits by around 1.6 percent in both SSP and non-SSP groups in both tracks in PY 3. The sizeable PY 4 SSP estimates should be treated cautiously as they are outside the 90 percent confidence interval of the DDD estimates and no implementation evidence suggested that CPC+ practices' progress on care delivery requirements improved substantially after PY 3.</p>
Acute hospitalizations	-1.7%**	-3.3%***	0.0%	-0.4%	-0.6%	-1.4%	-2.6%***	-2.1%**	<p>Reduced acute hospitalizations for Track 1 SSP practices and for Track 2 non-SSP practices in PY 3 and PY 4.</p>
Ambulatory primary care visits	0.1%	-0.1%	-0.1%	-0.4%	-0.4%	0.0%	-1.2%	-1.0%	<p>Did not affect ambulatory primary care visits in any SSP group or track in PY 3 or PY 4.</p>
Ambulatory specialist visits	0.1%	-1.0%*	0.6%	1.5%**	-1.5%***	-2.2%***	0.5%	0.8%	<p>For SSP practices, decreased ambulatory specialist visits in PY 3 (for Track 2 only) and in PY 4 (for both tracks).</p> <p>For non-SSP practices, increased ambulatory specialist visits for Track 1 in PY 4.</p>

Table 5.2. (continued)

	Track 1, SSP		Track 1, non-SSP		Track 2, SSP		Track 2, non-SSP		What does it mean?
	PY 3	PY 4	PY 3	PY 4	PY 3	PY 4	PY 3	PY 4	
 Medicare expenditures									
	<i>During PY 3 and PY 4, CPC+:</i>								
Without CMS's enhanced payments for CPC+ and SSP ^b	-0.8%	-1.5%**	1.4%**	1.2%*	-0.7%	-1.3%	0.2%	0.8%	<p>Reduced expenditures without enhanced payments for Track 1 SSP practices by around 1.5 percent in PY 4.</p> <p>For non-SSP practices, increased expenditures without enhanced payments in Track 1 in PY 3 and PY 4.</p>
With CMS's enhanced payments for CPC+ and SSP ^c	0.4%	-0.8%	2.6%***	2.3%***	1.3%*	0.8%	2.7%***	3.3%***	<p>Increased expenditures with enhanced payments for Track 2 SSP practices in PY 3, and for non-SSP practices in both tracks in PY 3 and PY 4.</p> <p>Did not increase expenditures with enhanced payments in SSP practices in either track in PY 4.</p>
Expenditures on acute inpatient care ^d	-2.7%***	-4.2%***	-0.1%	-0.4%	-2.8%**	-2.5%*	-1.9%*	-0.8%	<p>Reduced expenditures for acute inpatient care for SSP practices in both tracks in PY 3 and PY 4 and in Track 2 non-SSP practices in PY 3.</p>
Part B noninstitutional expenditures ^e	0.4%	0.4%	1.5%**	2.2%***	-1.0%	-0.5%	1.2%*	2.4%***	<p>Increased expenditures for Part B noninstitutional services for non-SSP practices in both tracks in PY 3 and PY 4.</p>
Outpatient expenditures	-0.6%	-0.8%	1.7%*	0.2%	-0.7%	-2.9%**	-0.5%	-1.8%*	<p>Decreased outpatient expenditures for Track 2 SSP and non-SSP practices in PY 4. Increased expenditures in PY 3 for Track 1 non-SSP practices.</p>

Source: Mathematica's analysis of Medicare claims data from January 2013 through December 2020 for service use and expenditures.

^a All estimates and tests of statistical significance are from a difference-in-differences analysis that reflects the difference in the regression-adjusted average outcome for Medicare FFS beneficiaries attributed to CPC+ practices in the intervention period compared with the average outcome in the baseline year, relative to the same difference over time for Medicare FFS beneficiaries attributed to comparison practices, while controlling for beneficiary characteristics, practice fixed effects, and COVID-19-related regional control variables (in PY 4 only). We calculate percentage impacts relative to what the CPC+ mean would have been in the absence of the intervention—that is, the unadjusted CPC+ mean minus the impact estimate. Estimates in **bolded red, italicized font** should be interpreted cautiously because they are outside the 90% confidence interval of the DDD estimates.

Table 5.2. (continued)

^b Expenditures for Part A and Part B services in PY 3 and PY 4 include QPP payment adjustments, based on practitioner performance two years before. They are applicable for both CPC+ and comparison practices. The adjustments are composed of (1) Merit-based Incentive Payment System adjustments, which are applied directly to physician and outpatient claims (as a percentage of the charges on the claims); and (2) lump-sum incentive payments to eligible practitioners who participated in Advanced Alternative Payment Models in 2017 and 2018 (calculated based on 2018 and 2019 claims for these practitioners, respectively). The first QPP adjustments were paid in PY 3 (two years after the start of QPP), so there are no QPP payments in PYs 1 and 2. For Track 2 practices, Medicare Part A and B expenditures *without* enhanced payments also include the base CPCPs, but not the 10 percent comprehensiveness supplement. We include CPCPs in Part B spending because Track 2 practices agreed to lower Part B payment for evaluation and management services in exchange for CPCPs.

^c For Track 2 practices, Medicare Part A and B expenditures *with* enhanced payments include the base CPCPs, as well as the 10 percent comprehensiveness supplement.



^d Acute inpatient care includes short-stay acute hospital admissions and admissions to CAHs.

^e Expenditures, with QPP payment adjustments, on Part B noninstitutional services include expenditures for (1) primary care ambulatory visits, (2) ambulatory visits to specialists, and (3) non-ambulatory physician visits as well as services provided by other noninstitutional providers.

CAH = Critical Access Hospital; CPCP = Comprehensive Primary Care Payment; DDD = difference-in-difference-in-difference; ED = emergency department; FFS = fee-for-service; PY = Program Year; QPP = Quality Payment Program; SSP = Medicare Shared Savings Program.

*/**/** Underlying impact estimate was significantly different from zero at the 0.10/0.05/0.01 level, two-tailed test.

Table 5.3. Summary of CPC+ impacts on service use and Medicare expenditures for Medicare FFS beneficiaries over the first four program years, for select practice subgroups^a

	Findings over the first four program years (average annual estimate) ^b		PY 3 findings ^b		PY 4 findings ^b		What does it mean?
	Track 1	Track 2	Track 1	Track 2	Track 1	Track 2	
 Medicare expenditures							
Without CMS's enhanced payments for CPC+ and SSP for independent practices ^c	-0.3%	-1.0%*	-0.2%	-1.2%*	-0.3%	-1.5%*	<i>During the first four years, CPC+:</i> Reduced expenditures without enhanced payments for Track 2 independent practices across the four years, driven by reductions in PY 3 and PY 4.
Without CMS's enhanced payments for CPC+ and SSP for owned practices ^d	0.6%	0.7%	0.5%	0.3%	-0.1%	0.4%	Did not affect expenditures without enhanced payments for hospital-or system-owned practices in either track across the four years.
 Service use							
Acute hospitalizations for independent practices	-1.7%**	-2.9%***	-1.5%*	-3.7%***	-2.1%*	-4.2%***	<i>During the first four years, CPC+:</i> Reduced acute hospitalizations for independent practices in both tracks across the four years.
Acute hospitalizations for owned practices	-0.4%	-0.1%	-0.6%	-0.6%	-1.7%*	-0.5%	Reduced acute hospitalizations for hospital-or system-owned practices in only Track 1 in PY 4

Source: Mathematica's analysis of Medicare claims data from January 2013 through December 2020 for service use and expenditures.

^a In this table, we only show the findings for the subgroup based on practice ownership status because of all the subgroups (based on practice and beneficiary characteristics) that we examined, this is the only subgroup that shows a statistically significant differential effect on expenditures between the two groups in one of the tracks (Track 2) that is robust to model specification.

^b All estimates and tests of statistical significance are from a difference-in-differences analysis that reflects the difference in the regression-adjusted average outcome for Medicare FFS beneficiaries attributed to CPC+ practices in the intervention period compared with the average outcome in the baseline year, relative to the same difference over time for Medicare FFS beneficiaries attributed to comparison practices, while controlling for beneficiary characteristics, practice fixed effects, and COVID-19-related regional control variables (in PY 4 only). We calculate percentage impacts relative to what the CPC+ mean would have been in the absence of the intervention—that is, the unadjusted CPC+ mean minus the impact estimate.

Table 5.3. (continued)

^c Expenditures for Part A and Part B services in PY 3 and PY 4 include QPP payment adjustments, based on practitioner performance two years before. They are applicable for both CPC+ and comparison practices. The adjustments are composed of (1) Merit-based Incentive Payment System adjustments, which are applied directly to physician and outpatient claims (as a percentage of the charges on the claims); and (2) lump-sum incentive payments to eligible practitioners who participated in Advanced Alternative Payment Models in 2017 and 2018 (calculated based on 2018 and 2019 claims for these practitioners, respectively). The first QPP adjustments were paid in PY 3 (two years after the start of QPP), so there are no QPP payments in PYs 1 and 2. For Track 2 practices, Medicare Part A and B expenditures *without* enhanced payments also include the base CPCPs, but not the 10 percent comprehensiveness supplement. We include CPCPs in Part B spending because Track 2 practices agreed to lower Part B payment for evaluation and management services in exchange for CPCPs.

^d For Track 2 practices, Medicare Part A and B expenditures *with* enhanced payments include the base CPCPs, as well as the 10 percent comprehensiveness supplement.

CPCP = Comprehensive Primary Care Payment; FFS = fee-for-service; PY = Program Year; QPP = Quality Payment Program; SSP = Medicare Shared Savings Program.

*/**/** Underlying impact estimate was significantly different from zero at the 0.10/0.05/0.01 level, two-tailed test.



Methods: Understanding the effect of CPC+ on Medicare FFS beneficiaries' claims-based outcomes

Comparison group. We compared outcomes for CPC+ practices relative to a matched comparison group. To form the comparison group, we first selected regions that were geographically close to CPC+ regions but were not eligible to participate in CPC+. We then used propensity score matching methods to select comparison practices from these regions that had characteristics similar to CPC+ practices (after the matching weights were applied). These matching characteristics included (1) characteristics of Medicare FFS beneficiaries (demographics, chronic conditions, and trends in Medicare expenditures, hospitalizations, and ED use); (2) practice characteristics (such as size, health system ownership status, and experience with primary care transformation and electronic health records [EHRs]); and (3) characteristics of the county in which the practice was located (such as median income, rural/urban location, and percentage of the population in poverty). Comparison groups were selected separately by track and by SSP status.

We also used covariates in regression models to further (1) adjust for beneficiary risk; (2) mitigate potential bias in PY 4 impact estimates due to differences between CPC+ and comparison regions in the timing, severity, and effects of COVID-19 on mortality and health care use; (3) improve the precision of our models; and (4) account for remaining differences in beneficiary and practice characteristics at the start of CPC+.

Claims-based measures. We examined the effects of CPC+ on service use, expenditures, and selected aspects of quality of care for Medicare FFS beneficiaries during the first four years of CPC+.

Analytic methods. We estimated the impact of CPC+ on most claims-based measures using difference-in-differences regression models. For this technique, we calculated the mean change in outcomes for Medicare FFS beneficiaries from the year before CPC+ to the first four program years for two groups: (1) beneficiaries served by the CPC+ practices, and (2) beneficiaries served by comparison practices. We then calculated the difference in the change between the two groups. We used a linear regression model controlling for patient characteristics and practice fixed effects, with standard error estimates clustered at the practice level, and weighting for matching and patient eligibility. For a few outcomes, such as unplanned 30-day readmissions and unplanned acute care, we estimated the difference-in-differences regressions at the discharge level (instead of at the beneficiary level like the other outcomes), used discharge-level control variables, and incorporated matching weights only.

Methods (continued)

For telehealth outcomes and mortality, we estimated the impact of CPC+ using straight-difference regressions, comparing the difference in mean outcomes between Medicare FFS beneficiaries served by CPC+ and comparison practices during a specific observation period. Telehealth use was close to zero at baseline and during the first three years of CPC+ (less than 0.1 percent of the ambulatory visits to primary care providers were not face-to-face) and it increased substantially in PY 4 (16 and 17 percent of the ambulatory visits to primary care providers were not face-to-face in PY 4 for CPC+ Track 1 and 2 practices, respectively), so the second difference (between the CPC+ and comparison group at baseline) would not have added to the rigor of the analysis but would have reduced the power to estimate effects. The probability of dying increases with the length of the observation period and we have a much shorter baseline observation period (one year only) relative to the four-year intervention period included in this report. Therefore, for mortality outcomes, we looked at fixed lengths of follow-up periods (for example, 12, 24, 36, and 48 months) during the intervention period using a straight-differences model. We controlled for beneficiary and practice characteristics before CPC+, and COVID-19-related regional control variables (for regressions that include observations in PY 4). We used only the matching weights for mortality outcomes.

Sample. We used claims data to attribute Medicare FFS beneficiaries to practices at the start of the year before CPC+ began and at the start of PY 1. Once a beneficiary was attributed to a CPC+ practice for our analysis, we continued to include that beneficiary in all analyses, even if their practice later left CPC+ or if they were later attributed to a non-CPC+ practice. We followed the same approach to identify and track beneficiaries served by comparison practices. This “intent-to-treat” approach helps to avoid the potential biases in impact estimates due to endogeneity concerns if, for example, CPC+ practices were more likely to stay open or beneficiaries were more likely to continue to visit CPC+ practices relative to their comparison counterparts.

For Track 1, we compared claims-based outcomes for more than 1.4 million Medicare FFS beneficiaries served by nearly 1,400 CPC+ practices with outcomes for nearly 4.9 million beneficiaries served by more than 5,000 comparison practices. The corresponding sample sizes in Track 2 were over 1.7 million beneficiaries in more than 1,500 CPC+ practices and over 4.1 million beneficiaries in nearly 4,000 comparison practices.

Appendices.

Appendix 5A. provides the detailed findings including yearly and average annual estimates from impact analyses of all main outcomes, subgroup analyses, and sensitivity tests.

Appendices 5.B–5.E provide additional details on the methodological approach related to attribution (5.B), claims-based measures (5.C), approach to assess and address potential bias in PY 4 impact estimates due to COVID-19 (5.D), and empirical strategy (5.E).

Methods (continued)

Appendices 5.F–5.G describe sensitivity tests conducted to test the robustness of our main findings and takeaways and include the detailed findings from the triple-differences models (5.F) and findings from participation in other initiatives by CPC+ and comparison practices (5.G).

Appendices 5.H–5.J describe the supplemental analyses regarding impacts of CPC+ on opioid overuse (5.H), long-term effects for CPC Classic practices (5.I), and scalability of the CPC+ evaluation (5.J).



Closer look: Additional COVID-19 covariates included in PY 4

Our difference-in-difference estimation strategy that uses a comparison group will provide unbiased estimates of effects of CPC+ if the COVID-19 pandemic (which can be considered an exogenous shock) affected both CPC+ and comparison practices in the same way. However, given 1) the regional nature of the spread, intensity, and impact of COVID-19 on health care systems and patient outcomes and 2) the fact that our comparison practices are drawn from non-CPC+ regions, we were concerned about the “differential” ways in which COVID-19 could have affected CPC+ and comparison practices. Therefore, we created regional control variables to net out these potentially distorting effects of COVID-19. The description of these variables (first bullet) and the rationale for including each of them (second bullet) in the regression model for PY 4 are as follows:

Excess mortality

- Excess mortality refers to the number of all-cause deaths above predicted counts given historic trends using Bayesian methods.
- Beneficiaries in regions with greater excess deaths are likely to have higher health care utilization and expenditures for COVID-19. This may be offset by more delayed or avoided care in those same regions.

Pandemic Vulnerability Index

- The Pandemic Vulnerability Index (PVI) evaluates community vulnerability to COVID-19 by combining 12 indicators across four domains (current infection rates, baseline population concentration, current interventions, and health and environmental vulnerabilities).
- Beneficiaries in regions with a higher PVI are more likely to incur higher utilization and expenses related to COVID-19. This may be offset by more health care avoidance.

Government Response Index

- The Government Response Index is a composite measure of 23 policy responses that state and local governments have taken to tackle COVID-19.
- Beneficiaries in regions with a stronger government response to COVID-19 tended to have lower long-run incidence of COVID-19, which may lead to lower health care utilization and expenditures for COVID-19.

Social Vulnerability Index

- Among 16 measures of vulnerability, the Social Vulnerability Index (SVI) counts the number of measures for which each census tract ranks above the 90th percentile (most vulnerable). The measures of vulnerability span three domains (socioeconomic, demographic, and housing/transportation).
- Communities with a higher SVI could have higher health care utilization and expenditures for COVID-19.

5.1.1. Service use

CMS theorizes that practices' progress on the five Comprehensive Primary Care Functions may change Medicare FFS beneficiaries' service use. Most notably, if practices improve Medicare FFS beneficiaries' access to care and beneficiaries' health improves, these beneficiaries are expected to have fewer ED visits and hospitalizations. ED visits may also decrease as improved access to primary care reduces visits to the ED that are substitutable by primary care (Peikes et al. 2018b). CPC+ may also impact other aspects of utilization—including the number of visits Medicare FFS beneficiaries make to primary care practitioners or specialists—but we do not have a hypothesis on the direction of these relationships. For example, CPC+ could increase the total number of visits to primary care practices as practices offer more comprehensive services and, potentially, extend their office hours. It is also possible that CPC+ could decrease in-person visits as practices shift to other nonbillable approaches for providing care to patients, such as nonbillable, patient-initiated communications or visits with nonbillable staff like care managers. Similarly, the potential direction of the effect of CPC+ on the number of specialist visits is ambiguous. Greater comprehensiveness by primary care practices could reduce specialist visits, but more preventive health screenings could lead to more specialist visits as a result of improved detection of disease.

The impact of CPC+ on some outcomes could have changed during PY 4 in ways not anticipated by CMS, due to the COVID-19 pandemic. For example, if CPC+ supports enabled practices to more easily schedule telehealth visits, then we might observe larger increases in telehealth visits among CPC+ versus comparison practices in response to the pandemic.

CPC+ generated some reductions in Medicare FFS beneficiaries' service use over the first four program years, but the effects were less than 3 percent. Below, we describe the key findings for the service use outcomes synthesizing results across tracks, SSP subgroups, and sensitivity tests. Additional details on the year-specific data (particularly the *p*-values and estimates of impacts) are available in Appendix 5.A.

A. Outpatient ED visits

Over the first four years, CPC+ reduced outpatient ED visits in both tracks by just under 2 percent, with reductions emerging early (in PY 1) and persisting across the four years.

While both CPC+ and comparison practices saw a decline in the rate of outpatient ED visits during the first four years of CPC+ compared to the year before CPC+ began, the decline was greater for CPC+ practices than for comparison practices. Relative to the comparison group, CPC+ practices experienced a small net decrease in outpatient ED visits in each track of about eight visits per 1,000 beneficiaries (1.8 percent in Track 1 and 1.7 percent in Track 2; $p < 0.01$ for each track) (Table 5.1). The reductions emerged in PY 1 in both tracks and persisted across the four years, which is consistent with the CPC+ theory of change (Appendix 5.A).

The results for outpatient ED visits were generally robust to sensitivity tests; however, the estimated PY 4 reduction in Track 2 should be interpreted with caution as it is larger than the highest reduction implied by the 90 percent confidence interval around the DDD estimate. Estimated reductions in ED visits in PY 4 were similar to the main estimates when we dropped claims from March to May 2020, suggesting that differential health care avoidance in the first three months of the pandemic was unlikely to cause any significant bias in the PY 4 impact estimates for outpatient ED visits for the entire year (Appendix 5.A). Also, the average

annual impact estimates—and most yearly estimates—of reductions in outpatient ED visits were within the bounds of the DDD estimate (see Appendix 5.F for details on the DDD estimates). A notable exception was the Track 2 PY 4 estimate of a 2.5 percent reduction ($p < 0.01$; Table 5.1), which was larger than the highest reduction implied by the 90 percent confidence interval around the DDD estimate, so its magnitude should be interpreted with caution.

Primary care substitutable and primary care preventable outpatient ED visits accounted for slightly over two-thirds of the reduction in outpatient ED visits in Track 1 and almost all of the reduction in Track 2. The primary care substitutable outpatient emergency department (PCSED) visits (that is, for conditions that could be treated in a primary care setting) and potentially primary care preventable outpatient emergency department (PAED) visits (visits that required ED resources but that effective primary care might have prevented) together constitute about two-thirds of all outpatient ED visits, so declines in these visits contributed substantially to the overall decline in outpatient ED visits for CPC+ practices. For Track 1 practices, across the four years, there were reductions of 2.3 percent ($p < 0.01$) in PCSED visits and 1.6 percent ($p = 0.02$) in PAED visits (Table 5.4); these results suggest that 71 percent of the reduction in total outpatient ED visits was driven by the reduction in PCSED and PAED visits. For Track 2 practices, across the four years, there were reductions of 2.9 percent ($p < 0.01$) in PCSED visits and 2.2 percent ($p < 0.01$) in PAED visits; 96 percent of the reduction in total outpatient ED visits was driven by the reductions in PCSED and PAED visits.

There were no differences in effects on outpatient ED visits by SSP status before PY 4 in either track. The magnitude of the larger reductions in PY 4 for SSP practices in both tracks should be interpreted with caution as they are larger than the highest reductions implied by the 90 percent confidence interval around the DDD estimates. Before PY 4, the estimates of reduction in outpatient ED visits were similar in magnitude and statistically significant across the SSP and non-SSP practices in both tracks (Table 5.2 and Appendix 5.A). In contrast, in PY 4, greater reductions in outpatient ED visits were observed in the SSP group (relative to previous years), while the reductions in the non-SSP group were smaller and not statistically significant (Table 5.2). However, these differences between the SSP and non-SSP groups that were seen only in PY 4 should be interpreted with caution as the estimates of the reductions in the SSP group in PY 4 are larger than the highest reduction implied by the 90 percent confidence interval around the DDD estimates (Appendix 5.F). It is possible that they reflect unobserved COVID-19-related regional differences that our regression models did not completely control for.

B. Acute hospitalizations

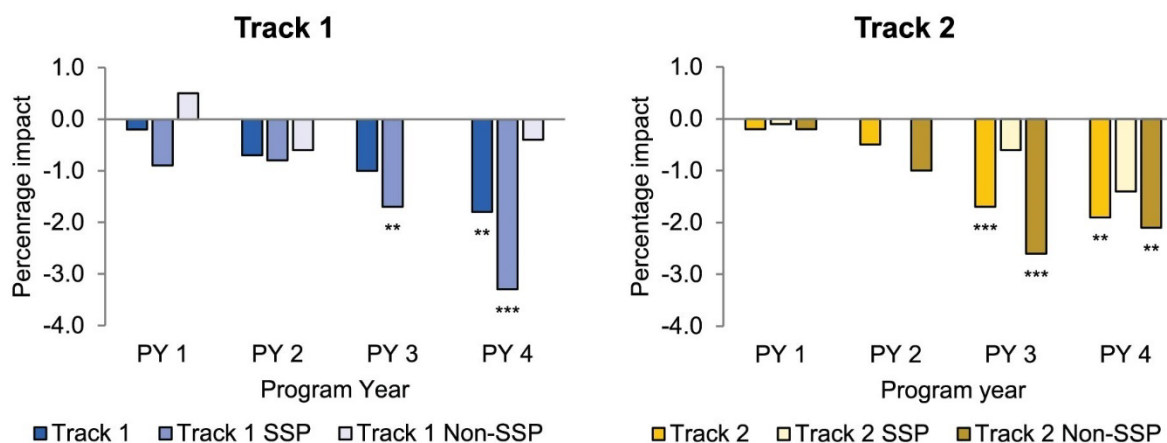
Across the first four years, CPC+ reduced acute hospitalizations in both tracks by 1 percent, with effects emerging in later years (PY 4 in Track 1 and PY 3 in Track 2). Over the first four years of CPC+, there was a decline in acute hospitalizations for both CPC+ and comparison practices relative to the year before CPC+ began. But this decline (relative to year prior to CPC+) was greater for CPC+ practices than for comparison practices, leading to an annualized average reduction of three hospitalizations per 1,000 beneficiaries in each track, which translated to a 0.9 percent ($p = 0.06$) reduction in Track 1 and 1.1 percent ($p = 0.04$) reduction in Track 2 (Table 5.1). The average annual reduction was driven by a 1.8 percent reduction ($p = 0.01$) that emerged in PY 4 for Track 1 and a 1.7 percent reduction ($p < 0.01$) in Track 2 that first emerged in PY 3 and persisted into PY 4 (Table 5.1 and Figure 5.1).

The findings for hospitalizations were generally robust to sensitivity tests; however, the magnitude of the PY 4 estimate of reduction in Track 1 should be interpreted with caution as it is slightly larger than the highest reduction implied by the 90 percent confidence interval around the DDD estimate. As with outpatient ED visits, estimates of reduction in hospitalizations in PY 4 were similar to the main estimates when we dropped claims from March to May 2020, suggesting that differential health care avoidance in the first three months of the pandemic was unlikely to cause any significant bias in the PY 4 impact estimates for hospitalizations (Appendix 5.A). Also, most average annual and yearly estimates for reductions in hospitalizations were within the 90 percent confidence interval of the DDD estimates. The only exception was the PY 4 estimate of reduction in hospitalizations in Track 1, which was slightly larger than the highest reduction implied by the DDD estimate (Appendix 5.F).

Reductions in acute hospitalizations in the later years were concentrated among SSP practices in Track 1. In Track 2, the reductions were statistically significant only in the non-SSP group, although the SSP and non-SSP estimates were not statistically different from each other. In Track 1, reductions in hospitalizations in later years were concentrated in the SSP group with a 1.7 percent ($p = 0.02$) reduction in PY 3 and a 3.3 percent ($p < 0.01$) reduction in PY 4. Estimates were negative but close to zero in the non-SSP group (Table 5.2 and Figure 5.1). The SSP and non-SSP estimates for changes in hospitalizations were also statistically different from each other in PY 4.

For Track 2, reductions in hospitalizations in PY 3 and PY 4 were statistically significant only in the non-SSP group with a 2.6 percent ($p < 0.01$) reduction in PY 3 and a 2.1 percent ($p = 0.03$) reduction in PY 4 (Table 5.2 and Figure 5.1). The SSP and non-SSP estimates for changes in hospitalizations were not statistically different from each other in any of the years.

Figure 5.1. CPC+ impacts on acute hospitalizations, by track and SSP subgroups



Source: Mathematica's analyses of Medicare claims data from January 2013 through December 2020.

Notes: We calculated percentage impacts (shown in this figure) relative to what the CPC+ mean would have been in Program Years 1 through 4 in the absence of the intervention—that is, the unadjusted CPC+ mean minus the impact estimate. Each impact estimate reflects the difference between the average outcome for Medicare FFS beneficiaries attributed to CPC+ practices in the first four years of CPC+ and the average outcome in the baseline year, relative to the same difference over time for Medicare FFS beneficiaries attributed to comparison practices, while controlling for beneficiary characteristics, practice fixed effects, and COVID-19-related regional control variables (in PY 4 only). Asterisks denote whether the impact estimate is significantly different from zero at the 0.10(*), 0.05(**), or 0.01(***) level (two-tailed test).

PY = Program Year; SSP = Medicare Shared Savings Program.

C. Ambulatory primary care visits

Over the first four years, there was a reduction in the growth of billable ambulatory care visits to primary care practitioners in Track 2 but expenditures on these services increased when accounting for the base CPCPs suggesting that the CPCPs may not be cost-neutral.

Over the first four years of CPC+, both CPC+ and comparison practices saw an increase in the rate of ambulatory primary care visits relative to the year before CPC+ began, but the increase was smaller for CPC+ practices in Track 2 than for the comparison practices. Specifically, average annualized estimates for the first four years indicated that ambulatory care visits to primary care practitioners increased by 44 fewer visits per 1,000 beneficiaries (1 percent; $p = 0.03$) in CPC+ versus comparison practices. While this reduction was driven by effects that emerged in PY 1 and PY 2, those effects did not persist in the later years. *There was no discernable effect on billable ambulatory primary care visits for Track 1 CPC+ practices over the four years. Notably, expenditures on ambulatory primary care visits increased significantly in Track 2 over the four years (4.6 percent, $p < 0.01$, Table 5.4) despite the reduction in visits. Since the expenditures for ambulatory primary care visits include the base Comprehensive Primary Care Payments (CPCPs) (but not the 10 percent comprehensiveness supplement), this suggests that CPCPs may not be cost-neutral (that is, they may be too high).*

D. Ambulatory specialist visits

Across the first four years, CPC+ had no effect on ambulatory visits to specialists for either track overall because some effects within the SSP and non-SSP groups offset each other.

Visits to specialists increased by similar amounts for both CPC+ and comparison practices during the four years of CPC+, so CPC+ had no effect overall on *ambulatory specialist visits*. In the SSP group, there were statistically significant reductions in ambulatory visits to specialists in Track 1 (in PY 4 only [1 percent, $p = 0.05$]) and in Track 2 (increasing in magnitude from 1.2 percent [$p = 0.03$] in PY 2 to 1.5 percent [$p < 0.01$] in PY 3 and 2.2 percent [$p < 0.01$] in PY 4). In the Track 1 non-SSP group, there were statistically significant increases in these visits in PY 1 [0.6 percent, $p = 0.08$]) and in PY 4 [1.5 percent, $p = 0.03$] (Table 5.1 and Appendix 5.A).

In the fourth year (PY 4) of CPC+, which coincided with the outbreak of the COVID-19 pandemic, beneficiaries in CPC+ practices experienced a greater shift toward telehealth and had more urgent care center visits relative to beneficiaries in comparison practices.

- **Greater shift toward telehealth for CPC+ practices in PY 4.** Before the COVID-19 pandemic, less than 0.1 percent of billable ambulatory visits were not face-to-face. In PY 4, non-face-to-face visits comprised 16 and 17 percent of billable ambulatory visits to primary care providers among CPC+ practices in Tracks 1 and 2, respectively. The proportion of billable primary care provider visits that were not face-to-face were 0.9 and 2.2 percentage points higher ($p < 0.01$) for CPC+ Track 1 and Track 2 beneficiaries relative to comparison beneficiaries, respectively. The proportion of ambulatory specialist visits that were not face-to-face were 0.3 ($p = 0.04$) and 0.8 percentage points ($p < 0.01$) higher for CPC+ Track 1 and Track 2 beneficiaries relative to comparison beneficiaries, respectively (Table 5.1). Although both Track 1 and Track 2 CPC+ practices had a greater shift toward non-face-to-face ambulatory physician visits in PY 4, the relative increases in non-face-to-face visits for Track 2 CPC+ beneficiaries were approximately double the magnitude of Track 1 CPC+

beneficiaries. This is consistent with the design of the CPC+ payment model, which places greater emphasis on the provision of non-billable services in CPC+ Track 2 relative to Track 1 which could have been instrumental in better preparing Track 2 practices for the switch to telehealth during the COVID-19 pandemic. We did not find any evidence of differential effects on the proportion of ambulatory visits to primary care providers and specialists that were not face-to-face by ownership status of practices in either track (results not shown in tables).

- **Increase in urgent care center visits for CPC+ practices in PY 4.** Before 2020, CPC+ had no effects on urgent care visits. But in PY 4, urgent care center visits for CPC+ beneficiaries increased in both tracks in PY 4, by 15 percent ($p < 0.01$) in Track 1 and 7 percent ($p = 0.02$) in Track 2. It is possible that the relative increase in these visits in PY 4 was driven by differential regional responses to the COVID-19 pandemic rather than CPC+. The change in the estimate from PY 3 (no effect) to PY 4 (increase) was driven by a decline in urgent care visits for comparison beneficiaries (while the number of urgent care visits for CPC+ beneficiaries remained stable across the two years). This decline was also observed for beneficiaries assigned to other practices (that were not selected as comparisons) in comparison regions, suggesting that COVID-19 shocks or other regional trends might explain the relative increase in urgent care visits in PY 4. Consistent with the regional differences, there were no effects on these urgent care visits under the triple-differences modeling approach and the Track 1 PY 4 estimate of increase in urgent care visits was larger than the highest increase implied by the 90 percent confidence interval around the DDD estimate.

To summarize the key findings for Medicare FFS beneficiaries' service use, we found reductions in acute care use for CPC+ practices in the form of fewer outpatient ED visits and hospitalizations in both tracks. Consistent with the theory of change for CPC+, reductions in outpatient ED visits emerged early (in PY 1) and reductions in hospitalizations emerged later (PY 3 for Track 2 and PY 4 for Track 1). These reductions were robust to various sensitivity tests, although the magnitude of some of the PY 4 estimates should be interpreted with caution. There were some differences in hospitalizations by SSP participation status—in particular, the reductions in hospitalizations in Track 1 were concentrated among the SSP practices. While there were no effects on ambulatory specialist visits in either track across the four years, the PY 4 estimates for Track 1 imply a decrease in ambulatory specialist visits among SSP practices and an increase in ambulatory specialist visits among non-SSP practices.

Table 5.4. Summary table of impacts (in percentages) on expenditures and service use measures for Medicare FFS beneficiaries over the first four program years, by track and SSP participation status

	Track 1				Track 2			
	CPC+ mean for PY 1 through PY 4, overall	Percentage impacts, overall	Percentage impacts, SSP	Percentage impacts, non-SSP	CPC+ mean for PY 1 through PY 4, overall	Percentage impacts, overall	Percentage impacts, SSP	Percentage impacts, non-SSP
Monthly Medicare Part A and B expenditures (PBPM)								
Excluding enhanced payments ^a	\$948	0.2%	-0.6%	1.1%**	\$945	0.1%	-0.6%	0.7%
Including CPC+ CMFs ^b	\$961	1.5%***	0.7%	2.4%***	\$969	2.6%***	1.9%***	3.3%***
Including CPC+ CMFs, PBIPs, and shared savings payments to SSP ACOs ^b	\$966	1.5%***	0.6%	2.5%***	\$973	2.6%***	1.6%***	3.4%***
Monthly Medicare expenditures by service category (PBPM)^c								
Inpatient expenditures for:	\$321	-0.4%	-1.5%*	0.8%	\$326	-0.3%	-1.1%	0.5%
Acute inpatient care ^d	\$284	-1.1%*	-2.2%***	0.1%	\$289	-0.8%	-1.7%*	0.0%
Inpatient rehabilitation facilities	\$23	5.4%***	1.9%	9.5%***	\$23	6.3%***	4.3%	8.0%***
Outpatient expenditures for:	\$199	0.4%	-0.2%	0.9%	\$199	-0.7%	-0.8%	-0.6%
Outpatient ED visits, including observation stays ^e	\$27	-0.2%	0.4%	-0.7%	\$27	-1.3%*	-2.6%**	-0.2%
Expenditures for physician and nonphysician Part B noninstitutional services in any setting for ^f :	\$273	0.7%*	0.1%	1.3%**	\$264	0.3%	-0.9%	1.3%**
Ambulatory visits with primary care practitioners	\$25	-0.7%	-0.7%	-0.8%	\$27	4.6%***	5.2%***	4.1%***
Ambulatory visits with primary care practitioners at assigned practice ^g	\$15	-0.1%	-0.2%	0.1%	\$17	10.4%***	12.8%***	8.6%***
Ambulatory visits with specialists	\$25	0.3%	-0.2%	1.0%**	\$23	-0.7%**	-1.5%***	0.1%
Skilled nursing home expenditures	\$64	-0.4%	-2.2%	1.7%	\$63	0.4%	0.9%	0.0%
Home health expenditures	\$38	-3.0%***	-3.0%***	-3.1%***	\$39	-2.6%***	-2.3%**	-2.7%**
Hospice expenditures	\$29	7.0%***	9.3%***	4.7%**	\$29	7.3%***	7.6%***	7.2%***
Durable medical equipment expenditures	\$24	-0.6%	-2.3%	1.1%	\$23	1.8%	0.7%	2.6%*

Table 5.4. (continued)

	Track 1				Track 2			
	CPC+ mean for PY 1 through PY 4, overall	Percentage impacts, overall	Percentage impacts, SSP	Percentage impacts, non-SSP	CPC+ mean for PY 1 through PY 4, overall	Percentage impacts, overall	Percentage impacts, SSP	Percentage impacts, non-SSP
Annualized service use (per 1,000 beneficiaries per year)								
Acute hospitalizations (short-stay acute care and CAHs)	274	-0.9%*	-1.7%***	-0.2%	277	-1.1%**	-0.6%	-1.6%**
Total ED visits, including observation stays ^h	666	-1.9%***	-2.1%***	-1.7%***	666	-1.9%***	-2.0%***	-1.7%***
Outpatient ED visits, including observation stays	456	-1.8%***	-2.0%***	-1.5%**	455	-1.7%***	-2.5%***	-1.2%
Primary care substitutable outpatient ED visits ⁱ	171	-2.3%***	-2.7%***	-1.8%*	170	-2.9%***	-4.2%***	-1.9%**
Potentially primary care preventable outpatient ED visits ⁱ	119	-1.6%**	-1.2%	-1.9%*	120	-2.2%***	-3.4%***	-1.3%
Total UCC visits	139	4.8%**	5.1%**	4.7%	126	2.0%	4.2%	0.1%
Primary care substitutable UCC visits	86	5.7%***	6.9%***	4.4%	77	2.4%	5.4%	-0.2%
Ambulatory primary care visits (including to FQHCs, RHCs, and CAHs) ^j	4,246	-0.5%	-0.3%	-0.7%	4,293	-1.0%**	-0.5%	-1.4%**
Ambulatory specialty care visits ^l	4,283	0.3%	-0.1%	0.8%*	4,157	-0.4%	-1.4%***	0.5%

Source: Mathematica's analysis of Medicare claims data from January 2013 through December 2020.

Notes: **Impact estimates.** We base impact estimates (and tests of statistical significance) on a difference-in-differences analysis; they reflect the difference in the regression-adjusted average outcome for attributed Medicare FFS beneficiaries in CPC+ practices in PY 1 through PY 4 compared with the average outcome in the baseline year, relative to the same difference over time for attributed Medicare FFS beneficiaries in comparison practices. We calculate percentage impacts relative to what the CPC+ mean would have been in the absence of the intervention—that is, the unadjusted CPC+ mean minus the impact estimate.

Shading. **Yellow shading with bold, italicized text** signifies that the underlying impact estimate was statistically significant at the 10 percent level using a two-sided test. Estimates without a positive sign show an increase in the expenditures or service use outcome and estimates with a negative sign show a reduction in the expenditures or service use outcome for CPC+ practices relative to comparison practices. Although this table indicates which estimates are statistically significant, when we interpret evidence, we combine evidence from the magnitude of the effect, the *p*-values, findings on related outcomes, subgroups, sensitivity tests, and other data sources about model implementation.

Unweighted sample sizes. For Track 1 and Track 2, respectively, this analysis includes: (1) 1,373 and 1,515 CPC+ practices that were participating in CPC+ as of April 1, 2017 (the end of the first program quarter), (2) 5,243 and 3,783 comparison practices (3) approximately 1.4 million and 1.8 million CPC+ beneficiaries, and (4) approximately 4.9 and 4.2 million comparison beneficiaries. The counts of beneficiary-year observations are approximately 2 to 3 times larger than the number of beneficiaries.

Effective sample sizes. After accounting for weights that adjust for matching and time observed in Medicare FFS, the effective sample sizes fall but are still substantial. For analyses of expenditures and service use measures, for the comparison group, the effective sample size is 40 to 45 percent of the size of the actual comparison group; the effective sample size for the CPC+ group is about 96 percent of the actual sample size because it is affected only by time observed (and not by the matching weights).

Table 5.4. (continued)

^a Expenditures for Part A and Part B services in PY 3 and PY 4 include QPP payment adjustments, based on practitioner performance two years before. They are applicable for both CPC+ and comparison practices. The adjustments are composed of (1) MIPS adjustments, which are applied directly to physician and outpatient claims (as a percentage of the charges on the claims), and (2) lump-sum incentive payments to eligible practitioners who participated in Advanced APMs in 2017 (calculated based on 2018 and 2019, respectively, claims for these practitioners). For Track 2 practices, Medicare Part A and B expenditures *without* enhanced payments include the base CPCPs, but not the 10 percent comprehensiveness supplement. We include CPCPs in Part B spending because Track 2 practices agreed to lower Part B payment for evaluation and management services in exchange for CPCPs.

^b For Track 2 practices, Medicare Part A and B expenditures *with* enhanced payments include the base CPCPs, as well as the 10 percent comprehensiveness supplement.

^c The sum of expenditures by service category does not equal the total expenditures for traditional services without enhanced payments because the total expenditures include lump-sum incentive payments that are not applied at the claim level and are instead paid out directly to eligible practitioners who participated in Advanced APMs in 2017 (for PY 3) and 2018 (for PY 4).

^d Acute inpatient care includes short-stay acute hospital admissions and admissions to CAHs. Expenditures for non-acute hospital admissions other than those for inpatient rehabilitation, such as psychiatric hospital admissions, are included in inpatient expenditures but not shown separately.

^e Expenditures, with QPP payment adjustments, on outpatient ED visits include professional and facility fees, as well as payments for observation stays. Although these expenditures are shown under outpatient expenditures, they include professional fees, which are part of expenditures for physician and nonphysician Part B noninstitutional services.

^f Expenditures, with QPP payment adjustments, on Part B noninstitutional services include (1) ambulatory primary care visits, (2) ambulatory specialist visits, and (3) non-ambulatory physician visits, as well as services provided by other noninstitutional providers (the third category is not shown separately).

^g We define the assigned practice for the baseline period as the first practice to which a beneficiary was attributed during the baseline period, and the assigned practice for the intervention period as the first practice that the beneficiary was attributed to during the intervention period.

^h Total ED visits include ED/observation stays that led to a hospitalization (including psychiatric hospitalizations).

ⁱ The sum of primary care substitutable outpatient ED visits and potentially primary care preventable outpatient ED visits is less than total outpatient ED visits because total outpatient ED visits include visits for other care needs, such as injuries, mental health, drug use, and alcohol use.

^j Ambulatory visits with primary care practitioners and specialists include office-based visits and visits at home, as well as visits in other settings, such as FQHCs, RHCs, and CAHs.

*/**/** Underlying impact estimate (which is in dollars PBPM for expenditures, per 1,000 beneficiaries per year for continuous measures of service use, and in percentage points for binary measures of service use) was significantly different from zero at the 0.10/0.05/0.01 level, two-tailed test.

ACO = Accountable Care Organization; APM = Alternative Payment Model; CAH = Critical Access Hospital; CMF = care management fee; CPCP = Comprehensive Primary Care Payment; ED = emergency department; FFS = fee-for-service; FQHC = Federally Qualified Health Center; MIPS = Merit-based Incentive Payment System; PBIP = Performance-based Incentive Payment; PBPM = per beneficiary per month; pp = percentage points; PY = Program Year; QPP = Quality Payment Program; RHC = Rural Health Clinic; SSP = Medicare Shared Savings Program; UCC = urgent care center.

5.1.2. Medicare expenditures

CMS theorized that changes in care delivery made by CPC+ practices would eventually result in a reduction in total Medicare expenditures that is large enough to offset CMS's enhanced payments. To test this, we analyzed Medicare expenditures for FFS beneficiaries (1) without CMS's enhanced payments made in addition to payments for Part A and B services and (2) with CMS's enhanced payments (Table 5.5 reports what each measure contains). In PY 3 and PY 4, expenditures without enhanced payments included Quality Payment Program (QPP) payment adjustments, which CMS applied, based on practitioners' performance two years before, to both CPC+ and comparison practices. As described in Chapter 3, enhanced payments included payments to CPC+ practices for participating in CPC+; payments to reward practices' performance on cost, utilization, and/or quality metrics; and shared savings payments to SSP Accountable Care Organizations (ACOs). (As we estimated impacts on Medicare expenditures for FFS beneficiaries, we did not include enhanced payments from other payers or the out-of-pocket expenditures of beneficiaries in our calculations.)

For Track 2 practices, CMS also provided alternative payments, in the form of a CPCP, which shifted a portion of the payments practices receive for services rendered from FFS to prospective payments. As these are payments *for services*, they are included in Medicare expenditure analyses both with and without enhanced payments (Table 5.5).

Table 5.5. Summary of CMS's payments included in the analysis of Medicare expenditures for Medicare FFS beneficiaries

Payment type	Practices that receive payment type				Included in expenditures analysis	
	Track 1 Non-SSP	Track 1 SSP	Track 2 Non-SSP	Track 2 SSP	Without CMS's enhanced payments	With CMS's enhanced payments
Enhanced payments in addition to payments for services						
Payments for participating in CPC+						
Care management fees	✓	✓	✓	✓		✓
Comprehensiveness supplement			✓	✓		✓
Payments for performance on cost, utilization, and/or quality metrics						
Performance-based Incentive Payments	✓		✓			✓
SSP payments (share of SSP ACO's payments that we allocated to the practice) ^a		✓		✓		✓
Payments for services						
Traditional FFS payments for Medicare Parts A and B ^b	✓	✓	✓	✓	✓	✓
Advanced APM bonus payment ^c	✓	✓	✓	✓	✓	✓
Alternative to FFS payments – Comprehensive Primary Care Payment			✓	✓	✓	✓

^a We group practices into SSP or non-SSP based on their SSP participation status at the start of PY 1. This can differ from their actual SSP status during CPC+ due to (1) differences in the way that practices are identified in the data for CPC+ and the SSP initiatives, and (2) practices—and the beneficiaries assigned to them—moving in and out of SSP over time. SSP payments are applicable for both CPC+ and comparison practices participating in SSP.

Table 5.5. (continued)

^b Traditional FFS payments for Medicare Parts A and B include QPP payment adjustments in PY 3 and PY 4, based on practitioners' performance two years before. The first QPP adjustments were paid in PY 3 (two years after the start of QPP), so there were no QPP payments in PYs 1 and 2. These payments are applicable for both CPC+ and comparison practices. One of the two types of QPP payment adjustments—the Merit-based Incentive Payment System adjustment—is applied directly to physician and outpatient claims (as a percentage of the charges on the claims).

^c The Advanced APM bonus payment—the second type of QPP payment adjustment—is a lump-sum incentive payment to eligible practitioners who participated in Advanced APMs in 2017 and 2018 (calculated based on 2018 and 2019 claims, respectively, for these practitioners).

ACO = Accountable Care Organization; APM = Alternative Payment Model; FFS = fee-for-service; PY = Program Year; QPP = Quality Payment Program; SSP = Medicare Shared Savings Program.

CPC+ did not reduce Medicare expenditures when excluding CMS's enhanced payments and it increased expenditures for Medicare FFS beneficiaries after including these payments. Below, we describe the key findings for the Medicare expenditure outcomes (with and without enhanced payments), synthesizing results across tracks, subgroups, and sensitivity tests.

CPC+ did not reduce Medicare expenditures when excluding CMS's enhanced payments across Track 1 and Track 2 overall. During the first four years, average annual impact estimates were close to zero and were not statistically significant in either track (0.2 percent in Track 1, $p = 0.58$; and 0.1 percent in Track 2, $p = 0.88$) (Figure 5.2). In line with these results, CPC+ and comparison practices in both tracks had similar quarterly trends in Medicare expenditures without CMS's enhanced payments before and after CPC+ began (Figure 5.3). While there were reductions in acute inpatient expenditures in both tracks in PY 3 and PY 4, these were offset by increases in other expenditure categories (expenditures for inpatient rehabilitation facilities, Part B noninstitutional services, and hospice use) (Table 5.4).

Reductions in expenditures emerged for Track 1 SSP practices in the later years but Track 1 non-SSP practices had increases in expenditures. Track 2 SSP-subgroup-specific estimates in PY 3 and PY 4 followed a similar pattern although the estimates for total expenditures were not significantly different from zero. The reductions in Track 1 started to emerge in PY 3, with a 2.7 percent reduction in expenditures on acute inpatient care ($p < 0.01$) and a 0.8 percent reduction in total expenditures (albeit not statistically significant [$p = 0.12$]). By PY 4, reductions in acute inpatient expenditures became larger (4.2 percent, $p < 0.01$) leading to a reduction of 1.5 percent in total Medicare expenditures in PY 4 ($p = 0.02$), which was statistically significant (Table 5.2).

The Track 2 SSP practices also had reductions in expenditures on acute inpatient care of 2.8 percent in PY 3 ($p = 0.02$) and of 2.5 percent in PY 4 ($p = 0.07$) (Figure 5.4). In PY 4, there was also a decline in outpatient expenditures of 2.9 percent ($p = 0.04$) for Track 2 SSP practices (Table 5.2 and Appendix 5.A.).⁶⁵ The combined reductions in acute inpatient and outpatient expenditures in PY 4 led to a decline of 1.3 percent (albeit not statistically significant [$p = 0.12$]) in total expenditures for Track 2 SSP practices.

⁶⁵ Note that the reduction in outpatient expenditures in PY 4 in Track 2 should be interpreted cautiously since it was larger than the highest reduction implied by the 90 percent confidence interval around the triple-differences estimate (Appendix 5.A).

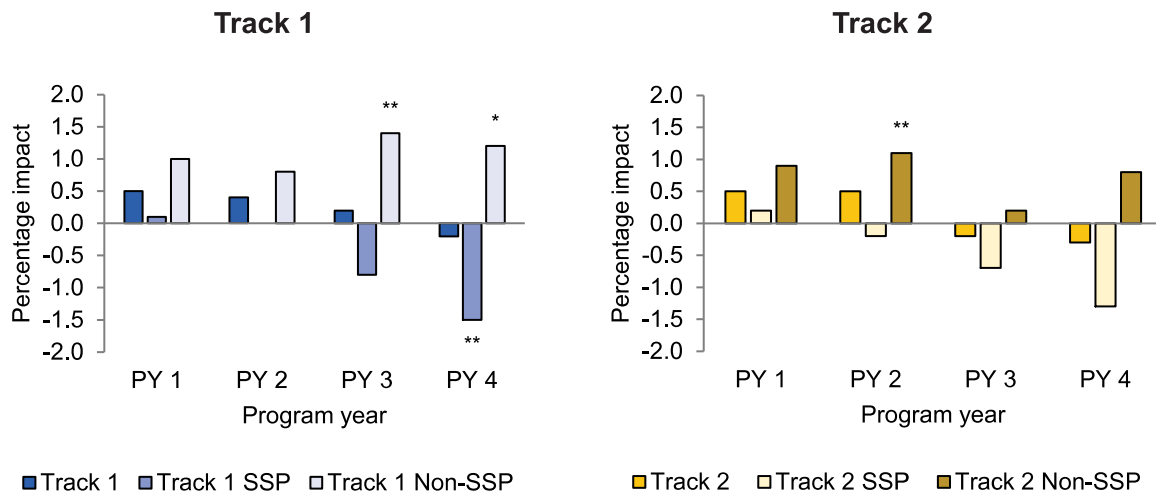
For the Track 1 non-SSP practices, there was an *increase* in expenditures of 1.4 percent in PY 3 ($p = 0.03$) and 1.2 percent in PY 4 ($p = 0.09$). While no one category of expenditures completely drove this increase, Part B noninstitutional expenditures⁶⁶ contributed substantially to the increase in both years. Other main drivers were increases in inpatient rehabilitation facility expenditures (both PY 3 and PY 4) and outpatient expenditures (only in PY 3) (Table 5.2). Also, there were no reductions in acute inpatient expenditures for Track 1 non-SSP practices (unlike the Track 1 SSP practices). For the Track 2 non-SSP practices, the increases in total expenditures were much smaller and not statistically significant and were driven by increases in Part B noninstitutional and inpatient rehabilitation facility expenditures in both years. In PY 3, the Track 2 non-SSP practices also had reductions in acute inpatient expenditures, which offset the increases in Part B noninstitutional and inpatient rehabilitation facility expenditures so that the net effect on total expenditures was essentially zero.

The changes in acute inpatient expenditures in the SSP-specific subgroups were generally aligned with the changes in hospitalizations in Track 1 but not in Track 2. As described in Section 5.1.1, reductions in both acute inpatient care expenditures and acute hospitalizations were concentrated among SSP practices in Track 1. However, in Track 2, the reductions in acute inpatient expenditures were larger in magnitude in the SSP subgroup but the reductions in acute hospitalizations were larger and statistically significant only in the non-SSP groups.⁶⁷ Therefore, the differences in estimates for total expenditures in the Track 2 SSP and non-SSP subgroups should be interpreted with caution.

⁶⁶ Part B noninstitutional expenditures are expenditures for services provided by professional providers, including physicians, physician assistants (PAs), clinical social workers, nurse practitioners (NPs), and clinical nurse specialists (CNSs). Services provided by some organizational providers are also included in Part B expenditures. Examples of these organizational providers include independent clinical laboratories, ambulance providers, freestanding ambulatory surgical centers, and freestanding radiology centers.

⁶⁷ However, it should be noted that the SSP and non-SSP estimates for reductions in acute hospitalizations and inpatient expenditures were not statistically different from each other in Track 2 in both PY 3 and PY 4.

Figure 5.2. CPC+ impacts on per beneficiary per month expenditures without enhanced payments over time, by track and SSP subgroups



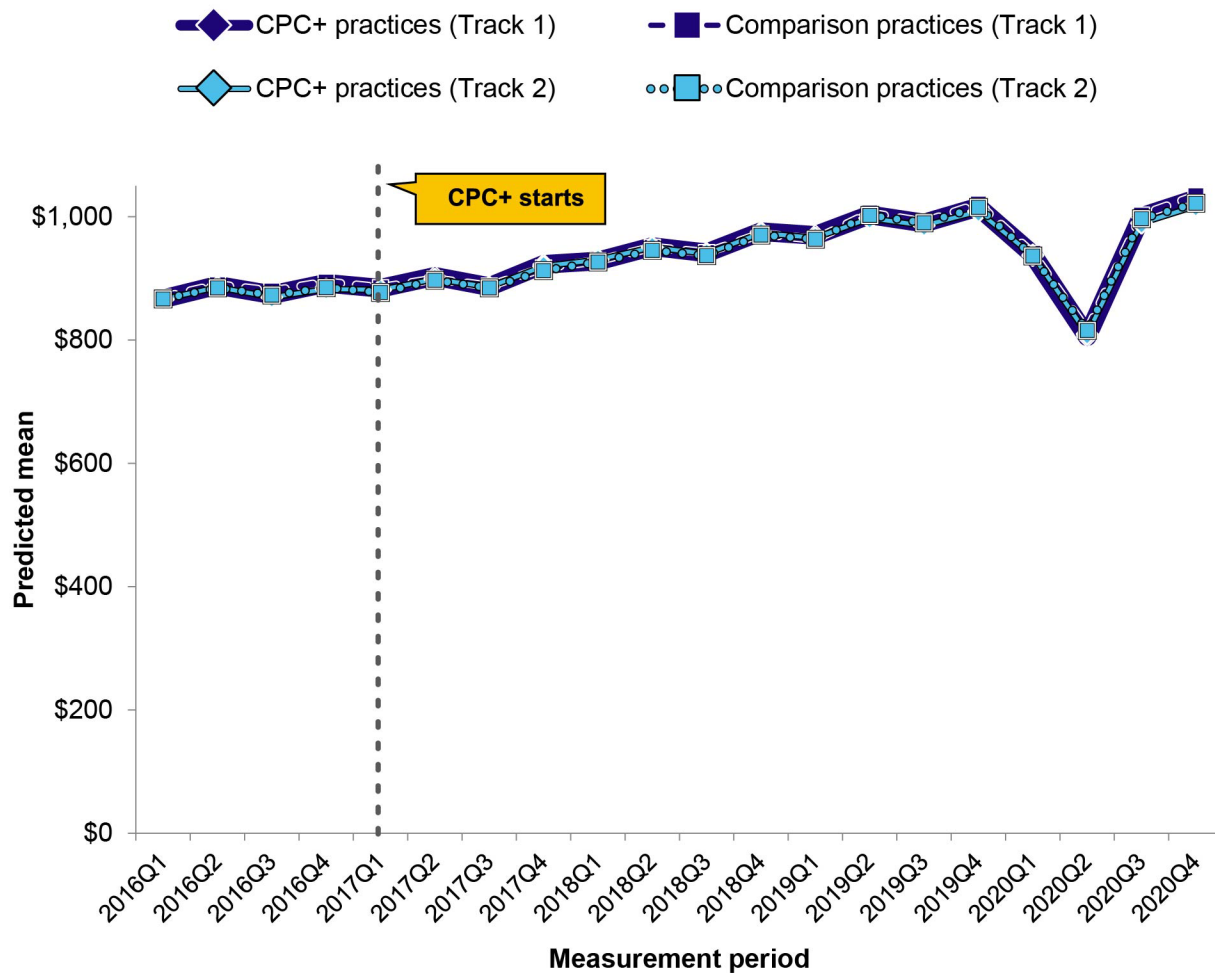
Source: Mathematica’s analyses of Medicare claims data from January 2013 through December 2020.

Notes: We calculated percentage impacts (shown in this figure) relative to what the CPC+ mean would have been in Program Years 1 through 4 in the absence of the intervention—that is, the unadjusted CPC+ mean minus the impact estimate. Each impact estimate reflects the difference between the average outcome for Medicare FFS beneficiaries attributed to CPC+ practices in the first four years of CPC+ and the average outcome in the baseline year, relative to the same difference over time for Medicare FFS beneficiaries attributed to comparison practices, while controlling for beneficiary characteristics, practice fixed effects, and COVID-19-related regional control variables (in PY 4 only). Asterisks denote whether the impact estimate is significantly different from zero at the 0.10(*), 0.05(**), or 0.01(***) level (two-tailed test).

Figure 5.3. Quarterly trends in mean Medicare Part A and Part B expenditures per beneficiary per month, excluding CMS’s enhanced payments, by track

For both tracks, CPC+ and comparison practices had similar trends in Medicare expenditures without CMS’s enhanced payments before CPC+ began and in the first four years of CPC+.

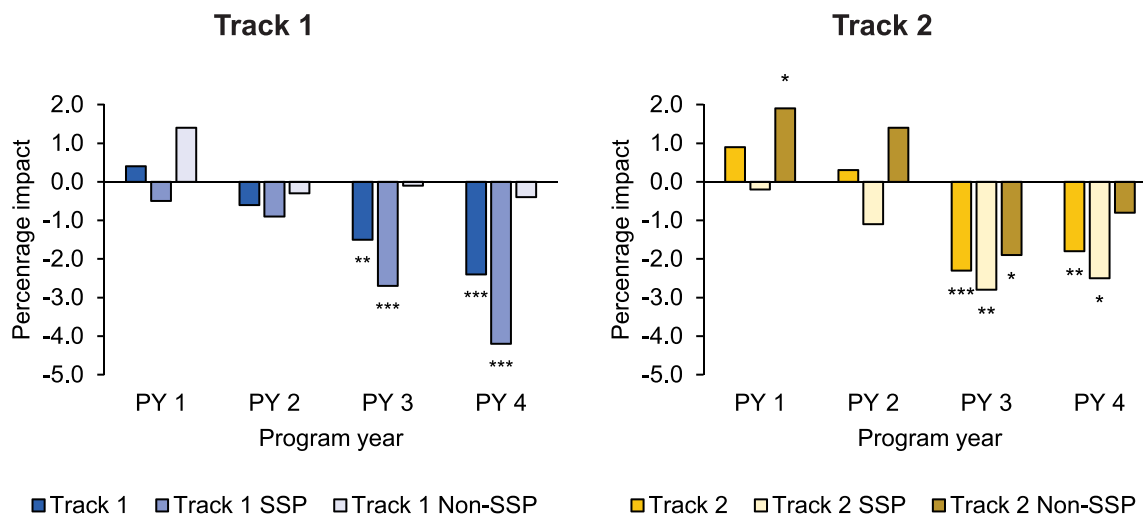
The sharp decline in expenditures for both CPC+ and comparison practices in 2020 is due to a decline in overall utilization of health services during the initial months of the outbreak of the COVID-19 pandemic.



Source: Mathematica’s analyses of Medicare claims data from January 2013 through December 2020.

Notes: For beneficiaries attributed to CPC+ and comparison practices, the figure shows actual, unadjusted average expenditures in the baseline quarters, which are similar for the two groups due to matching. In the intervention quarters, the comparison group mean is regression-adjusted (using baseline characteristics as control variables). We obtained this adjusted mean by subtracting the regression-adjusted difference between the CPC+ and comparison means in each quarter (taken from the quarterly difference-in-differences model) from the CPC+ mean in that same quarter. The 4 quarters in 2016 represent the baseline year and the 16 quarters in 2017 through 2020 represent the first four program years. The sharp decline in expenditures in 2020 can be attributed to the COVID-19 pandemic, which led to a decline in overall utilization of health services during the initial months of the year. For Track 1 and Track 2, respectively, this analysis includes (1) 1,373 and 1,515 CPC+ practices that were participating in CPC+ as of April 1, 2017 (the end of the first program quarter), and (2) 5,243 and 3,783 comparison practices.

Figure 5.4. CPC+ impacts on per beneficiary per month acute inpatient expenditures, by track and SSP subgroups

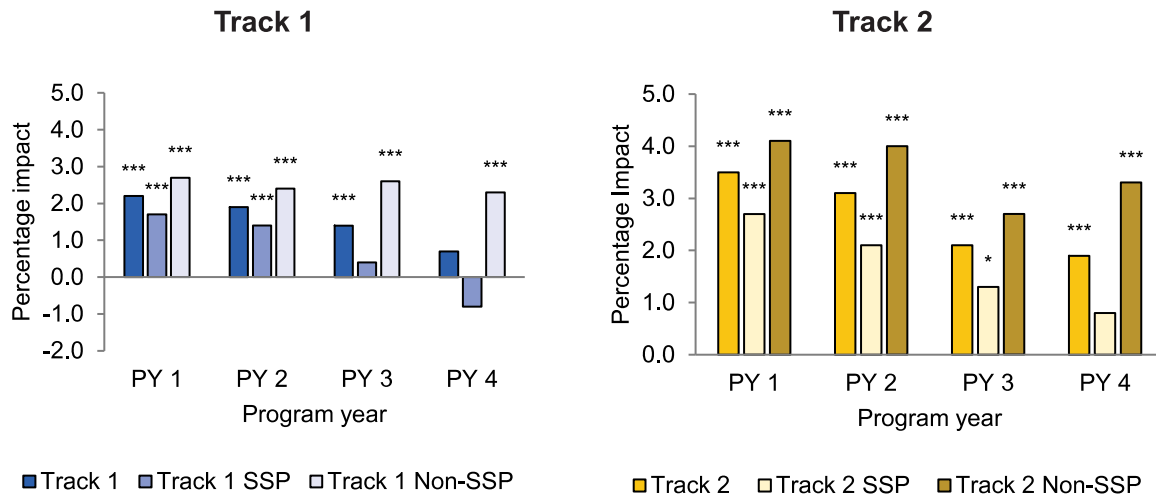


Source: Mathematica's analyses of Medicare claims data from January 2013 through December 2020.

Notes: We calculated percentage impacts (shown in this figure) relative to what the CPC+ mean would have been in Program Years 1 through 4 in the absence of the intervention—that is, the unadjusted CPC+ mean minus the impact estimate. Each impact estimate reflects the difference between the average outcome for Medicare FFS beneficiaries attributed to CPC+ practices in the first four years of CPC+ and the average outcome in the baseline year, relative to the same difference over time for Medicare FFS beneficiaries attributed to comparison practices, while controlling for beneficiary characteristics, practice fixed effects, and COVID-19-related regional control variables (in PY 4 only). Asterisks denote whether the impact estimate is significantly different from zero at the 0.10(*), 0.05(**), or 0.01(***) level (two-tailed test).

When including CMS's enhanced payments, CPC+ increased expenditures for Medicare FFS beneficiaries. Over the first four program years, Medicare expenditures, including CMS's care management fees (CMFs) and the comprehensiveness supplement for Track 2 practices, increased by \$14 and \$25 per beneficiary per month (PBPM) (1.5 and 2.6 percent), respectively, in Track 1 and Track 2 ($p < 0.01$ for each track), relative to comparison practices (Table 5.4). For each track, the estimated increase in these Medicare expenditures was similar to the size of the average CMFs CMS paid practices for Medicare FFS beneficiaries (\$15 PBPM in Track 1 and \$28 PBPM in Track 2). After including payments for performance (Performance-based Incentive Payments [PBIPs] that CPC+ practices retained and shared savings payments to CPC+ and comparison practices' ACOs for SSP practices in both tracks), in addition to the CMFs and the comprehensiveness supplement, expenditures for Track 1 and Track 2 practices increased by \$14 and \$24 PBPM (1.5 and 2.6 percent), respectively, relative to comparison practices ($p < 0.01$ for each track) (Table 5.4 and Figure 5.5). CMFs still accounted for almost all of the increase in Medicare expenditures with enhanced payments (Figure 5.6). However, in line with the estimates for expenditures without enhanced payments, the estimates of expenditures with enhanced payments became more favorable over time. In PY 4, the changes in expenditures with enhanced payments for Track 1 (0.7 percent increase), Track 1 SSP (0.8 percent decrease), and Track 2 SSP (0.8 percent increase) were no longer statistically significant (Figure 5.5).

Figure 5.5. CPC+ impacts on per beneficiary per month expenditures with enhanced payments, by track and SSP subgroups



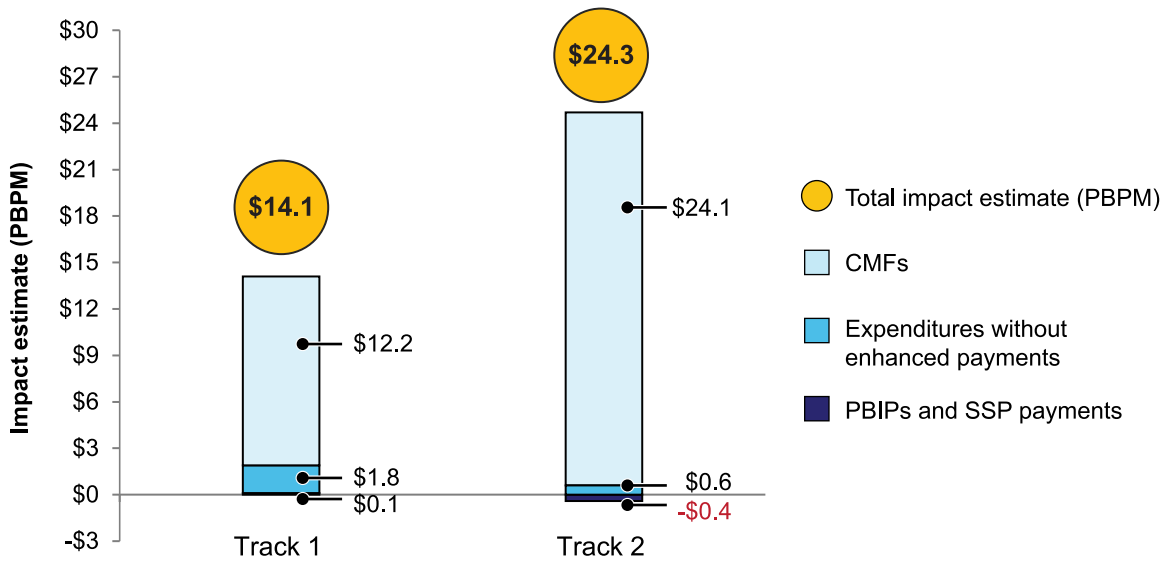
Source: Mathematica’s analyses of Medicare claims data from January 2013 through December 2020.

Notes: We calculated percentage impacts (shown in this figure) relative to what the CPC+ mean would have been in Program Years 1 through 4 in the absence of the intervention—that is, the unadjusted CPC+ mean minus the impact estimate. Each impact estimate reflects the difference between the average outcome for Medicare FFS beneficiaries attributed to CPC+ practices in the first four years of CPC+ and the average outcome in the baseline year, relative to the same difference over time for Medicare FFS beneficiaries attributed to comparison practices, while controlling for beneficiary characteristics, practice fixed effects, and COVID-19-related regional control variables (in PY 4 only). Asterisks denote whether the impact estimate is significantly different from zero at the 0.10(*), 0.05(**), or 0.01(***) level (two-tailed test).

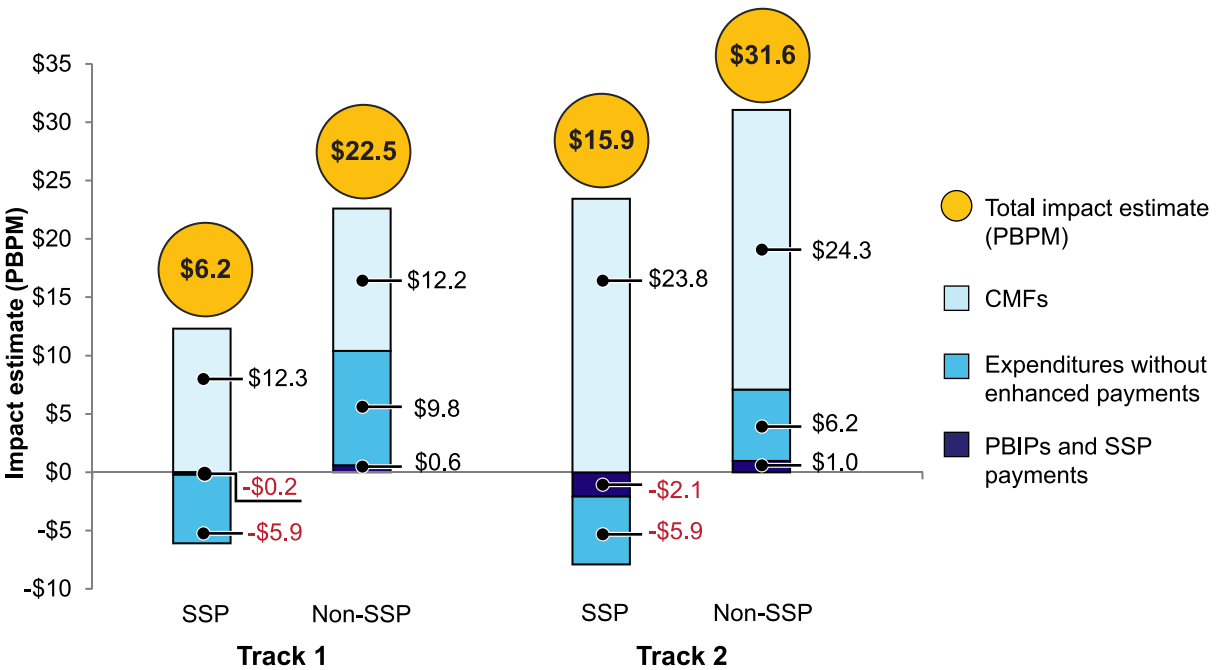
Figure 5.6. Per beneficiary per month impact estimates for Medicare expenditures during the first four program years, with CMS’s enhanced payments, by track and SSP status

Care management fees (CMFs) generally account for three-fourths or more of the increase in Medicare expenditures when including enhanced payments.

Panel A: Overall



Panel B: by SSP status



Source: Mathematica’s analysis of Medicare claims data from January 2013 through December 2020.

Figure 5.6. (continued)

Notes: In Panel A, the impact estimates on expenditures without enhanced payments over the first four years (\$1.8 in Track 1 and \$0.6 in Track 2) were not statistically significant. The impact estimates on expenditures including enhanced payments that are attributable to PBIPs and SSP payments were smaller for Track 2 by \$0.4 and larger for Track 1 by \$0.1, compared to the respective impact estimates that do not include PBIPs and SSP payments. The Track 2 estimate attributable to PBIPs and SSP payments is negative because, between the baseline and the intervention period, the change due to PBIPs was \$1.4 higher for CPC+ practices than for comparison practices (because only CPC+ practices receive PBIPs) and the change due to SSP payments was \$1.8 lower for CPC+ practices than for comparison practices. This resulted in the Track 2 impact estimate decreasing by \$0.4 after including both PBIPs and SSP payments.

For Track 1 and Track 2, respectively, Panel A includes: (1) 1,373 and 1,515 CPC+ practices that were participating in CPC+ as of April 1, 2017 (the end of the first program quarter), and (2) 5,243 and 3,783 comparison practices.

In Panel B, the impact estimates on expenditures without enhanced payments over the first four program years in the SSP and non-SSP groups (-\$5.9 in Track 1 SSP, \$9.8 in Track 1 non-SSP, -\$5.9 in Track 2 SSP, and \$6.2 in Track 2 non-SSP) were statistically significant only for the Track 1 non-SSP group. The impact estimates on expenditures including enhanced payments that are attributable to PBIPs and SSP payments were smaller for SSP practices by \$0.2 for Track 1 and \$2.1 for Track 2 and larger for non-SSP practices by \$0.6 for Track 1 and \$1.0 for Track 2, compared to the respective impact estimates that do not include PBIPs and SSP payments. The SSP practice estimates attributable to PBIPs and SSP payments are negative because, between the baseline and the intervention period, the change due to PBIPs were \$0.3 and \$0.5 higher for CPC+ practices than for comparison practices in Track 1 and Track 2, respectively (because only CPC+ practices receive PBIPs) and the change due to SSP payments were \$0.5 and \$2.6 lower for CPC+ practices than for comparison practices, for Track 1 and Track 2 respectively. This resulted in the SSP impact estimates decreasing by \$0.2 and \$2.1, for Track 1 and Track 2 respectively, after including both PBIPs and SSP payments.

Panel B includes: (1) 738 Track 1 SSP, 635 Track 1 non-SSP, 636 Track 2 SSP, and 879 Track 2 non-SSP CPC+ practices that were participating in CPC+ as of April 1, 2017 (the end of the first program quarter), and (2) 2,979 Track 1 SSP, 2,264 Track 1 non-SSP, 1,817 Track 2 SSP, and 1,966 Track 2 non-SSP comparison practices.

CMF = care management fee; PBIP = Performance-based Incentive Payment; PBPM = per beneficiary per month; SSP = Medicare Shared Savings Plan.

The findings for expenditures without enhanced payments for both tracks were robust to sensitivity tests related to COVID-19, as well as to changes in modeling assumptions.⁶⁸ All estimates for expenditures in the overall tracks and the SSP and non-SSP subgroups were within the 90 percent confidence intervals of the DDD estimates. While the DDD estimates for expenditures were not statistically significant and did not differ by SSP status, they also show relatively more favorable point estimates and confidence intervals for the SSP group compared to the non-SSP group (Appendix 5.F.). The estimates of reduction in Medicare expenditures in PY 4 were similar to the main estimates when we dropped claims from March to May 2020, suggesting that differential health care avoidance in the first three months of the pandemic was unlikely to cause any significant bias in the PY 4 impact estimates for Medicare expenditures (Appendix 5.A.).

⁶⁸ We tested the sensitivity of the impact estimate for our primary outcome—Medicare expenditures without CMS’s enhanced payments—to varying several modeling assumptions. Specifically, we varied the length of the baseline period, the composition of the analysis sample, the model specification, the measure definition, and the regression covariates (by controlling for contemporaneous SSP participation). See Appendix 5.A. for the results of these tests.

Findings generally did not vary by beneficiary-⁶⁹ or practice-level subgroups (besides SSP/non-SSP)⁷⁰ in either track, with one exception: there was a differential between independent practices and practices owned by a hospital or health system in Track 2.

In Track 2, there was a 1 percent (-\$9 PBPM, $p = 0.09$) reduction in expenditures among independent practices over the four years. In contrast, there was no change in expenditures among hospital- or system-owned practices (\$7 PBPM, $p = 0.15$) (Tables 5.3 and 5.6). The reduction in expenditures among independent practices was driven by reductions of about 1.2 percent ($p = 0.09$) in PY 3 and 1.5 percent ($p = 0.06$) in PY 4 (Table 5.3). Consistent with the differential effects on expenditures, CPC+ independent practices had a relative decline of 8 hospitalizations per 1,000 beneficiaries over the four years (3 percent, $p < 0.01$), which was significantly different from the effectively zero impact estimate for hospital- or system-owned practices (Table 5.3).

We explored whether the differential effects among independent and hospital-owned practices in Track 2 varied by practices' SSP participation status and found that:

- Within the group of Track 2 SSP practices, there were no discernible effects for either the hospital- or system-owned or independent practices (Table 5.6).
- In contrast, in the Track 2 non-SSP group, the difference in impact estimates by practice ownership was statistically significant. Expenditures without enhanced payments for CPC+ practices that were owned by a hospital or health system increased more than their counterparts in comparison practices in all four years, with an average annual increase of 1.9 percent ($p < 0.01$). The decreases in expenditures of about 1 percent in the independent practices were not statistically significant ($p = 0.22$) (Table 5.6).

This indicates there may be a positive interaction between SSP and CPC+, with SSP participation countering incentives for hospitals and health systems to generate revenue. We will continue examining these differences by type of practice ownership and SSP participation in the final report to see if these differential effects persist through the end of the intervention.

⁶⁹ We analyzed our findings for certain subgroups of beneficiaries who have complex needs. These groups include patients at high risk for subsequent expenditures; patients who are either at high risk for subsequent expenditures or have dementia; patients with selected behavioral health conditions (schizophrenia, depression and bipolar disorders, or drug/alcohol psychosis or dependence); patients who have multiple chronic conditions and had at least one hospitalization in the year before the start of CPC+ (for the intervention-period observations) or directly before the start of the yearlong baseline period (for the baseline-period observations); and patients who are dually eligible for Medicare and Medicaid.

⁷⁰ We analyzed our findings on Medicare expenditures by other practice subgroups (not based on SSP participation) to see if they varied for practices with different characteristics including practices' size, ownership status (hospital or system owned versus independent), type (multi-specialty versus primary care only), location (urban, rural, or suburban), and whether the practice had prior experience with primary care practice transformation.

Table 5.6. Estimates of four-year impact of CPC+ on Medicare expenditures without CMS's enhanced payments, by ownership status for Track 2 practices

Practice subgroup	Percentage of CPC+ beneficiaries in subgroup at baseline	Impact estimate (standard error)	Percentage impact	p-Value for difference in impact estimates between subgroups ^a
For all Track 2 practices				
Hospital- or system-owned	58.1%	\$6.7 (\$4.7)	0.7%	0.01
Independent	41.9%	-\$9.4* (\$5.6)	-1.0%	
For Track 2 SSP practices				
Hospital- or system-owned	61.3%	-\$5.0 (\$6.8)	-0.5%	0.62
Independent	38.7%	-\$7.7 (\$8.9)	-0.8%	
For Track 2 non-SSP practices				
Hospital- or system-owned	55.6%	\$17.9*** (\$6.2)	1.9%	0.00
Independent	44.4%	-\$8.8 (\$7.1)	-1.0%	

Source: Mathematica's analysis of Medicare claims data from January 2013 through December 2020.

Note: The estimates (and standard errors) in the impact estimate column show impacts over the first four years of CPC+, separately, for hospital- or system-owned and independent practices. If the test for significant differences between the hospital- or system-owned and independent practices did not indicate a statistically significant or meaningful difference in the sample (Track 2 overall, Track 2 SSP, and Track 2 non-SSP), we did not further test whether estimates for hospital- or system-owned and independent practices were statistically significant, i.e. asterisks next to the impact estimates denote significance only when we tested and found a statistically significant difference between the hospital- or system-owned and independent practices.

^a The p-values in the last column represent results from testing for statistically significant differences in impact estimates between the hospital- or system-owned and independent practices using a t-test.

*/**/** Estimate significantly different from zero at the 0.10/0.05/0.01 level, two-tailed test.

SSP = Medicare Shared Savings Program.

To summarize the key findings for Medicare FFS beneficiaries' expenditures, we found reductions in acute inpatient care expenditures starting in PY 3 in both tracks. However, these reductions were offset by small increases in expenditures on other services, yielding estimated effects on total Medicare expenditures without enhanced payments that were small and not statistically significant in either track in any of the four years, which meant that expenditures with enhanced payments increased. The findings for expenditures without enhanced payments for both tracks were robust to sensitivity tests related to COVID-19 as well as to changes in modeling assumptions. Consistent with CMS's expectations about possible alignment between incentives and supports offered by CPC+ and SSP, effects on Medicare expenditures varied by participation in SSP and reductions in expenditures emerged in later years for SSP practices but not for non-SSP practices. Among the other subgroups examined, independent practices in Track 2 reduced expenditures and hospitalizations while practices that were hospital- or system-owned did not.

5.1.3. Claims-based quality measures

CPC+ led to modest improvements of one percentage point or less in some of the claims-based quality-of-care measure. Over the first four years, CPC+ practices improved relative to comparison practices on (1) planned care and population health measures—for recommended services among beneficiaries with diabetes and for breast cancer screening among women, (2) patient and caregiver engagement measures of hospice use, and (3) potential overuse of prescription opioids (in both tracks) and long-term opioid use in Track 2 (Table 5.7). As noted in Sections 5.1.1 and 5.1.2, some of the year-specific data (particularly the p -values and estimates of impacts) are not included in tables in this report but they are available in Appendix 5.A.

For recommended services for diabetes, Track 1 practices improved by about one percentage point or less on each of the five measures examined (eye exam, attention for nephropathy, HbA1c testing, and two composite measures—for receiving all three tests, and for not receiving any of the three tests). Track 2 practices improved by one percentage point or less for all but one of these measures (attention for nephropathy). **For breast cancer screening, there was an improvement of 0.7 percentage points in Track 1 and 0.8 percentage points in Track 2 ($p < 0.01$ in both cases).**

For the evaluation's two measures of patient and caregiver engagement, in both tracks there were relative increases in the percentage of beneficiaries receiving hospice services (0.1 percentage point; $p < 0.01$), and the length of hospice stays increased by 3 days or approximately 4.5 percent ($p < 0.01$) in Track 1, and by 2.5 days, or approximately 3.8 percent ($p < 0.01$) in Track 2. The 0.1 percentage point increase in the percentage of beneficiaries receiving hospice services in both tracks is meaningful, because only about 3 percent of beneficiaries in the sample received hospice services before CPC+ began. Consistent with the increase in use of hospice, there was an increase in hospice expenditures of about 7 percent ($p < 0.01$) in both tracks.

There were reductions in potential overuse of prescription opioids of 0.4 percentage points ($p = 0.08$) and 0.5 percentage points ($p = 0.09$) in Track 1 and Track 2, respectively. There was also a reduction of 0.1 percentage point ($p = 0.08$) in long-term opioid use in Track 2 (about 8 percent of beneficiaries in the sample were long-term opioid users before CPC+ began).

For some of these quality measures where there were favorable impacts, there was little room for improvement, so it was not surprising that impacts were small. For example, more than 90 percent and 80 percent of beneficiaries with diabetes received HbA1c tests and attention for nephropathy, respectively, in the year before CPC+ began. However, for the other measures, there was considerable room for improvement. For example, only two-thirds of beneficiaries with diabetes received an eye exam in the year before CPC+.

In both tracks, there was little evidence that CPC+ improved appropriate use of recommended medications,⁷¹ continuity or fragmentation of care, 30-day unplanned readmissions, unplanned acute care following hospital or ED discharges, or mortality. In fact, the few statistically significant effects that we did observe in the measures of appropriate use of recommended medications (for example, in percentage of beneficiaries ages 18 and older on renin-angiotensin system antagonists with proportion of days covered by medication greater than 80 percent in Track 1) were unfavorable, though small (less than 0.5 pp in each track). Similarly, among the measures of continuity of care, there was only one measure—percentage of primary care ambulatory care visits at assigned practice—for which there was a small (0.8 pp, $p = 0.03$) improvement in Track 2. Among the other measures of continuity of care, there were small (less than 0.5 pp) declines in the percentage of visits with the usual provider of care (in both tracks for the measure that treats each practitioner at beneficiary’s assigned practice separately; and in Track 1 only for the measure that treats all practitioners at assigned practices as a single practice⁷²). However, these average annual effects were driven by the reductions in this measure in PY 4 (Appendix 5.A.) and could have been pandemic-related—for example, if CPC+ practices were more successful in directing patients into alternative care settings (including telehealth visits) during the pandemic. There was also a small increase of 0.1 pp ($p = 0.10$) in the reversed Bice-Boxerman index (ranging from 0 to 100) of fragmentation of care in Track 2—but only in the version of the measure that treats all practitioners at assigned practice separately, which could have happened if CPC+ led to more team-based care.

Given that the set of claims-based quality measures that we examined is limited, the magnitude of estimated improvements is small, and there is some emerging evidence for unfavorable effects on certain measures, we cannot draw definitive conclusions about the impact of CPC+ on quality. Many practices use electronic clinical quality measures (eCQMs) to guide quality improvement activities and CMS also uses them to calculate the amount of PBIPs that practices retain. However, we do not estimate impacts on eCQMs because we lack comparable eCQM data between the CPC+ and comparison practices, making meaningful comparisons challenging. Further, the eCQMs from which practices were required to report have changed over time, which limits our ability to examine changes in the quality measures between the baseline and intervention periods. Therefore, we cannot rule out that CPC+ might lead to larger improvements in other quality measures that the evaluation cannot include. If the small, unfavorable effects on certain quality-of-care measures through the fourth year persist and grow larger in PY 5, we will assess evidence from the implementation analysis to hypothesize and, wherever possible, test mechanisms that could explain these effects.

⁷¹ Appropriate use of recommended medications is measured using six outcome measures: (1) percentage of beneficiaries ages 21 and older with cardiovascular disease who were prescribed and filled statin therapy, (2) percentage of beneficiaries ages 18 and older on diabetes medications with 80% of days covered by medication, (3) percentage of beneficiaries ages 18 and older on renin-angiotensin system antagonists with 80% of days covered by medication, (4) percentage of beneficiaries ages 18 and older on statins with 80% of days covered by medication, (5) percentage of beneficiaries ages 18 and older with both coronary artery disease (CAD) and diabetes who were prescribed and filled angiotensin-converting enzyme (ACE) inhibitors or angiotensin receptor blockers (ARB) therapy, and (6) percentage of beneficiaries ages 65 and older who received two or more prescriptions for high-risk medications in the same class.

⁷² For the percentage of visits with the usual provider of care and reversed Bice-Boxerman index of fragmentation of care, we examined two measure versions: one that treated each practitioner associated with the beneficiary’s assigned practice separately, and another that treated all practitioners in the assigned practice as a single practitioner. We did so because fragmentation calculated at the practitioner level could overstate true fragmentation when there is team-based care.

Table 5.7. Summary table of impacts (in percentage points) on claims-based quality-of-care measures for Medicare FFS beneficiaries over the first four program years, by track and SSP participation status

	Track 1				Track 2			
	CPC+ mean for PY 1 through PY 4, overall ^a	Impact estimates (percentage points), overall	Impact estimates (percentage points), SSP	Impact estimates (percentage points), non-SSP	CPC+ mean for PY 1 through PY 4, overall ^a	Impact estimates (percentage points), overall	Impact estimates (percentage points), SSP	Impact estimates (percentage points), non-SSP
Planned care and population health measures for beneficiaries ages 18–75 with diabetes (annualized)^b								
Received HbA1c test	90.5%	0.3*	0.5**	0.1	92.0%	0.3*	0.1	0.5**
Received eye exam	64.3%	0.9***	0.4	1.5***	66.1%	1.0***	1.4***	0.7**
Received attention for nephropathy	81.4%	0.8***	0.4	1.2***	82.7%	0.2	-0.3	0.7*
Diabetes Composite Measure 1 (received all three tests above: HbA1c test, eye exam, attention for nephropathy)	51.9%	1.1***	0.7*	1.6***	54.7%	1.0***	1.2**	0.8**
Diabetes Composite Measure 2 (received none of the three tests above)	2.6%	-0.2***	-0.1	-0.3**	2.3%	-0.1*	0.0	-0.2**
Planned care and population health measures^b								
Received breast cancer screening ^c	73.9%	0.7***	0.0	1.4***	75.0%	0.8***	0.2	1.2***
Prescribed and filled statin therapy ^d	60.5%	-0.2	-0.3	-0.1	60.7%	-0.1	-0.5***	0.2
Percentage of beneficiaries on diabetes medications with proportion of days covered by medication > 80% ^e	82.3%	-0.1	0.1	-0.3	82.4%	0.2	0.1	0.3
Percentage of beneficiaries on renin-angiotensin system antagonists with proportion of days covered by medication > 80% ^e	84.6%	-0.3**	-0.3*	-0.2	84.6%	-0.1	-0.3	0.0
Percentage of beneficiaries on statins with proportion of days covered by medication > 80% ^e	82.1%	0.0	-0.1	0.0	82.5%	-0.1	-0.3*	0.1
Percentage of beneficiaries with both CAD and diabetes who were prescribed and filled ACE inhibitors or ARB therapy ^e	75.7%	-0.4	0.0	-0.7*	75.4%	-0.3	-0.2	-0.3
Continuity-of-care measures^f								
Percentage of primary care ambulatory visits at assigned practice	62.7%	0.4	0.0	0.9	63.7%	0.8**	1.0	0.8
Across all PCPs and specialists providing care to a patient, where each practitioner in the beneficiary's assigned practice is treated separately:								
Percentage of visits with the usual provider of care	46.7%	-0.2**	0.0	-0.3***	46.5%	-0.2**	-0.1	-0.2*

Table 5.7. (continued)

	Track 1				Track 2			
	CPC+ mean for PY 1 through PY 4, overall ^a	Impact estimates (percentage points), overall	Impact estimates (percentage points), SSP	Impact estimates (percentage points), non-SSP	CPC+ mean for PY 1 through PY 4, overall ^a	Impact estimates (percentage points), overall	Impact estimates (percentage points), SSP	Impact estimates (percentage points), non-SSP
Reversed Bice-Boxerman Continuity-of-Care index ^g	79.3%	0.0	-0.1	0.1	79.9%	0.1*	0.1	0.2
Across all PCPs and specialists providing care to a patient, where all practitioners in the beneficiary's assigned practice are treated as a single practice:								
Percentage of visits with the usual provider of care	49.0%	-0.2**	-0.2*	-0.2	49.4%	-0.1	0.1	-0.2*
Reversed Bice-Boxerman Continuity-of-Care index ^g	76.9%	0.1	0.1	0.0	76.7%	0.1	-0.1%	0.2
Other quality-of-care measures								
Percentage of index acute care hospital discharges that were followed by an unplanned readmission within 30 days ^h	15.9%	0.2	0.3*	0.1	15.9%	0.0	0.2	-0.2
Percentage of index acute care hospital discharges that were followed by an unplanned acute care hospitalization or ED visit (including observation stays) within 30 days ^h	26.0%	0.1	0.1	0.1	25.9%	0.0	0.1	-0.1
Percentage of index ED discharges that were followed by an unplanned acute care hospitalization or ED visit (including observation stays) within 30 days ^h	29.1%	-0.1	-0.1	-0.2	29.3%	0.1	0.4	-0.1
Percentage of age 65 and older Medicare FFS beneficiaries who filled two or more prescriptions for high-risk medications in the same class	13.2%	0.1	0.0	0.2*	13.1%	0.0	0.0	0.0
Percentage of beneficiaries receiving hospice services	3.0%	0.1***	0.1***	0.0	3.1%	0.1***	0.1	0.1***
Days of hospice use for beneficiaries receiving hospice services in the measurement year ^{i,j}	67.55	4.5***	4.0**	4.7**	67.44	3.8***	5.2**	3.1
Days of hospice use for all beneficiaries in the measurement year ^j	2.04	8.1***	10.1***	6.0**	2.07	7.6***	8.0***	7.5***
Long-term opioid use ^k	6.5%	0.0	-0.3***	0.3**	6.4%	-0.1*	-0.1	-0.1
Potential opioid overuse ^l	14.8%	-0.4*	-0.7**	-0.1	14.9%	-0.5*	-0.4	-0.4

Source: Mathematica's analysis of Medicare claims data from January 2013 through December 2020.

Table 5.7. (continued)

- Notes: **Impact estimates.** We base impact estimates (and tests of statistical significance) on a difference-in-differences analysis; they reflect the difference in the regression-adjusted average outcome for attributed Medicare FFS beneficiaries in CPC+ practices in PY 1 through PY 4 compared with the average outcome in the baseline year, relative to the same difference over time for attributed Medicare FFS beneficiaries in comparison practices. We calculated percentage impacts relative to what the CPC+ mean would have been in PYs 1 through 4 (separately and combined) in the absence of the intervention—that is, the unadjusted CPC+ mean minus the impact estimate.
- Shading.** ██████████ **with bold, italicized text** signifies that an estimate was statistically significant at the 10 percent level using a two-sided test. Estimates without a negative sign show an improvement and those with a negative sign imply a deterioration in the quality-of-care outcome for CPC+ practices relative to comparison practices. There are two exceptions where a negative sign instead implies an improvement in quality: (1) the diabetes composite measure of receiving none of the three tests, and (2) the reversed Bice-Boxerman Continuity-of-Care index. Although this table indicates which estimates are statistically significant, when we interpret evidence, we combine evidence from the magnitude of the effect, the *p*-values, findings on related outcomes, subgroups, sensitivity tests, and other data sources about model implementation.
- Unweighted sample sizes.** Sample sizes for the measures in the table are as follows, for Track 1 and Track 2, respectively, in each case. For the planned care and population health measures for beneficiaries ages 18–75 with diabetes, the analysis includes approximately 243,000 and 295,000 CPC+ beneficiaries, and 831,000 and 688,000 comparison beneficiaries. For the breast cancer screening measure for female beneficiaries ages 52–74, the analysis includes approximately 399,000 and 483,000 CPC+ beneficiaries, and 1.3 million and 1.1 million comparison beneficiaries. For the planned care and population health measures based on Part D claims, the beneficiaries in the CPC+ group ranged from 143,000 to 904,000 and beneficiaries in the comparison group ranged from 369,000 to 2.5 million. For the percentage of primary care ambulatory visits at the assigned practice, the analysis includes approximately 1.2 million and 1.5 million CPC+ beneficiaries, and 4.2 million and 3.5 million comparison beneficiaries. For the percentage of visits with the usual provider of care, the analysis includes approximately 1.3 million and 1.5 million CPC+ beneficiaries, and 4.3 million and 3.6 million comparison beneficiaries. For the reversed Bice-Boxerman index, the analysis includes approximately 1.1 million and 1.4 million CPC+ beneficiaries, and 3.8 million and 3.2 million comparison beneficiaries. The analysis includes 1.2 million, 1.2 million, and 2.1 million index discharge events in the CPC+ Track 1 group and 3.9 million, 3.9 million, and, 7.3 million discharges in the Track 1 comparison group for unplanned readmissions, unplanned acute care hospitalization or ED visit after an acute hospital index discharge measure, and unplanned acute care hospitalization or ED visit after an ED visit measure or ED visit after an ED visit measure, respectively. The analysis includes 1.4 million, 1.4 million, and 2.5 million index discharge events in the CPC+ Track 2 group and 3.3 million, 3.3 million, and, 6.0 million discharges in the Track 2 comparison group for unplanned readmissions, unplanned acute care hospitalization or ED visit after an acute hospital index discharge measure, and unplanned acute care hospitalization or ED visit after an ED visit measure, respectively. For the high-risk medication use measure for beneficiaries ages 65 and older, the analysis includes approximately 899,000 and 1.1 million CPC+ beneficiaries, and 3.0 million and 2.6 million comparison beneficiaries. The sample for days of hospice counts of beneficiary-year observations is about 2.3 times larger than the counts of beneficiaries. For the long-term opioid use measure, the analysis includes approximately 911,000 and 1.1 million CPC+ beneficiaries, and 3.1 million and 2.6 million comparison beneficiaries. For the potential opioid overuse measures, the analysis includes approximately 83,000 and 100,000 CPC+ beneficiaries, and 270,000 and 220,000 comparison beneficiaries.
- Effective sample sizes.** After accounting for weights that adjust for matching and time observed in Medicare FFS, the effective sample sizes fall but are still substantial. For the comparison group, the effective sample size is 38 to 53 percent of the size of the actual comparison group. The effective sample size for the CPC+ group is about 95 to 99 percent of the actual sample size, because it is affected only by time observed (and not by the matching weights). For the analysis of unplanned 30-day readmissions and unplanned acute care measures, we use only matching weights and the effective sample size of the actual comparison group is 41 to 47 percent of the actual comparison group. For the quality-of-care measures constructed using Part D claims, the effective sample size for the comparison group is 40 to 47 percent of the actual sample size and the effective sample size for the CPC+ group is approximately 99 percent of the actual sample size. For the analysis of days of hospice use for beneficiaries with any hospice use, the effective sample size for the CPC+ group is about 96 percent of the actual sample size, and for the comparison group, the effective sample size is about 40 to 46 percent of the actual comparison group. For the analysis of the long-term opioids measure, the effective sample size is 39 to 52 percent of the actual sample size for the comparison group. The effective sample size for the CPC+ group is 100 percent because it is not affected by the matching weights. For the analysis of the potential opioid overuse measure, the effective sample size is 38 to 48 percent of the actual sample size for the comparison group. The effective sample size for the CPC+ group is 100 percent because it is not affected by the matching weights.
- ^a The mean for each outcome is the weighted average of the means for PY 1 through PY 4, where the weights are the number of eligible beneficiaries in the CPC+ group in that year.
- ^b For the binary quality-of-care outcomes, we present the absolute impact estimate on the relevant measures only in percentage points. We do so because percentage impacts for some of the measures are likely to be misleadingly large, given the low means for the measures. We grouped the claims-based quality-of-care measures into the domains according to the Comprehensive Primary Care Functions under which they appear in the 2018 Implementation Guide (CMMI 2018).
- ^c Measure applicable for female beneficiaries ages 52–74.
- ^d Measure applicable for beneficiaries ages 21 and older.
- ^e Measure applicable for beneficiaries ages 18 and older.

Table 5.7. (continued)

^f The continuity-of-care measures are calculated for beneficiaries who were in the intent-to-treat sample at the beginning of the year and were FFS eligible for the full year in each program year and had qualifying ambulatory visits in the program year. Qualifying ambulatory visits are (1) office or other outpatient visits for evaluation and management, (2) ophthalmological services: medical examination and evaluation, and (3) new enrollee and annual wellness visits.

^g The reversed Bice-Boxerman Continuity-of-Care Index (rBBI) identifies the number of practitioners providing ambulatory services to a beneficiary and the percentage of care each practitioner provides. rBBI values range from 0 (all visits made to the same practitioner) to 100 (each visit made to a different practitioner). Higher rBBI scores indicate more fragmented care.

^h Since these measures are at the discharge level, we also controlled for discharge-level factors.

ⁱ Calculated only for beneficiaries who had at least one day of hospice use during the measurement year.

^j For the days of hospice use measures, we show the percentage impact and not the impact estimate in percentage points, because the measure is not calculated in percentage units.

^k To be included in the analysis of both long-term opioid use and potential overuse, a beneficiary had to: (1) be assigned to a practice; (2) be continuously enrolled in Medicare Parts A, B, and D throughout each calendar year or until death; and (3) have at least one opioid prescription during the measurement year. We further excluded beneficiaries for whom opioid use is appropriate: beneficiaries with a diagnosis of cancer during the measurement year or one year before, or a diagnosis of sickle cell disease or hospice use during the measurement year. The regression models for both opioid use outcomes additionally control for changes in state-level PDMP characteristics and opioid funding.

^l This measure is defined only among long-term users of opioids.

*/**/** Estimated impact significantly different from zero at the 0.10/0.05/0.01 level, two-tailed test.

ACE = angiotensin-converting enzyme; ARB = angiotensin receptor blockers; CAD = coronary artery disease; ED = emergency department; FFS = fee-for-service; NPI = National Provider Identifier; PCP = primary care practitioner; PDMP = Prescription Drug Monitoring Program; PY = Program Year; SSP = Medicare Shared Savings Program.

5.2. Discussion of impact findings

Over the first four years, CPC+ reduced key measures of acute care utilization and expenditures on acute inpatient care but did not reduce total Medicare expenditures across Track 1 and Track 2 overall. CPC+ also led to small improvements in some quality-of-care measures. In particular, CPC+ reduced ED visits by a little under 2 percent each year. Hospitalizations also fell by 1 percent over the four years, with impacts first emerging in PY 3 and growing to nearly 2 percent by PY 4. The reductions in hospitalizations were also accompanied by reductions of around 2 percent in expenditures on acute inpatient care in PY 3 and PY 4. However, there were offsetting increases in expenditures on other services. As a result, even in PY 4, the effect of CPC+ on total Medicare expenditures for services was close to zero, which meant that net expenditures increased after factoring in enhanced payments (although the increase in PY 4 was not statistically significant in Track 1). Finally, CPC+ led to improvements in some claims-based quality-of-care measures, but the size of these effects was generally one percentage point or less.

We have a high degree of confidence in these findings, as they are supported by a wide range of sensitivity tests, including those that checked for bias due to COVID-19. Notably, the findings from our primary analysis are largely similar to the findings from the triple differences approach—and the point estimates from our main analysis are generally within the 90 percent confidence interval around the triple-differences estimates (Appendix 5.F). Additionally, the findings in PY 4 (which coincided with the outbreak of the COVID-19 pandemic) were generally similar to the findings in the previous year (PY 3). Also, the PY 4 estimates for expenditures, hospitalizations, and outpatient ED visits were similar regardless of whether we excluded claims from March to May 2020, during the first three months of the COVID-19 pandemic where we observed the greatest decreases in health care utilization in PY 4 relative to PY 3. There were a few exceptions where the utilization estimates from our main analysis were not robust to all our sensitivity tests (PY 4 estimates for reduction in outpatient ED visits in Track 2; PY 4 estimates for reduction in hospitalizations in Track 1; and PY 4 estimates for increase in urgent care center visits in Track 1), so we recommend interpreting the magnitude of these particular estimates with caution. In addition to the sensitivity tests described in Appendices 5.A and 5.F, we checked for bias due to differential participation rates of CPC+ and comparison practices in other initiatives (Appendix 5.G). These do not appear to bias our results through PY 4.

The impact findings are largely consistent with findings from other studies of primary care interventions, which found mixed results from practice transformation initiatives. Most prior transformation studies found that over a short term-horizon (five years or less) there were only limited (if any) improvements in quality of care, and only some generated savings.⁷³

The reductions in acute care utilization are consistent with the time path of the theory of change for CPC+ and findings from our evaluation of the implementation of CPC+ at the practice level. Improved access to primary care can lead to reductions in ED visits relatively quickly. In contrast, reductions in hospitalizations are likely to require longer-term care management of chronic conditions, which is consistent with these reductions emerging in later years. In CPC+, practices were required to increase the delivery of short-term, episodic care management, which involved timely outreach to patients after a hospital or ED discharge. For example, findings from the PY 3 CPC+ Physician Survey (the first year the survey was fielded) showed that a higher proportion of physicians in CPC+ than in comparison practices provided timely follow-up after ED visits and hospitalizations and after-hours access. Beneficiaries in Track 2 CPC+ practices were also more likely than those in comparison practices to report receiving timely follow-up after hospitalizations in the PY 2 and PY 3 CPC+ Beneficiary Surveys. Additionally, “deep-dive” practices (a representative sample of practices that were selected for detailed interviews) reported that they are educating patients about appropriate ED use, emphasizing the access to and continuity of care provided by the primary care practice, particularly for patients who have historically used the ED for nonurgent care. These process improvements could contribute to the favorable effects on ED visits and hospitalizations. Further, these qualitative findings may explain why there were reductions in primary care substitutable and potentially primary care preventable ED visits starting in PY 1—which drove the reduction in overall outpatient ED visits.

The early improvements in some claims-based quality-of-care measures are also consistent with findings from the implementation analysis. Deep-dive practices reported that they have been working to improve planned care and population health. Additionally, CMS’s performance-based payments incentivized practices to improve in these areas, including in diabetes care and breast cancer screening. Many deep-dive practices were using eCQMs, and some were also using utilization data, to systematically guide quality improvement activities. These activities can lead relatively quickly to increases in percentage of beneficiaries receiving recommended care for diabetes and breast cancer screening (both of which are process measures)—consistent with impacts on these measures emerging in the first two years. In PY 4, many CPC+ practices reported to CMS that they continued to receive and use data feedback on quality of care to make changes to care delivery and conduct data-focused care team meetings (although at a lower frequency than in PY 3). CPC+ practices also continued to expand efforts to track and monitor patients with specific conditions, risk status, or medications using health IT.

⁷³ For example, some previous studies found the initiative generated savings (Cuellar et al. 2016; Shi et al. 2017; Song et al. 2014; OIG 2017), while others, including the evaluation of CPC Classic, did not (Peikes et al. 2018a, 2018c; Yoon et al. 2016; Orzol et al. 2018). Similarly, some previous studies found limited improvements in measures of quality of care (Farley et al. 2019; Swietek et al. 2018; Kahn et al. 2016) and patient engagement (Dorr et al. 2016; Kern et al. 2013; Swankoski et al. 2018; Reid et al. 2010; Sarinopolous et al. 2017; Nichols et al. 2017; Kahn et al. 2016; Aysola et al. 2018), while others found no appreciable effects (Peikes et al. 2018a; Jaén et al. 2010; Maeng et al. 2013; Heyworth et al. 2014; Reddy et al. 2015).

While the pandemic affected practices' ability to implement care delivery requirements, the estimated impact of CPC+ generally did not change during PY4. The pandemic hindered practices' ability to work on CPC+ care delivery requirements by placing additional demands on staff time and making it difficult to see patients in person for necessary screening and preventive care. However, many practices shifted resources to address patients' most pressing needs during the pandemic, so they generally did not feel that it affected their ability to care for patients. Moreover, some practices reported that participating in CPC+ helped them during the pandemic, noting that CPC+ enhanced payments helped sustain staffing levels, particularly care managers. The estimated effects of reductions in acute care utilization in PY 4—which are generally similar to the magnitude of the estimated effects in PY 3—suggest that, in spite of the difficulty in making progress on care delivery requirements during the pandemic, CPC+ practices maintained the improvement over comparison practices that they had achieved in previous years.

Consistent with CMS's expectations about possible alignment between incentives and supports offered by CPC+ and SSP, there were some differential effects by whether practices were in SSP when CPC+ began. Reductions in expenditures for SSP practices emerged in PY 3 and continued in PY 4, particularly in Track 1. The reductions in Track 1 SSP were driven by reductions in hospitalizations and a corresponding decline in acute inpatient expenditures. In Track 2 SSP practices, there were also reductions in expenditures (although not statistically significant) driven by reductions in acute inpatient expenditures in PY 3 and by acute inpatient and outpatient expenditures in PY 4. These findings suggest that there may be some positive interaction between incentives and supports the CPC+ and SSP initiatives offer.

In contrast, expenditures appear to have increased for non-SSP practices in both tracks in PY 3 and PY 4, although estimates were not statistically significant for Track 2 non-SSP practices. While no one category of expenditures was entirely driving the increases in expenditures in the non-SSP group, increases in Part B noninstitutional services were an important contributing factor. It is possible that greater increases in ambulatory visits to specialists (that were mainly observed in the non-SSP groups), together with resulting increases in downstream utilization of diagnostic testing, laboratory, and imaging expenditures, contributed to the increase in Part B expenditures in the non-SSP groups. Notably, the increases in expenditures in the Track 2 non-SSP group (which were generally not statistically significant) were concentrated among hospital- or system-owned practices. This could happen if there is an interaction between SSP and CPC+, with SSP participation countering some of the FFS incentives for hospitals and health systems to generate revenue (possibly through referrals for specialist visits, and diagnostic testing and procedures following a primary care visit).

Notably, however, by the end of PY 4, we lack evidence regarding differences in implementation of CPC+ between SSP and non-SSP practices that could further substantiate the differences in effects of CPC+ by SSP status.

Among the other practice subgroups examined, independent practices in Track 2 reduced expenditures and hospitalizations while practices that were hospital- or system-owned did not. Most notably, we found that independent Track 2 CPC+ practices had about a 3 percent reduction in acute hospitalizations but there was no reduction in hospitalizations for Track 2 practices owned by a hospital or health system. It is likely that the incentives to reduce

hospitalizations are muted for practices that are owned by (or in a system that includes) hospitals. We also know from our implementation findings that independent practices are more nimble than hospital-or system-owned practices and are less likely to have the layers of internal bureaucracy that practices must navigate before implementing concrete steps to respond to incentives.

Primary care practices in CPC+ face some systemic barriers to meeting the criteria for expansion of the model,⁷⁴ which could explain the lack of larger impacts in the first four years. Even if CPC+ practices fully achieve the Comprehensive Primary Care Functions, important contextual factors influence outcomes and are beyond a primary care practice's control. Markedly, specialists and hospitals operate in a largely FFS payment system; their incentives to deliver high-volume, high-cost care may need to be altered before CPC+ practices can reduce total Medicare expenditures and achieve budget neutrality or savings. Findings from our interviews with CPC+ practices revealed that few were altering their referral behaviors based on CMS reports on specialists' costs. Further, other contextual factors like social determinants of health and patient preferences could limit the degree to which patients engage with improved primary care and therefore alter their behavior and outcomes. Also, as practices make improvements in primary care delivery, expenditures could increase due to costs of expanded screening and treating previously undiagnosed conditions.

Different factors may explain why CPC+ did not have meaningful impacts on measures of readmissions, unplanned acute care, appropriate use of recommended medications and continuity of care in either track. There are no explicit requirements for CPC+ practices to improve on any of these measures, which may help explain the lack of meaningful effects on them. Furthermore, CPC+ practices were already topped out on some of these measures at baseline, and practices may have been working to reduce readmissions and other measures of unplanned acute care before CPC+ began. For example, Medicare payment policy focused on reducing readmissions long before CPC+ started (Ibrahim et al. 2019, CMS 2021). Similarly, the self-reported Primary Care Medical Home Assessment measures of continuity of care in the practice surveys show that CPC+ practices had very high scores at baseline, which remained high during the intervention period. Finally, although the care delivery requirements encourage comprehensive medication management (CMM), CPC+ practices have not necessarily fully implemented the concept. In addition, interviews with deep-dive practices showed that practices were confused about CMM and many conflated it with the more simple task of medication reconciliation. These factors could explain the lack of improvements in measures of appropriate use of recommended medications over the first four years of CPC+.

While CPC+ has not shown reductions in total expenditures in the first four years across Track 1 and Track 2 overall, the reductions in hospitalizations and accompanying reduction in expenditures on acute inpatient care in PY 3 and PY 4 are promising. Primary care transformation is a complex process that takes time to implement and manifest in improved

⁷⁴ CPC+ could be expanded if it either increased quality of care without increasing net spending (expenditures with enhanced payments) or decreased net spending without reducing the quality of care

outcomes, particularly cost savings.⁷⁵ It is possible that a fuller implementation of the model by PY 5 and care delivery processes that are sustained even after CPC+ ends could lead to reductions in total cost of care and improvements in other outcomes over a longer time horizon. While further improvements might occur by PY 5, the reductions in hospitalizations would need to grow in the final program year and/or expenditures for other types of service use would have to fall for CPC+ to achieve cost neutrality in PY 5 in both tracks. We have learned from our deep-dive interviews that CPC+ practices continue to make improvements to integrate behavioral health services more thoroughly, including identifying and training staff and using measures to monitor and refine services for patients with mental health conditions. Improvements in these and other areas by CPC+ practices could produce more substantial effects on outcomes such as ED visits and hospitalizations over time since these activities help patients—especially those most at risk for acute care use—better manage their conditions.

However, cost-neutrality is likely to be difficult to achieve for Track 2 practices. Over the first four years, CPC+ had similar effects on Medicare expenditures without enhanced payments in both tracks and CMS’s CMF for Track 2 (\$28 PBPM) is almost double the CMF for Track 1 (\$15 PBPM). It may still be possible for Track 2 practices to achieve greater reductions in hospitalizations and inpatient expenditures in PY 5 and partially or completely offset the higher CMF that they receive; however, this seems unlikely based on the evidence through the first four years.

Even if CPC+ does not achieve cost-neutrality across the full set practices, it might be cost-neutral in some important subgroups. For example, impact estimates suggest that CPC+ may have been cost-neutral for SSP practices in PY 4 and findings from the scalability analysis (Appendix 5.I) suggest that a targeted nationwide scale-up of CPC+ to SSP practices might generate cost savings.

In our fifth and final annual report, we will continue to track model progress and assess the impacts of CPC+ to develop insights for future initiatives. Of particular interest will be to see whether reductions in hospitalizations grow over time and the accompanying reductions in acute inpatient care costs become large enough to meaningfully reduce total expenditures. We will continue to examine different factors that may shed light on our findings, and we will continuously assess enhancements to our analytic approach. First, we will check how disruptions caused by the continuation of the COVID-19 pandemic into 2021 affected the progress of model implementation and health care utilization in CPC+ and comparison regions and practices. Second, we will assess if our modified impact analysis approach for PY 4 (which includes controls for COVID-19 intensity and response) adequately accounts for regional differences due to COVID-19 in PY 5; we will consider adding other relevant COVID-19-related control variables such as vaccination rates in our regression models for PY 5. Third, we will consider including some additional outcome measures (use of low-value services, post-acute care expenditures, laboratory and imaging expenditures) which are of interest in the CPC+ evaluation

⁷⁵ For example, in a study of the longer-term effects of CPC Classic (a four-year initiative that was the predecessor to CPC+), we found greater relative declines in hospitalizations in the two years after the intervention ended—that is, after five and six years of participation in a primary care model, since most CPC Classic practices subsequently joined CPC+—compared with during CPC Classic (Appendix 5.F). However, we found no effects on overall expenditures in any year.

and could help in synthesizing the impact findings. Fourth, future analyses will aim to understand why some CPC+ practices may improve patient outcomes more than others. For example, we will explore the extent to which increased access to CPC+ practices during and outside of normal business hours, care management, and other hypothesized pathways may be reducing ED visits. Parallel to these efforts, based on interviews of “exemplar” practices that had convincing evidence of meaningful reductions in hospitalizations, we will develop hypotheses about which actions and characteristics of these practices explain their improved outcomes and, where possible, test these hypotheses in the full sample of CPC+ practices.

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