



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

Third Annual Report

January 2021

This page has been left blank for double-sided copying.

Independent Evaluation of Comprehensive Primary Care Plus (CPC+)

Third Annual Report January 2021

Lead authors:

Deborah Peikes	Pragya Singh	Rumin Sarwar	Nikkilyn Hensleigh	Arnold Chen
Kaylyn Swankoski	Arkadipta Ghosh	Victoria Peebles	Genna Cohen	Mynti Hossain
Ann O'Malley	Stacy Dale	Min-Young Kim	Asta Sorensen	Sara Pittman
Lori Timmins	Rosalind Keith	Ning Fu	Kristie Liao	Shannon Heitkamp
Dana Petersen	Dana Jean-Baptiste	Eunhae Shin	Melanie Au	Randall Brown
Kristin Geonnotti	Sheila Hoag	Sean Orzol	Rachel Machta	
Ha Tu	Katie Morrison Lee	Jessica Laird	Janice Genevro	

Contributing authors (in alphabetical order):

Mattan Alalouf	James Drury	Geraldine Haile	Marlena Luhr	Michelle Roozeboom-Baker
Tom Bell	Nancy Duda	Laura Hanson	Amanda Markovitz	Mike Rudacille
Laura Blue	Laurie Felland	Elizabeth Holland	Nancy McCall	John Schurrer
Ellen Bouchery	Mariel Finucane	Tessa Huffman	Andrew McGuirk	Nikki Sigalo
Maura Butler	Sheena Flowers	Lauren Johnson	Tomi Ogunwumiju	Brianna Sullivan
Miriam Chappelka	Cindy George	Susan Kim	Maya Palakal	Xiaofan Sun
Christine Cheu	Sabitha Gopalsamy	Tim Lake	Christopher Palo	Carol Urato
Yooni Choi	Mario Gruszczynski	Erin Lipman	Carol Razafindrakoto	Aimee Valenzuela
Jared Coopersmith	Gillian Giudice	Jasmine Little	Eugene Rich	Lauren Vollmer Forrow
Eric Dehus	Lello Guluma	Joseph Lovins	Lauryn Ringwood	

Submitted to:

U.S. Department of Health and Human Services
Center for Medicare & Medicaid Innovation
7500 Security Blvd.
Baltimore, MD 21244-1850
Project Officer: Timothy Day
Contract number: HHSM-500-2014-00034/
HHSM-500-T0010

Submitted by:

Mathematica
P.O. Box 2393
Princeton, NJ 08543-2393
Telephone: (609) 799-3535
Facsimile: (609) 799-0005
Project Director and Principal Investigator: Deborah Peikes
Deputy Project Director: Nancy Duda
Co-Principal Investigators: Stacy Dale and Ann O'Malley
Reference Number: 50319

This page has been left blank for double-sided copying.

CONTENTS

ACRONYMS	xiii
INDEPENDENT EVALUATION OF CPC+: Executive Summary of the Third Annual Report	xv
1. INTRODUCTION.....	1
1.1. Overview of CPC+	1
1.2. Overview of the independent evaluation.....	4
1.2.1. CPC+ evaluation logic model.....	4
1.2.2. CPC+ evaluation research questions and data sources.....	6
2. CPC+ PARTICIPATION AND PARTNERSHIP: INVOLVEMENT IN CPC+ REMAINED STEADY FROM PY 1 TO PY 3	11
Key takeaways	11
2.1. Payer partners.....	11
2.1.1. Payer partnerships over time	11
2.1.2. Characteristics of the payer partners.....	12
2.2. Practices	13
2.2.1. Practice participation over time	13
2.2.2. Characteristics of the participating practices	16
2.3. Health IT vendors.....	18
2.3.1. Health IT vendor partnerships over time.....	18
2.3.2. Characteristics of the health IT vendors	19
3. PAYER AND HEALTH IT VENDOR SUPPORT: PRACTICES CONTINUED TO RECEIVE SIGNIFICANT SUPPORT IN PY 3	21
Key takeaways	21
3.1. Types of support that CMS, payer partners, and health IT vendors agreed to provide CPC+ practices	23
3.1.1. The supports CMS and payer partners agreed to provide to CPC+ practices.....	23
3.1.2. The support health IT vendors agreed to provide to CPC+ practices	24
3.2. CMS and payer partner supports.....	25
3.2.1. Enhanced and alternative payments	28
A. Enhanced payments	28
A.1. Payments for participation offered to CPC+ practices	28
A.2. Payments for performance offered to CPC+ practices	31
A.3. Level of enhanced payments received by CPC+ practices	32

A.4.	Practices' and physicians' perspectives on CPC+ payments.....	36
A.5.	Practices' response to CMS's payment incentives	37
B.	Alternative to FFS payments.....	39
B.1.	CMS's hybrid payment approach.....	39
B.2.	The alternative payment approaches that payer partners used.....	40
B.3.	Alternative payments were not widespread in CPC+.....	40
3.2.2.	Data feedback.....	42
A.	Data feedback that CMS and payer partners provided to CPC+ practices	43
B.	Payers' data-aggregation efforts.....	43
B.1.	Challenges regions experienced aggregating data	45
B.2.	Challenges practices experienced using aggregated data	45
C.	Practices' use of data feedback.....	45
3.2.3.	Learning supports	47
A.	CMS's learning supports.....	47
A.1.	Regional learning plans.....	48
A.2.	Practice coaching.....	48
A.3.	Small group coaching.....	49
A.4.	Regional Implementation Networking Groups	49
A.5.	Minor changes to CPC+ learning supports in PY 3	50
B.	CPC+ practices' use and perceptions of CMS's learning supports	50
C.	How CMS's CPC+ learning supports have embraced adult learning principles	52
3.3.	Health IT vendor support	53
4.	CPC+ PRACTICE CHANGE: PRACTICES MADE MANY CHANGES IN PY 3, THOUGH THERE IS MORE WORK TO DO TO FULLY IMPLEMENT THE CPC+ MODEL.....	55
	Key takeaways	55
4.1.	Comprehensive Primary Care Functions and related care delivery requirements	56
4.2.	Practices' perspectives of and overall approaches to CPC+ in PY 3.....	62
4.2.1.	Practices' overall impressions of CPC+	62
4.2.2.	Practices' approaches to implementing CPC+	63
4.2.3.	Practices' progress improving primary care delivery	63
4.3.	Practices' progress and areas for improvement by Comprehensive Primary Care Function	65
4.3.1.	Access and continuity	65

A.	24/7 access	66
B.	Continuity of care	67
C.	Alternative visits	67
4.3.2.	Care management	68
A.	Risk stratification	69
B.	Longitudinal care management.....	70
C.	Episodic care management.....	73
4.3.3.	Comprehensiveness and coordination	75
A.	Coordinated referral management	75
B.	Integration of behavioral health care with primary care	76
C.	Comprehensive medication management (CMM)	79
D.	Assess and address patients' social needs	81
4.3.4.	Patient and caregiver engagement.....	82
A.	Engaging patients in Patient and Family Advisory Councils (PFACs).....	83
B.	Advance care planning.....	83
4.3.5.	Planned care and population health	85
5.	OUTCOMES FOR MEDICARE FFS BENEFICIARIES: CPC+ HAD A FEW SMALL IMPACTS OVER THE FIRST THREE YEARS.....	87
	Key takeaways	87
5.1.	Three-year effects of CPC+ on Medicare FFS beneficiaries	87
5.1.1.	Service use	91
5.1.2.	Medicare expenditures.....	92
5.1.3.	Claims-based quality measures	98
5.1.4.	Experience of care	99
5.2.	Discussion of impact findings.....	101
	REFERENCES.....	111

This page has been left blank for double-sided copying.

FIGURES

1.1.	CPC+ regions, payer partners, practices, and practitioners	1
1.2.	Logic model for the CPC+ evaluation	5
2.1.	Percentage of total lives that each of the 60 payer partners attributed to CPC+ practices in PY 3.....	13
2.2.	Number of participating practices and primary care practitioners in PYs 1, 2, and 3, by track.....	14
2.3.	Reasons practices stopped participating in CPC+ during the first three program years	15
2.4.	Patients served by CPC+ practices in PY 3.....	16
2.5.	Characteristics of practices that participated in CPC+ through the end of PY 3, by track.....	17
2.6.	Percentage of partnerships with Track 2 practices that each vendor had during PY 3.....	19
3.1.	Availability of CPC+ supports from CMS and payer partners in PY 3	26
3.2.	Practices' ratings of the usefulness of CPC+ supports in PYs 2 and 3	27
3.3.	Enhanced and alternative payment approaches used by CMS and payer partners in PY 3.....	29
3.4.	Median proportion of enhanced payments for performance and participation in PY 3.....	32
3.5.	Median enhanced payments from CMS and payer partners in PY 3, by track.....	32
3.6.	Relative contribution of CMS and payer partners to CPC+ enhanced payments in PY 3, by track.....	34
3.7.	Enhanced payments from CMS and payer partners and the proportion of enhanced payments that were unique to CPC+ in PY 3	35
3.8.	Practices' ratings of adequacy of payment supports provided by CMS and payer partners in PYs 2 and 3.....	36
3.9.	Median PBIP scores in PY 1 through PY 3.....	38
3.10.	Approximate percentage of all patients served by CPC+ practices for which CMS or payer partners provided alternative to FFS payments.....	41
3.11.	Regional progress toward aggregating data feedback, as of the end of PY 3	44
3.12.	Percentage of CPC+ practices that reported making changes to care delivery, and the extent of changes, in response to data feedback in PY 3.....	46
3.13.	Practices' use and perceptions of CMS's CPC+ learning supports in the first half of PY 3	51
3.14.	Practices' perceptions of usefulness of health IT vendor support and Affinity Groups in improving primary care, and burden of meeting CPC+ health IT requirements in PY 3, by track.....	54
4.1.	Likelihood that practices would participate in CPC+ if they could do it all over again, by track.....	62
4.2.	Practices' reported level of improvement to quality of patient care as a result of participating in CPC+ in PYs 2 and 3.....	63

4.3.	Distribution of regression-adjusted average overall M2-PCMH-A scores in PYs 1, 2, and 3, by track.....	64
4.4.	CPC+ practices' reported arrangements for after-hours access in PYs 1, 2, and 3, by track.....	66
4.5.	Practices' reported availability of scheduled phone or video visits with a physician in PYs 1, 2, and 3, by track.....	68
4.6.	CPC+ practices' reports about availability and use of a standard method or tool to stratify patients by risk level in PYs 1, 2, and 3	69
4.7.	Comparison of patients' receipt of longitudinal care management services in PYs 1, 2, and 3	72
4.8.	Percentage of practices that reported following up with most or all patients within three days of a hospital discharge and within one week of an ED visit in PYs 1, 2, and 3, by track.....	74
4.9.	Percentage of practices that reported receiving and using data on what insurers pay for specialist services when making referral decisions in PY 3.....	76
4.10.	Percentage of practices that reported taking steps to integrate behavioral health in PY 3, by track and BHI model.....	78
4.11.	Percentage of practices that reported taking steps to implement CMM in PYs 2 and 3, by track.....	80
4.12.	Percentage of physicians in CPC+ and comparison practices who reported various strategies for linking patients to supportive community-based resources in PY 3, by track.....	82
4.13.	Percentage of practices that reported collecting and using PFAC feedback to guide practice improvements in PYs 1, 2, and 3, by track.....	83
4.14.	Percentage of practices that reported taking steps to implement advance care planning in PY 3, by track.....	84
4.15.	Percentage of physicians in CPC+ and comparison practices who reported using the practice's EHR or other health IT to identify and track groups of patients in PY 3, by track	86
5.1.	Quarterly trends in mean Medicare Part A and Part B expenditures PBPM, excluding CMS's enhanced payments, by track	94
5.2.	Per beneficiary per month impact estimates for Medicare expenditures during the first three program years, with CMS's enhanced payments, by track	96

TABLES

1.1.	Research questions for the independent evaluation of CPC+	6
1.2.	Data sources used for the independent evaluation of CPC+	7
2.1.	Number of payer partners, by program year	12
3.1.	CPC+ payers' average PBPM and median PMPM care management fees in PY 3, by track and line of business	31
3.2.	Enhanced payment amounts in PYs 1, 2, and 3	33
3.3.	Major changes CMS made to CPC+ learning supports in PY 3	48
4.1.	Care delivery requirements in PY 3 and changes to requirements over time	57
5.1.	Summary of CPC+ impacts on outcomes for Medicare FFS beneficiaries over the first three program years	88
5.2.	Summary of CMS's payments included in the analysis of Medicare expenditures for Medicare FFS beneficiaries	93
5.3.	Summary table of impacts (in percentages) on expenditures and service use measures for Medicare FFS beneficiaries over the first three program years, by track and SSP participation status	106
5.4.	Summary table of impacts (in percentage points) on claims-based quality-of-care measures for Medicare FFS beneficiaries over the first three program years, by track and SSP participation status	109

This page has been left blank for double-sided copying.

ACRONYMS

ACO	Accountable Care Organization
ACP	advance care planning
APM	Alternative Payment Model
BHI	behavioral health integration
CAH	critical access hospital
CAHPS	Consumer Assessment of Healthcare Providers and Systems
CHIP	Children’s Health Insurance Program
CMF	care management fee
CMM	comprehensive medication management
CMS	Centers for Medicare & Medicaid Services
CNS	clinical nurse specialist
CPC	Comprehensive Primary Care
CPC+	Comprehensive Primary Care Plus
CPCP	Comprehensive Primary Care Payment
eCQM	electronic clinical quality measure
ED	emergency department
EHR	electronic health record
E&M	evaluation and management
FFS	fee-for-service
FQHC	federally qualified health center
IT	information technology
MOU	memoranda of understanding
MIPS	Merit-based Incentive Payment System
M2-PCMH-A	Modified version of the Patient-Centered Medical Home Assessment

NPI	National Provider Identifier
NP	nurse practitioner
PA	physician assistant
PBIP	Performance-based Incentive Payment
PBPM	per beneficiary per month
PCMH	patient-centered medical home
PCP	primary care practitioner
PDSA	Plan-Do-Study-Act
PFAC	Patient and Family Advisory Council
PMPM	per member per month
PY	Program Year
QPP	Quality Payment Program
RHC	rural health clinic
RING	Regional Implementation Networking Group
RLN	Regional Learning Network
SSP	Medicare Shared Savings Program
UCC	urgent care center

INDEPENDENT EVALUATION OF CPC+:

Executive Summary of the Third 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 made meaningful changes to care delivery during the first three years of Comprehensive Primary Care Plus (CPC+). Still, practices have more work to do in the remaining two years to further improve the care they provide. There were a few small favorable impacts of CPC+ on some measures of service use, quality of care, and patient experience for Medicare fee-for-service (FFS) beneficiaries during the first three years, but with CMS's enhanced payments, CPC+ increased total Medicare expenditures. It is still too early to draw conclusions about the likely longer-term effects of CPC+.

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. 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. In all 18 regions, CPC+ will run for five years.

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 provides CPC+ practices a set of care delivery requirements, which get progressively more advanced 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.

The 3,070 primary care practices that joined CPC+ fell approximately evenly into two practice tracks—Track 1 and Track 2. The Track 2 model contains more advanced care delivery requirements and financial support, and a greater shift from 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+.

Focus of this report. This report focuses on how CPC+ has been implemented and its impacts on patients enrolled in Medicare FFS (that is, Medicare FFS beneficiaries) in regions that joined in 2017. We present findings for Program Year (PY) 3, which coincides with calendar year 2019, and we highlight new findings and changes from PYs 1 and 2. We do not analyze or report on the practices that joined CPC+ in 2018. Notably, these practices account for only 5 percent of the total number of practices participating in CPC+, and their first-year implementation experiences 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+ in the first three years of 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 the first three years. Researchers and practitioners have indicated that it takes time to transform primary care and shift patient outcomes (Appendix 5.F; 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 might expect to see improvements in the first three years 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). Future reports will cover the remaining two years of CPC+ and additional research questions.

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—the focus of this report. Over the first three years, payer partners (which include private health insurance companies and state Medicaid agencies) and practice involvement remained substantial and stable, with at least 90 percent of these payer partners and practices still involved in CPC+ at the end of PY 3.

During the first three years of CPC+, CPC+ practices ranged from small (one to two practitioners) to large (six or more practitioners); included independent and hospital and health system-owned practices; were located in rural, urban, and suburban areas; and had varying levels of prior primary care transformation experience. About one-half of CPC+ practices also belonged to an Accountable Care Organization (ACO) that participated in CMS's Medicare Shared Savings Program (SSP), which incentivized providers (such as primary care practices, specialists, and hospitals) to work together to reduce Medicare FFS expenditures.

3. Payer partner and health IT vendor support

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 3.

- **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 3, practices received median enhanced payments of \$136,201 per Track 1 practice and

\$268,560 per Track 2 practice. These payments represented a median of 10 percent of Track 1 practices' total practice revenue and 15 percent of Track 2 practices' total practice revenue for PY 3. Median payments for Track 2 practices were higher than for Track 1 practices because CMS and about one-half of payer partners met their commitment to provide Track 2 practices with larger payments to reflect their more advanced care delivery requirements.

Ninety percent of enhanced payments in PY 3 were paid to practices simply for participating in CPC+, most commonly in the form of care management fees. The remaining 10 percent were payments to CPC+ practices or their ACOs for reducing costs or health care utilization and/or improving quality.

Two-thirds of the enhanced payments in PY 3 were funding that only CPC+ practices received. The remaining one-third of the enhanced payments were available to at least some practices participating in payers' other value-based programs outside of CPC+ and therefore were not unique to CPC+. CMS provided 92 percent of the unique funding for CPC+, and payer partners provided the remaining 8 percent.

- **Alternative payments.** CMS and payer partners agreed to use an alternative to the historically common FFS payment approach for Track 2 practices by the start of PY 2. Under FFS, practices are paid for each visit or service they provide. Under alternative approaches, payers provide lump-sum payments to Track 2 practices in advance and correspondingly reduce or eliminate FFS payments.

While CMS continued using an alternative payment approach for Track 2 practices in PY 3, only 17 percent of payer partners did so; this fell far short of CMS's goal that all payer partners do so by the start of the second year of the model.

- **Data feedback.** CMS and almost all payer partners continued providing CPC+ practices with data feedback on utilization and/or total cost of care, most commonly providing practice-level reports including claims-based quality and cost and utilization measures. While practices commonly received cost data, fewer practices reported using these data to drive practice change, relative to other claims-based data. CMS asked payer partners to work toward data aggregation to make it easier for practices to use data for population health management and quality improvement (aggregation is when CMS and payer partners in a region submit their claims data to a third-party vendor to produce a single report or tool for practices). At the end of PY 3, 5 of the 14 regions were providing aggregated reporting tools to CPC+ practices that included payer partners' and Medicare FFS data.
- **Learning supports.** CMS provided a range of learning supports to CPC+ practices, including information dissemination tools, group learning supports, and tailored support such as in-person or virtual practice coaching. In PY 3, CMS shifted the focus of CPC+ learning content to improving patient outcomes, rather than process measures that gauged whether practices met CPC+ care delivery requirements; they also continued to build peer learning networks. Practice facilitators also had more flexibility to tailor the support they offered practices, which included the options to host Regional Implementation Networking Groups (RINGS), conduct individual or group coaching sessions, and tailor learning content to their regions. CMS also newly required practice facilitators to offer every practice or system two coaching visits per year; this requirement was a change from prior years when facilitators

focused on practices needing the most support. As in prior years, most payer partners continued providing learning supports to CPC+ practices that complemented CMS's learning supports.

Health IT vendors. In PY 3, Track 2 practices continued to formally partner with 56 health IT vendors that committed to provide practices with advanced health IT functionalities to meet the Comprehensive Primary Care Functions and support them in implementing these functionalities. Most health IT vendors continued to make improvements to their advanced health IT functionalities, which they often offered to both CPC+ and non-CPC+ practices.

Practices' perspectives on supports. Practices continued to report that CPC+ supports were useful in improving primary care, though they found health IT supports less useful than the payment, data feedback, and learning supports. Even among the 37 percent of practices that rated payments from both CMS and payer partners as inadequate, 85 percent still found these payments useful for improving primary care.

4. CPC+ practice change

Practices' progress. CPC+ practices continued to be satisfied with their decision to join CPC+ and perceived improvements from participating. Although there is still work to do to more fully implement the model during the remaining two years of CPC+, the data suggest that, compared with the first two years of CPC+, more CPC+ practices reported in PY 3 that they:

- Provided patients with after-hours access to a physician or other clinical staff member who has real-time access to the practice's electronic health record (EHR).
- Used designated care managers, typically on-site staff who are registered nurses, to deliver longitudinal care management services. About one-half of care managers/and or care coordinators had behavioral health training.
- Had formal, written agreements with specialists to support coordinated referral management.
- Improved coordination and information exchange with hospitals and EDs that see their patients.
- Followed up in a timely manner with their patients after the patients were seen by a hospital or ED.
- Co-located a behavioral health specialist and offered behavioral health counseling at the practice site.
- Screened patients for unmet behavioral health and social service needs.
- Co-located a pharmacist at the practice site to support comprehensive medication management.
- Convened and collected feedback from patients during Patient and Family Advisory Council (PFAC) meetings.
- Took steps to integrate advance care planning into care delivery.

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. Some requirements pertained only to Track 2; as expected, Track 2 practices were more likely than Track 1 practices to report advanced activities for most of these requirements.

Practices' areas for improvement. Although CPC+ appears to be improving care delivery, there is more work to do for some of the more challenging care delivery requirements. In PY 3, CPC+ practices continued to face challenges related to making some of the model's care delivery changes and reaching all patients who would benefit from new services. They also continued to report in PY 3 that CPC+ requirements—especially financial reporting requirements—were burdensome. Areas where practices had room for improvement include:

- Providing longitudinal care management services to a larger proportion of their patients at higher risk, integrating risk stratification into all aspects of care delivery, and using care plans more fully to guide ongoing care for high-risk patients.
- Integrating behavioral health services more thoroughly, including identifying and training staff and using measures to monitor and refine services for patients with mental health conditions.
- Offering alternatives to traditional office visits (such as scheduled phone or video visits) to more patients.
- Using information on what payers pay for specialists' services when making referral decisions.
- Using PFAC feedback to consistently guide practice improvements.
- Documenting advance care preferences in their EHR for high-risk patients.

5. Outcomes for Medicare FFS beneficiaries

Even with practices' progress with transformation, based on the primary care literature, we did not expect to see favorable effects of CPC+ on Medicare expenditures after three years of the five-year model. We examined the changes in patient outcomes from the year before CPC+ to the first three years of CPC+ in each track. To control for factors that affect outcomes and are external to CPC+, we compared these changes to the analogous changes among beneficiaries in a comparison group of similar practices that did not participate in CPC+. In line with these expectations, in the first three years, CPC+ had a few small favorable impacts on some measures of service use, quality of care, and patient experience. However, CPC+ increased Medicare expenditures (which include CMS's enhanced payments for CPC+ and SSP) by 2 percent for Track 1 and 3 percent for Track 2.

- **Service use.** In the first three years, CPC+ had small effects on some measures of service use for Medicare FFS beneficiaries. CPC+ decreased ED visits by approximately 1.5 percent each in both tracks and the effects became more pronounced over time. For Track 2 practices, PY 3 was the first year there was a statistically significant estimated reduction in hospitalizations, of 1.7 percent, contributing to an annualized average reduction of just under 1 percent over the first three years. CPC+ did not have a statistically significant effect on hospitalizations for beneficiaries in Track 1 practices (-0.7 percent; $p = 0.17$). In Track 2,

CPC+ also slowed the average growth rate of billable ambulatory primary care visits by about 1 percent over the three years. There was no discernable effect on ambulatory primary care visits for Track 1 practices. CPC+ did not impact ambulatory specialty care visits or urgent care center visits in either track in the first three years.

- **Expenditures.** Over the first three years, CPC+ did not impact expenditures for usual services (excluding CMS's enhanced payments). However, CPC+ increased expenditures by 2 percent for Track 1, and 3 percent for Track 2, when including those enhanced payments. This increased spending on primary care from the CPC+ enhanced payments accounted for nearly all of the increase in Medicare costs.
- **Quality of care.** There were small improvements of one percentage point or less on selected claims-based quality measures in both tracks. Improvements included increases in (1) the percentage of beneficiaries with diabetes who received various recommended services, (2) the percentage of female beneficiaries who received breast cancer screening, and (3) measures of patient and caregiver engagement (the percentage of beneficiaries who received hospice services and the number of days of hospice use among those using hospice). For some measures, there was little room for improvement, so it was not surprising that impacts were small; for example, more than 90 percent of beneficiaries with diabetes received an HbA1c test in the year before CPC+ began. However, for most 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+. CPC+ did not impact hospital readmission rates; continuity, fragmentation, or comprehensiveness of care; or mortality in the first three years.
- **Patient experience.** Compared to Medicare FFS beneficiaries in similar practices, in PY 3, beneficiaries served by CPC+ practices reported similar experiences with most aspects of care covered in the CPC+ Beneficiary Survey. The exception was that beneficiaries served by Track 2 CPC+ practices were more likely to report that they received timely follow-up after a hospitalization than beneficiaries in similar practices that were not participating in CPC+ (62 versus 52 percent). These findings were consistent with those in PY 2.
- **Differences by track.** We also looked at the differences in the impacts of CPC+ between the two tracks. Track 2 practices had more favorable effects on hospitalizations than Track 1 practices, where there were no effects. However, Track 2 practices also had a slightly larger increase in expenditures including enhanced payments than Track 1 practices, reflecting CMS's larger care management fees. Practices in both tracks had similarly small improvements in quality-of-care measures.

One explanation for the differences between tracks could be that the larger care management fees and more advanced care delivery requirements enabled Track 2 practices to improve care delivery more than Track 1 practices, which might have led to slightly better service use outcomes. However, these fees also led to slightly larger increases in expenditures with enhanced payments in Track 2.

- **Differences by SSP status.** Over the first three program years, non-SSP practices had larger increases in Medicare expenditures, relative to comparison practices, than SSP practices. For expenditures without enhanced payments, CPC+ increased expenditures for non-SSP practices in Track 1, relative to comparison practices. In contrast, we did not find any effects

for SSP practices in either track, or for non-SSP practices in Track 2. For expenditures including enhanced payments, both non-SSP and SSP practices experienced increases, but the increases were larger for non-SSP practices in both tracks. However, non-SSP practices had slightly more favorable effects on quality-of-care outcomes than SSP practices.

- **Possibilities for cost neutrality.** The persistence of small, favorable effects on ED visits in both tracks and the emergence of reductions in hospitalizations in PY 3 for Track 2 practices are promising. However, these effects would need to grow over time for CPC+ to achieve cost neutrality or generate savings during the next two years. Although CPC+ has reduced the rate of ED visits consistently in the three intervention years in both tracks, the magnitude of the effects was less than 2 percent and did not translate to reductions in expenditures on these visits. Further, expenditures on ED visits constitute a very small fraction of total expenditures (approximately 3 percent). So even if expenditures on these visits had decreased, it is unlikely that they would have produced appreciable reductions in overall Medicare expenditures, even without enhanced payments. The favorable reductions in hospitalizations in Track 2 that emerged in PY 3 were associated with a small decline in inpatient expenditures. However, these were not large enough to lead to statistically significant favorable reductions in overall expenditures without enhanced payments. Similarly, we studied the longer-term effects of participation in a primary care model over six years—four years of the CPC Classic initiative that preceded CPC+ and, for most practices, the first two years of CPC+. We found reductions in hospitalizations emerged in the fifth and sixth years, but no effects on overall expenditures.
- **Challenges for the model.** Factors beyond a primary care practice’s control influence outcomes and could prevent CPC+ from achieving cost neutrality, even if primary care practices fully implement the Comprehensive Primary Care Functions. First, specialists and hospitals operating in a largely FFS payment system have incentives to deliver high-volume, high-cost care that can be a barrier to reducing Medicare expenditures. This underscores the need to engage other providers alongside CMS’s continuing efforts to bolster primary care to progress toward a high-functioning health care system. Second, other contextual factors like social determinants of health and patient preferences could limit the degree that patients engage with improved primary care and therefore alter their behavior and outcomes. Third, as practices make improvements in primary care delivery, expenditures could increase due to costs of expanded screening and treating previously undiagnosed conditions.
- **Future reports.** We will continue to assess the implementation and impacts of CPC+ and develop insights for future initiatives. The final two evaluation reports will track model progress and whether the small favorable effects of CPC+ on Medicare FFS beneficiaries grow as participating practices continue to implement CPC+, and as practice changes affect patients’ experience of care, health, service use, and cost. We will take into account how disruptions caused by the coronavirus disease 2019 (COVID-19) pandemic might not only affect patients’ use of health care services, but also impede practices from successfully implementing the model and prevent them from fully achieving the CPC+ functions and intended outcomes. Finally, we will continue to identify practices and approaches to care delivery that improve outcomes, even if CPC+ does not ultimately do so for all practices.

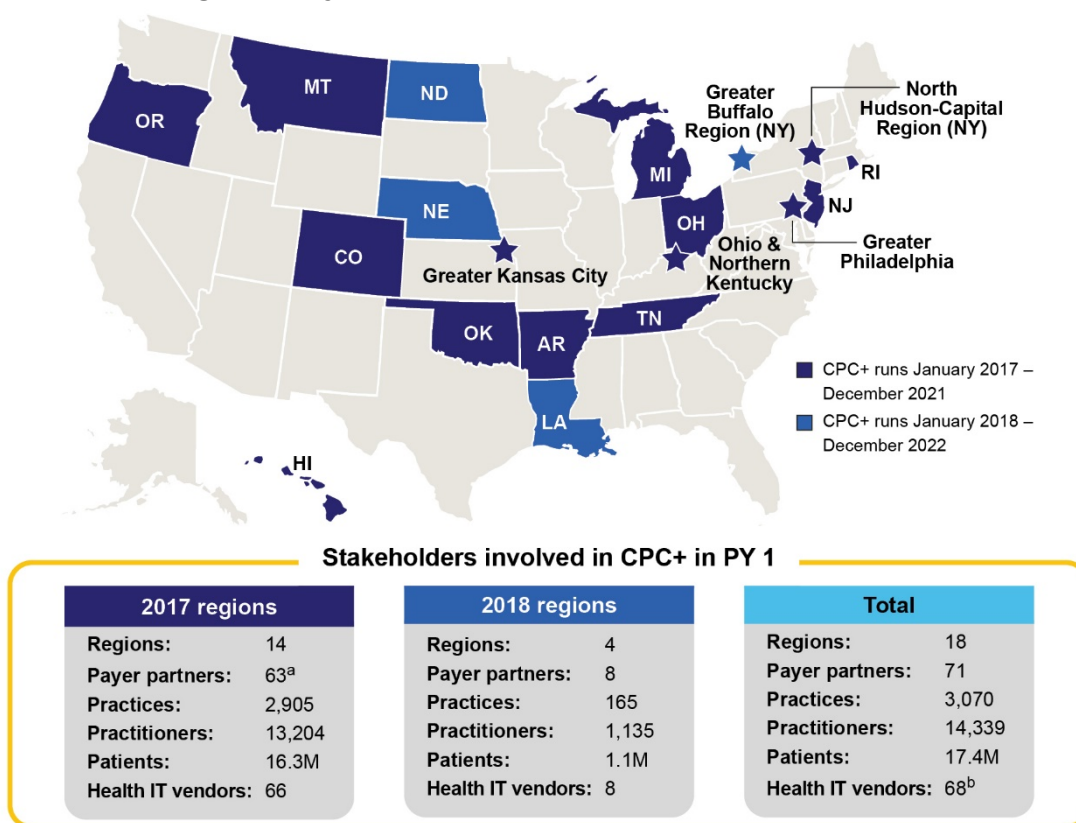
This page has been left blank for double-sided copying.

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 & 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. 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+ will run for five years. 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).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. An additional eight payer partners joined CPC+ in PY 2 in the regions that started in 2017.

^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 offers CPC+ practices 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 or assign to CPC+ practices.

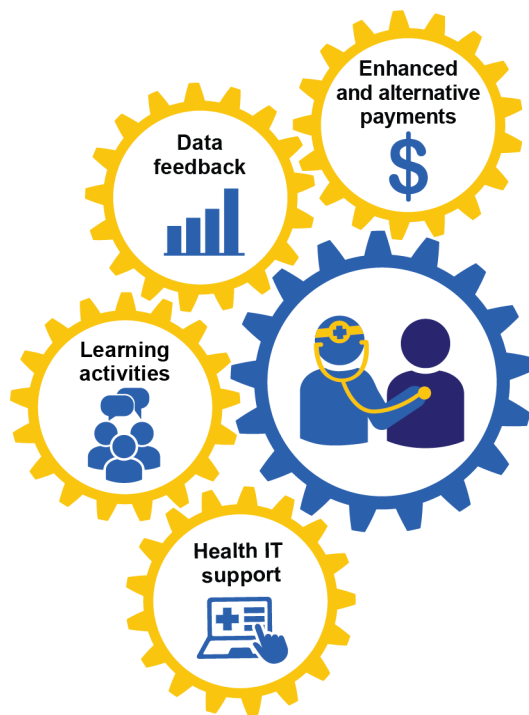
CPC+ supports. To support practices in delivering advanced primary care, CPC+ provides enhanced and alternative payments, data feedback, and individualized and group learning supports, and requires Track 2 practices to partner with vendors to meet advanced health IT functionalities (technology to support 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 they cannot 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



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.

produce a single report or tool—or both. To streamline practices’ review and make data more 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.

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

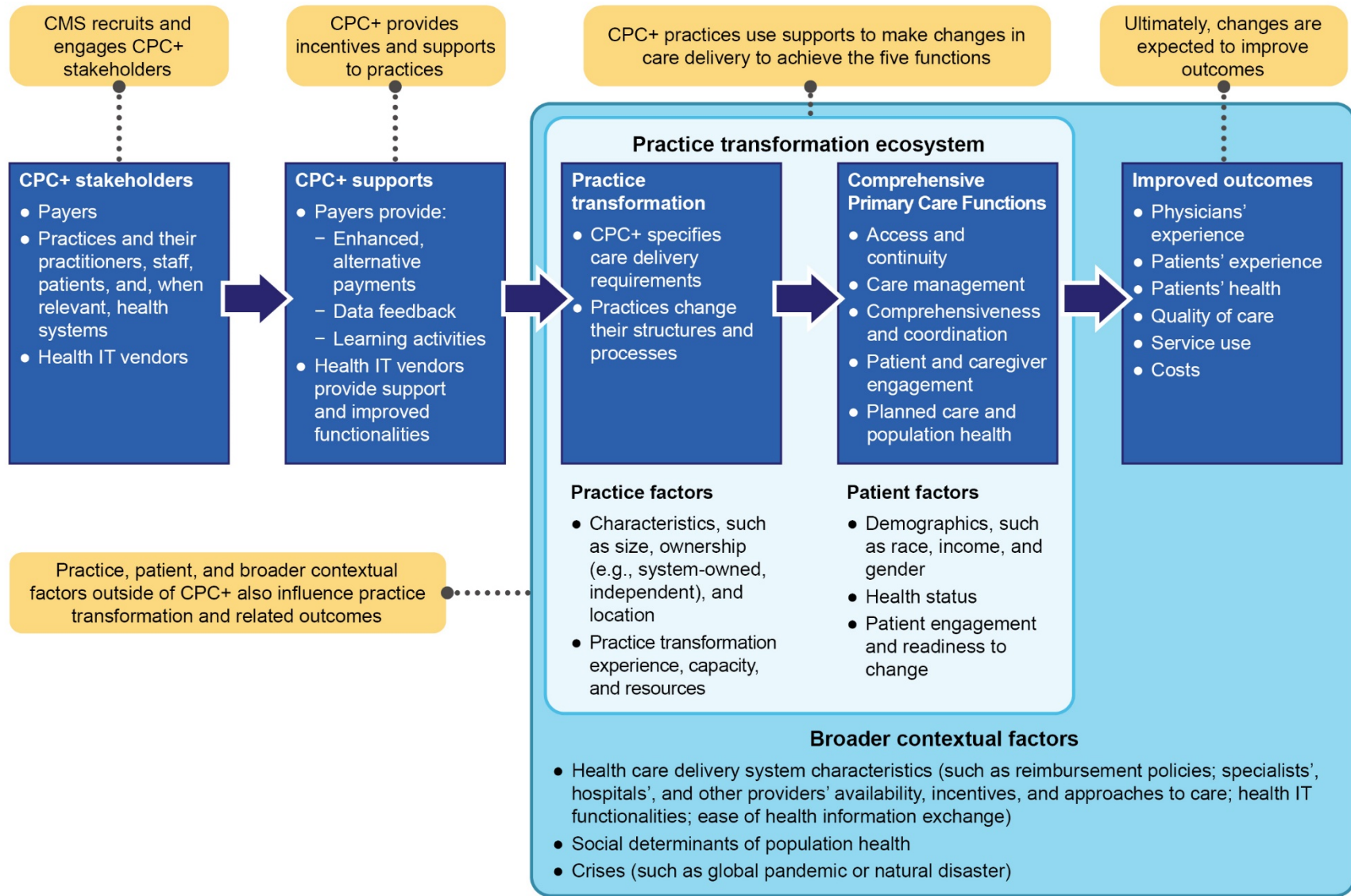
1.2.1. CPC+ evaluation logic model

Primary care practice transformation is a complex process that takes time to implement. 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 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).

Given the complexity of primary care practice transformation, we did not expect to see favorable effects of CPC+ on Medicare expenditures for patients enrolled in Medicare FFS during the first three years. Researchers and practitioners have indicated that it takes time to transform primary care and shift patient outcomes (Appendix 5.F; Nutting et al. 2009; Crabtree et al. 2011; McNellis et al. 2013; Peikes et al. 2020; Burton et al. 2018; Song et al. 2014). If CPC+ is being implemented as intended, we might expect to see improvements in the first three 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).

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, 2, and 3. (PY 1: September–November 2017; PY 2: September 2018–January 2019; PY 3: September–December 2019.)
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 from October through December of PYs 1, 2, and 3. Interviewed all payer partners in person in PY 1, 8 newly joined payer partners by phone in PY 2, and 21 payer partners by phone in PY 3.
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.
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.
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+, on an ongoing basis.
+ 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 through February of PY 2; and 12 of these 13 vendors in September through October of PY 3.
+ CPC+ practices' progress, experiences, and perspectives on CPC+		
CPC+ Practice Survey	To understand how CPC+ and comparison practices changed care delivery, and how CPC+ practices perceived CPC+.	Surveyed all CPC+ and comparison practices in March through September of PY 1, CPC+ practices only in June through September of PY 2, and CPC+ and comparison practices in July through November of PY 3. 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 at CPC+ and comparison practices in August through December of PY 3. We received survey responses from approximately 4,600 physicians who represented nearly 80 percent of CPC+ practices and 60 percent of comparison practices.

Table 1.2. (continued)

Data source	Purpose	Sample and timing
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, and twice a year in PY 3; (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, 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 through May of PY 1, and 59 practices by phone in March through May of PY 2. This included interviews with 57 physicians at 57 of these CPC+ practices in PY 2.
Interviews with practices that exited CPC+	To understand reasons for exiting CPC+.	Interviewed a sample of practices that exited CPC+, on an ongoing basis.
 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 during 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 through December of PY 2 and February through May of PY 3. We received survey responses from approximately 17,000 beneficiaries in PY 2 and 14,000 beneficiaries in PY 3. Survey respondents represented roughly 80 percent of CPC+ practices and more than 40 percent of comparison practices each year.
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 from October through December of PY 3.

Note: We provide the survey instrument, details about survey administrations, and data tables for the payer survey (in Appendix 3.A), practice survey (in Appendix 3.B), physician survey (in Appendix 3.C), and beneficiary survey (in Appendix 5.A). 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 provides the interview protocol and details about the in-depth study of patient experiences with care management. Appendix 4.C provides details on the study of practices' care management strategies. Appendices 5.B–5.D provide additional details on the methodological approach for the impact evaluation related to attribution, claims-based measures, and regression analysis. Appendices 5.E–5.H 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 used for a sensitivity analysis, and fragmentation of care over time.

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.

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+ three 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 3, which coincides with calendar year 2019, and we highlight new findings and changes from PYs 1 and 2. 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 this report, we describe stakeholder involvement (Chapter 2), practice transformation supports (Chapter 3), and changes in care delivery (Chapter 4). We also track the mid-model impacts of CPC+ on key claims-based outcomes, including Medicare expenditures, utilization, and quality of care, and survey-based patient-experience outcomes, for patients enrolled in Medicare FFS (that is, Medicare FFS beneficiaries) (Chapter 5). Future reports will cover the remaining two years 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 Third Annual Report (Orzol et al. 2021) provide additional information about the topics covered in this report.
- Earlier reports cover the first and second program years (Peikes et al. 2019a and Anglin et al. 2020), 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).

This page has been left blank for double-sided copying.

2. CPC+ PARTICIPATION AND PARTNERSHIP: INVOLVEMENT IN CPC+ REMAINED STEADY FROM PY 1 TO PY 3



Key takeaways

In the 14 regions that began CPC+ in 2017, the focus of this report, CMS partnered with 63 private and public payers and 66 health IT vendors in PY 1 and an additional 8 payers in PY 2 to support the efforts of 2,905 practices to achieve the Comprehensive Primary Care Functions. Involvement from these key stakeholders has remained high over the first three program years. By the end of PY 3, CMS was partnering with 60 payers and 56 vendors to support 2,675 primary care practices serving nearly 15.6 million patients.

The CPC+ practices participating at the end of PY 3 continue to be diverse. They range from small (one to two practitioners) to large (six or more practitioners); include independent and system-owned practices; are located in rural, urban, and suburban areas; and have varying levels of prior primary care transformation experience.

2.1. Payer partners

\$ Since CPC+ began, CMS has partnered with 71 private and public payers to bolster support for practices in the regions that began CPC+ in 2017—the focus of this report. Sixty-three of these payer partners joined in January 2017 and the remaining 8 joined in January 2018.³

2.1.1. Payer partnerships over time

At the end of PY 3, 60 (or 85 percent) of the 71 payer partners were still partnering in these regions (Table 2.1). These 60 payer partners accounted for 99 percent of all lives (or people) attributed to practices at the beginning of CPC+. The other 11 payer partners withdrew from CPC+; 2 did so in PY 1, 5 in PY 2, and 4 in PY 3. These 11 payer partners were small and had few or no lives attributed to CPC+ practices, and many of them operated in only one region.⁴

³ Payer partners are entities—such as health insurance companies and governments—that pay providers for health care services. We use the term “payer partners” to refer to non-CMS payers that partner with CMS in CPC+. The total numbers of payer partners in this report and on the CMS CPC+ website differ because, for the purposes of the evaluation, payers are counted separately for each region in which they partnered since some payers that partner in multiple regions vary their CPC+ approach across regions. However, CMS counts multi-region payers only once and reports the number of partnerships to date.

⁴ 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.

Table 2.1. Number of payer partners, by program year

Eleven small payer partners withdrew from CPC+ during the first three program years. At the end of PY 3, 60 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
CPC+ payer partners			
Payers that joined CPC+ in 2017 (PY 1)	63 ^a	56	55
Payers that joined CPC+ in 2018 (PY 2)	n.a.	8	5
Total number of payer partners	63	64	60
Single versus multi-regional presence			
Payers partnering in one region	47	43	43
Payers partnering in more than one region ^b	16	21	17
Number of unique payers partnering in multiple regions	5	6	5

Source: Mathematica's analysis of PY 1, PY 2, and PY 3 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 PY 2 or payer partners that withdrew from CPC+ (two payer partners in PY 1, five in PY 2, and four in PY 3).

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

^b 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.

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

2.1.2. Characteristics of the payer partners

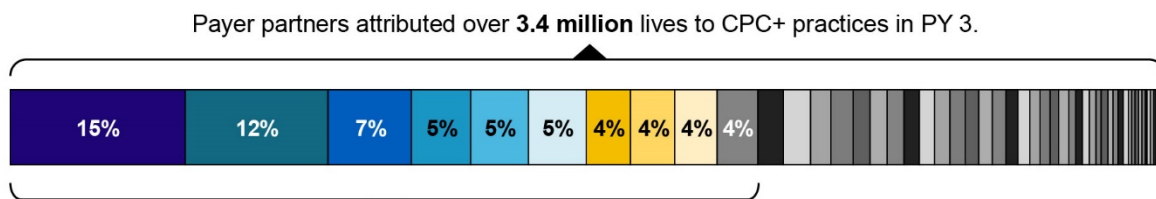
In PY 3, 62 percent of payer partners included more than one line of business in CPC+. The most common lines of business were commercial insurance (offered by 62 percent of payer partners) and Medicaid managed care (offered by 51 percent of payer partners).

A small number of CPC+ payer partners accounted for a large share of the lives attributed to CPC+ practices.⁵ The 10 largest payer partners accounted for nearly 2.2 million lives, or 65 percent of the nearly 3.4 million lives attributed to CPC+ practices by non-Medicare FFS payer partners (Figure 2.1). Each of these large payer partners attributed more than 100,000 lives to CPC+ practices in PY 3, with a median of approximately 168,000 attributed lives.

⁵ CMS is the payer with the most attributed lives in CPC+. In PY 3, CMS attributed 1.9 million lives to CPC+ practices. Figure 2.4 shows all patients served by CPC+ practices, regardless of attribution.

Figure 2.1. Percentage of total lives that each of the 60 payer partners attributed to CPC+ practices in PY 3

Consistent with the first two program years, in PY 3, the 10 largest payer partners together attributed 2.2 million, or 65 percent, of the 3.4 million lives attributed to CPC+ practices.



The 10 largest payers attributed nearly **2.2 million**, or **65 percent**, of the lives attributed by non-CMS payers.

Source: Mathematica's analysis of PY 1, PY 2, and PY 3 practice-reported financial data submitted to CMS.

Note: N = 2,675 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.

2.2. Practices



Of those that applied, CMS invited practices that provide primary care from selected regions to join CPC+ in 2017. Practice participation in CPC+ remained high across the first three program years and the practices continued to be diverse.

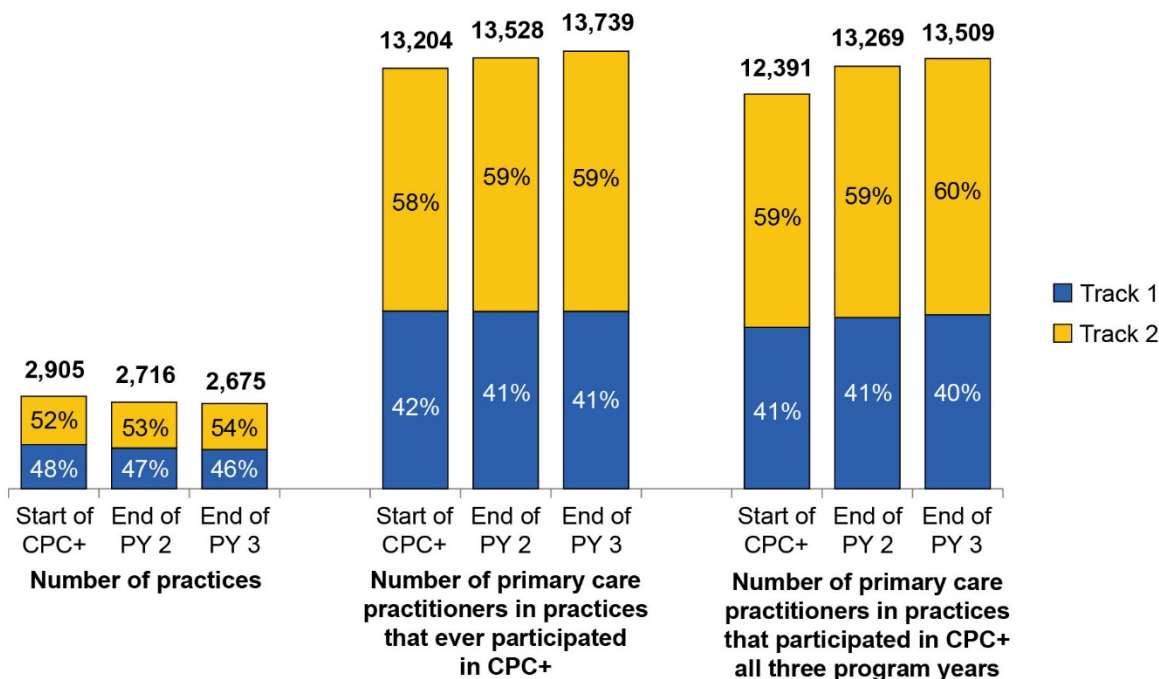
2.2.1. Practice participation over time

In PY 1, 2,905 practices joined CPC+. In PY 3, CMS added 59 practices that were already participating but had mistakenly applied as a single site despite having multiple locations, and 15 practices that split from other CPC+ practices to form their own practices. During the first three program years, 304 practices (or 10 percent) have withdrawn from CPC+, averaging about 100 practices per year. At the end of PY 3, 2,675 practices were participating in CPC+.

Although the number of practices participating in CPC+ has decreased over time, the total number of primary care practitioners in CPC+ has increased (Figure 2.2). There were 13,204 primary care practitioners at the start of CPC+ and 13,739 at the end of PY 3. Among the 2,605 practices that participated in CPC+ all three years, the number of primary care practitioners increased from 12,391 at the start of CPC+ to 13,509 at the end of PY 3. Three-quarters of this increase was from practices adding non-physician practitioners (nurse practitioners [NPs], physician assistants [PAs], and clinical nurse specialists [CNSs]).

Figure 2.2. Number of participating practices and primary care practitioners in PYs 1, 2, and 3, by track

Practice and practitioner participation remained high in each track for the first three years of CPC+. At the end of PY 3, 2,675 practices were participating in CPC+.^a



Source: Mathematica's analysis of PY 1, PY 2, and PY 3 CPC+ practice tracking data provided by CMS.

Notes: N = 2,979 CPC+ practices.

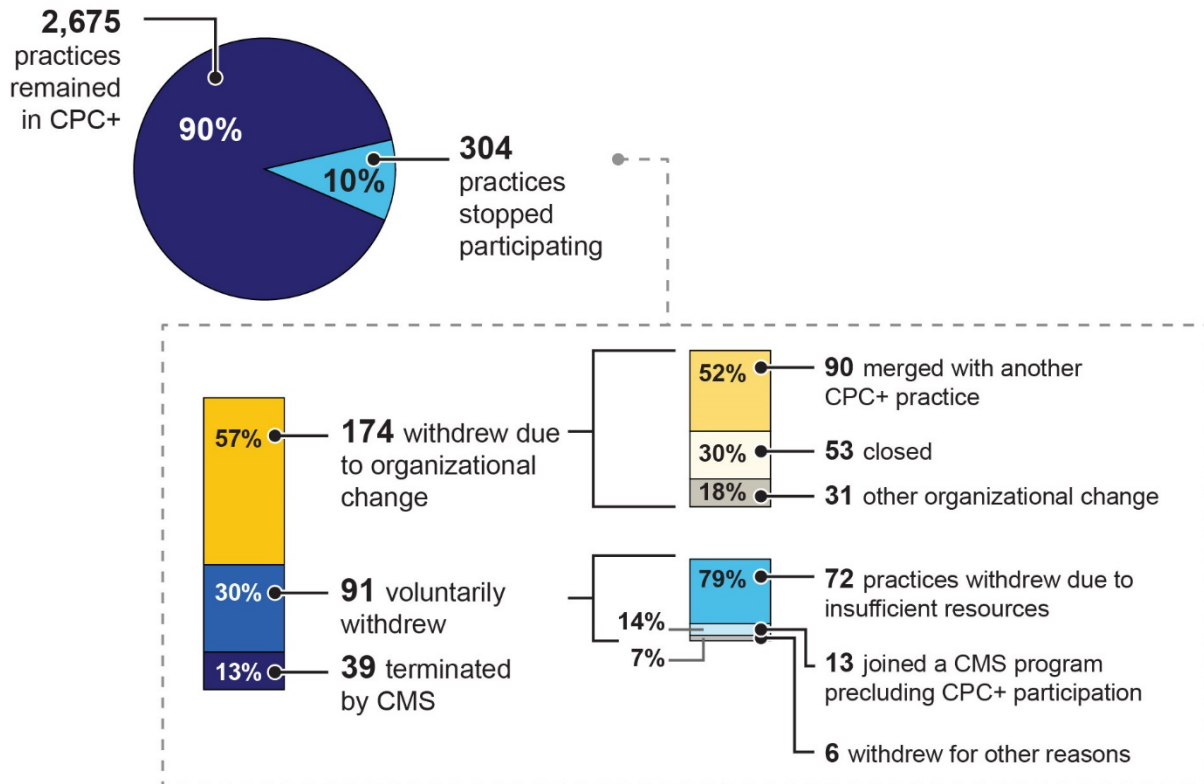
^a Beginning with this third annual report, we use a different method to count practices that withdrew from CPC+ on the last day of a program year. In previous annual reports, we would have counted a practice that withdrew on December 31, 2019, as withdrawn in PY 3 (2019); we now count the practice as remaining in CPC+ for the full program year to align with other analyses on CPC+ participation.

PY = Program Year.

Most withdrawals were due to organizational changes. Of the 304 practices (or 10 percent) that withdrew from CPC+ by the end of the third program year, 174 withdrew due to an organizational change, such as closing, merging with another practice, being acquired by another organization, or adopting a concierge model that prohibits them from participating in CPC+. Ninety-one practices voluntarily withdrew from CPC+, most commonly citing insufficient resources, such as financial, staffing, or IT resources, to continue participating. The remaining 39 practices were terminated by CMS for failing to comply with CPC+ requirements (Figure 2.3).

Figure 2.3. Reasons practices stopped participating in CPC+ during the first three program years

More than one-half of the practices that stopped participating in CPC+ did so due to an organizational change. About one-third voluntarily withdrew, most commonly due to insufficient resources to continue participating. The remaining 13 percent of practices were terminated by CMS.



Source: Mathematica’s analysis of PY 1, PY 2, and PY 3 CPC+ practice tracking data provided by CMS.

Note: N = 2,979 CPC+ practices.

In PY 3, we expanded our definition of organizational change to include other withdrawal reasons in addition to closures and mergers with CPC+ practices, such as merging with a non-CPC+ practice, being acquired by another organization, or adopting a concierge model. However, the main reasons for withdrawal were closures and mergers: 82 percent of practices that withdrew from CPC+ due to an organizational change in PY 2 and PY 3 did so because they closed or merged with another CPC+ practice.

CPC+ practices served approximately 15.6 million patients in PY 3. This number is down slightly from the 16.3 million patients at the start of CPC+. The 15.6 million total includes about 1.9 million Medicare FFS beneficiaries and 3.4 million patients attributed to CPC+ practices by payer partners (Figure 2.4). The remaining 10.3 million patients were uninsured, insured by non-partnering payers, or insured by partnering payers but attributed to a non-CPC+ practice.⁶

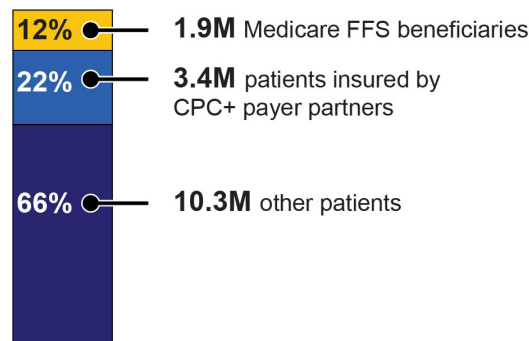
2.2.2. Characteristics of the participating practices

CPC+ includes a diverse group of practices (Figure 2.5) whose characteristics have remained consistent from PY 1 through PY 3. At the end of PY 3:

- **Practices varied by ownership and geographic location.** About one-half of Track 1 and Track 2 practices were owned by hospitals or health systems, and about three-quarters of practices in each track were in urban areas.
- **Track 2 CPC+ practices were slightly larger on average than Track 1 practices.** About one-third of Track 1 CPC+ practices are small (one to two primary care practitioners) and about one-quarter are large (six or more primary care practitioners). About one-quarter of Track 2 practices are small and about one-third are large. CPC+ practices had on average 4.5 and 5.5 primary care practitioners per Track 1 and Track 2 practice, respectively.
- **Many Track 1 and Track 2 practices had experience with other care transformation initiatives.** Before joining CPC+, 48 percent of Track 1 practices and 72 percent of Track 2 practices had participated in prior primary care transformation initiatives.⁷ In addition, in PY 3, 52 percent of Track 1 practices and 39 percent of Track 2 practices concurrently participated in the Medicare Shared Savings Program (SSP) and CPC+.⁸

Figure 2.4. Patients served by CPC+ practices in PY 3

CPC+ practices served nearly **15.6 million** patients in PY 3.



Source: Mathematica's analysis of PY 1, PY 2, and PY 3 practice-reported financial data submitted to CMS.

Note: N = 2,675 CPC+ practices that were participating at the end of PY 3.

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

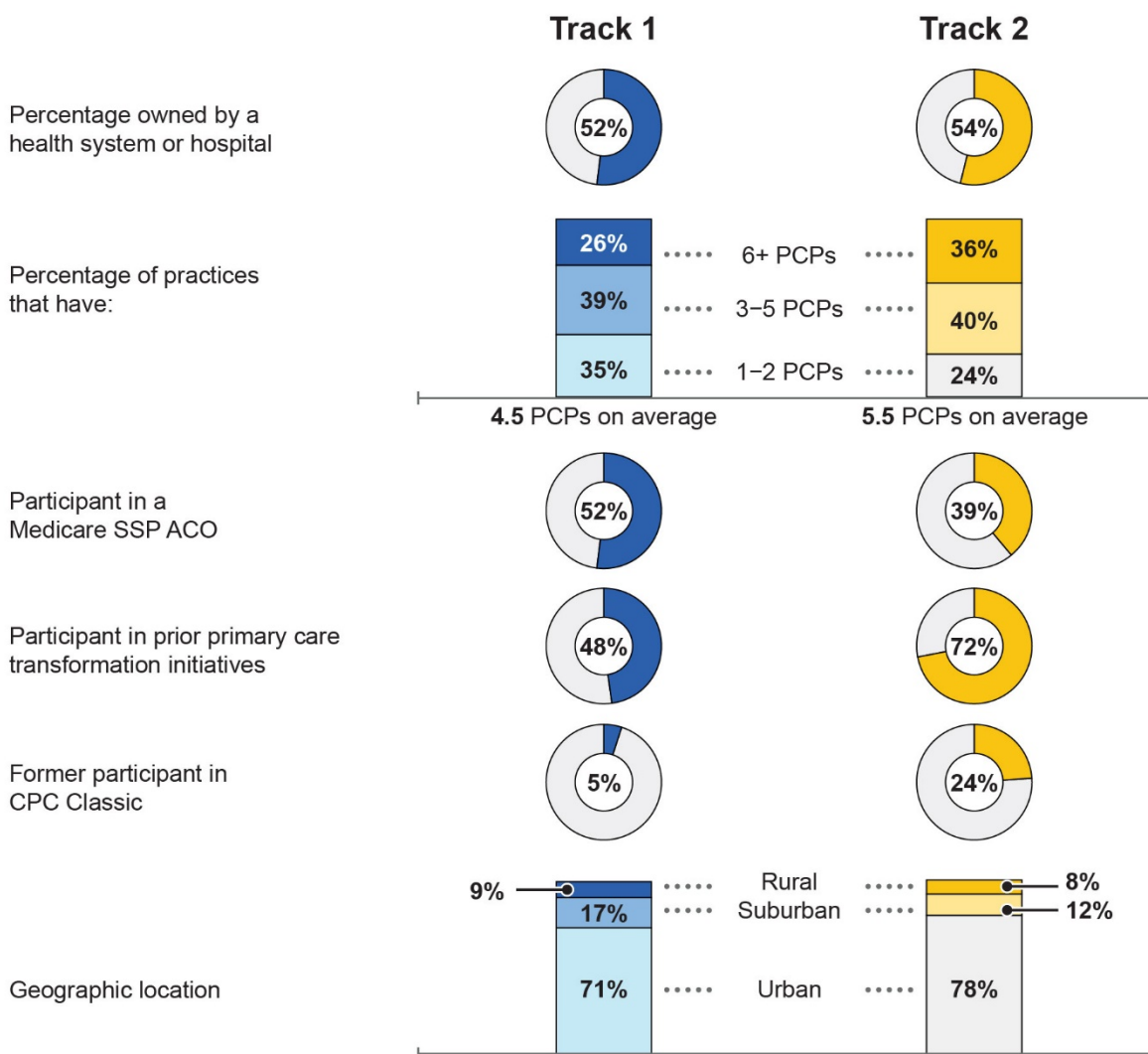
⁶ Partnering payers may use rules for patient attribution that are different from those CMS uses.

⁷ 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, Accreditation Association for Ambulatory Health Care, Utilization Review Accreditation Commission, or state medical-home recognition status).

⁸ CPC+ practices may belong to an accountable care organization that participates in SSP, which is another CMS model. As described in Chapter 3, Medicare FFS rewards CPC+ practices for their performance on cost, utilization, and quality measures differently based on whether or not they also participate in SSP.

Figure 2.5. Characteristics of practices that participated in CPC+ through the end of PY 3, by track

CPC+ continued to serve a diverse set of practices at the end of PY 3. Practices in both tracks were of all sizes and were located in rural, urban, and suburban areas; many had prior transformation experience. Track 2 practices were slightly larger on average, less likely to be in SSP, and more likely to have participated in CPC Classic or other primary care transformation activities before CPC+.



Source: We measured the time-varying practice characteristics of practice size, SSP participation status, and ownership status at the end of PY 2 to capture practices' characteristics at the start of PY 3. We measured geographic location and prior primary care transformation experience before CPC+ began because these characteristics are unlikely to change or will not 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 31, 2018) and SSP participation status (as of January 2019), (2) SK&A data for ownership status (as of October 2018), (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+ (2016).

Note: N = 2,675 CPC+ practices (1,229 Track 1 practices and 1,446 Track 2 practices) that were participating at the end of PY 3. Individual percentages may not sum to 100 percent due to missing data. For a definition of "participation in prior primary care transformation," please refer to footnote 7. We considered a practice to have participated in CPC Classic if it enrolled in CPC Classic and did not drop out within the first five months of CPC Classic.

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



Closer look: Characteristics of practices that withdrew or were terminated from CPC+

This box focuses on the characteristics of the 4 percent of practices (130 practices) that were no longer participating in CPC+ by the end of PY 3, because they had voluntarily withdrawn or were terminated by CMS. Although the rate of practice withdrawals and terminations is low, compared with practices that remained in CPC+ these practices were more likely to:

- Be Track 1 practices (76 versus 46 percent),
- Be independent (74 versus 44 percent),
- Have one to two primary care practitioners (64 versus 31 percent), and
- Indicate that the care delivery reporting requirements were very burdensome (44 versus 18 percent).

These practices were less likely to:

- Have primary care transformation experience before CPC+ (37 versus 63 percent) and
- Report that CPC+ improved the quality of care they provided to patients (23 versus 54 percent).

Total payments 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, \$52,000 versus \$92,000; for Track 2, \$117,000 versus \$203,000).
- However, median payments calculated per practitioner were comparable within the tracks (for Track 1, \$35,000 versus \$32,000; for Track 2, \$55,000 versus \$53,000).

2.3. Health IT vendors



CMS requires Track 2 practices to formally partner with health IT vendors via MOUs and to use advanced health IT functionalities to advance their work on the five Comprehensive Primary Care Functions. In addition, all CPC+ practices are required to use certified EHR technology and to report electronic clinical quality measures (eCQMs) to CMS.

2.3.1. Health IT vendor partnerships over time

In PY 1, Track 2 practices that joined CPC+ in 2017 partnered with 66 distinct health IT vendors. By the end of PY 3, the number of vendors in such partnerships decreased to 56. Changes in the number of vendors reflect several factors, including (1) CMS deferring some vendors' MOUs, because the health IT vendor no longer supported at least one Track 2 practice (due to practices deciding to no longer partner with the vendor), and (2) CMS rescinding some vendors' MOUs, because the health IT vendor no longer supported any Track 2 advanced health

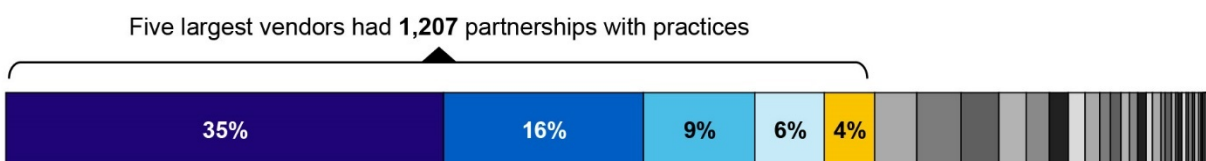
IT functionalities. In addition, some practices switched vendors: in PY 3, 3 percent of Track 2 practices changed vendors, decreasing from 10 percent in PY 2.⁹

Practices could partner with multiple vendors, but 85 percent of the Track 2 practices partnered with only one health IT vendor in PY 3, up from 73 percent in PY 1.

A small number of vendors accounted for most of the health IT vendor partnerships. The five largest health IT vendors at the end of PY 3 partnered with 82 percent of Track 2 practices, which is a small increase from 74 percent in PY 1 and similar to the 81 percent in PY 2.¹⁰ In PY 3, these five largest vendors together accounted for 1,207 partnerships with practices, which is 71 percent of all partnerships (Figure 2.6). In contrast, the 36 smallest vendors together accounted for 6 percent of all partnerships (they each worked with fewer than 10 Track 2 practices).

Figure 2.6. Percentage of partnerships with Track 2 practices that each vendor had during PY 3

The five largest vendors participated in a combined total of 1,207 partnerships, or 71 percent of all partnerships; together they partnered with 82 percent of Track 2 practices.



Source: Mathematica's analysis of PY 3 practice-reported health IT data submitted to CMS.

Note: N = 1,712 vendor partnerships with Track 2 practices. 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, 1,253 partnered with one health IT vendor, and 218 (15 percent) partnered with more than one health IT vendor. Since 15 percent of Track 2 practices worked with multiple vendors, the five largest vendors partnered with 82 percent of Track 2 practices, representing 71 percent of total partnerships. Individual percentages may not sum to totals due to rounding.

PY = Program Year.

2.3.2. Characteristics of the health IT vendors

The 56 health IT vendors that formally partnered with Track 2 practices in PY 3 offered a similar range of products to the vendors that partnered in PY 1 and PY 2. Fifty-seven percent of vendor partners offered a full-feature EHR, while 32 percent provided population health management, information exchange, and reporting. The remaining 11 percent of vendors offered narrower IT solutions (for example, software to help practices with regulatory compliance).

⁹ We planned to collect data from a sample of practices that had switched vendors to explore the motivation and effect of switching vendors in PY 3, but we were unable to do so because of the coronavirus disease 2019 (COVID-19) pandemic. We collected data from a sample of practices that switched health IT vendors in Summer 2020; we will summarize these findings in the fourth annual report.

¹⁰ The makeup of the five largest health IT vendors changed from PY 1 to PY 2, when two new vendors replaced two of the five largest vendors, and then remained the same from PY 2 to PY 3.

This page has been left blank for double-sided copying.

3. PAYER AND HEALTH IT VENDOR SUPPORT: PRACTICES CONTINUED TO RECEIVE SIGNIFICANT SUPPORT IN PY 3



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 meet advanced health IT functionalities. As in the first two program years, CMS and payer partners continued to provide robust supports to CPC+ practices in PY 3.

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 3, the median total enhanced payments CPC+ practices received continued to be substantial—\$136,201 per Track 1 practice and \$268,560 per Track 2 practice, or 10 and 15 percent of total practice revenue, respectively. As in PY 2, payments for participation in PY 3—mostly paid as care management fees—accounted for 90 percent of total enhanced payments. Care management fees—the dominant component of enhanced payments—remained stable from PY 1 to PY 3.¹¹ The remaining 10 percent of enhanced payments were payments for performance, which practices received only if they met cost, utilization, and/or quality targets.

Median payments were higher for Track 2 than Track 1 practices because CMS and about one-half of payer partners met 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 remained unchanged from 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.

As in PY 2, two-thirds of the total enhanced payments practices received in PY 3 were unique to CPC+, whereas the remaining one-third 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 (92 percent in PY 3), 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.

About one-half of all CPC+ practices reported on the PY 3 Practice Survey that they considered CPC+ payments from CMS adequate or more than adequate for the work CPC+ required. A smaller proportion (40 percent) rated payer partners' payments adequate or more than adequate. However, even among the 37 percent of practices that rated payments from both CMS and payer partners as inadequate, 85 percent still found these payments useful for improving primary care.

¹¹ 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 three program years, were stable across all three years.

Among practices eligible for CMS's prospectively paid, retrospectively reconciled Performance-based Incentive Payment (PBIP), total PBIP scores increased over the first three program years.¹² Low utilization scores in PY 1 improved markedly in both subsequent program years. Quality scores, already relatively high in PY 1, also improved substantially by PY 3.

Alternative payments. CMS and 17 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 3, 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.

Other CPC+ support that practices received. In PY 3, 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 85 percent of payer partners continued providing learning supports to CPC+ practices that supplemented CMS's learning supports. In PY 3, CMS shifted CPC+ learning content to focus on improving patient outcomes, rather than process measures that gauged whether practices met CPC+ care delivery requirements, and emphasized peer learning to engage as many CPC+ practices as possible. Health IT vendors continued to expand the CPC+ functionalities they offered in PY 3, making many of these improvements available to both CPC+ practices and non-CPC+ practices.

Usefulness of CPC+ supports. As in prior years, CPC+ practices continued to rate these supports as useful in improving primary care, though they reported that health IT vendor support was less useful than payment, data feedback, and learning supports. Fewer practices reported using cost data, relative to utilization and quality data, to help them make changes to care delivery.

¹² Total PBIP scores, which consist equally of utilization and quality components, represent the percentage of maximum PBIP payments that practices were able to retain.

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. Payer partners 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 visits. Payers then reduce or eliminate FFS payments. These payments aim to increase practices' flexibility to deliver services or 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 alternative to FFS payments at the start of CPC+, and all payer partners committed to doing so by the start of PY 2.
- *Data feedback* on utilization of services and/or total cost-of-care measures at least quarterly for practices in both tracks. Payer partners could 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. Payer partners also agreed to 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 PBIPs 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 meeting 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, including the CPC+ Payer Partner Survey, Practice Survey, and Physician Survey; interviews with CMS, contractors, payer partners, exiting payers and vendors, a sample of 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 our analysis and reporting of results.

Data on supports

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

Interviews with data aggregators. We conducted interviews with the five organizations responsible for producing aggregated data feedback reports in five CPC+ regions. We also collected data about the structure and content of current or proposed aggregation tools in eight regions (those with active or future aggregation efforts).

CMS data feedback tool usage data. We analyzed monthly data usage to understand how CPC+ practices use the CMS data feedback tool. These findings include the 2,340 practices (79 percent of all practices) that accessed the tool at least once in PY 3.

Interviews with learning contractors. We conducted 16 interviews with representatives from CMS, the National Learning Team, Regional Learning Network (RLN), practice facilitators, Regional Collaborative Facilitators, and the CPC+ Help Desk about the implementation of CPC+ learning activities in PY 3. We also analyzed regional learning plans and practice coaching log data to understand the coaching CPC+ practices received in PY 3.

Interviews with health IT vendors. We conducted 12 interviews with health IT vendors about the functionalities and support they provided to CPC+ practices.

Data analysis and reporting

Characterizing interview data. When reporting findings from qualitative interviews with deep-dive practices, payer partners, and health IT vendors, 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 our substantial sample size and the large number of variables included in our analysis, we may observe small, random differences in responses over time and between subgroups of practices. 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

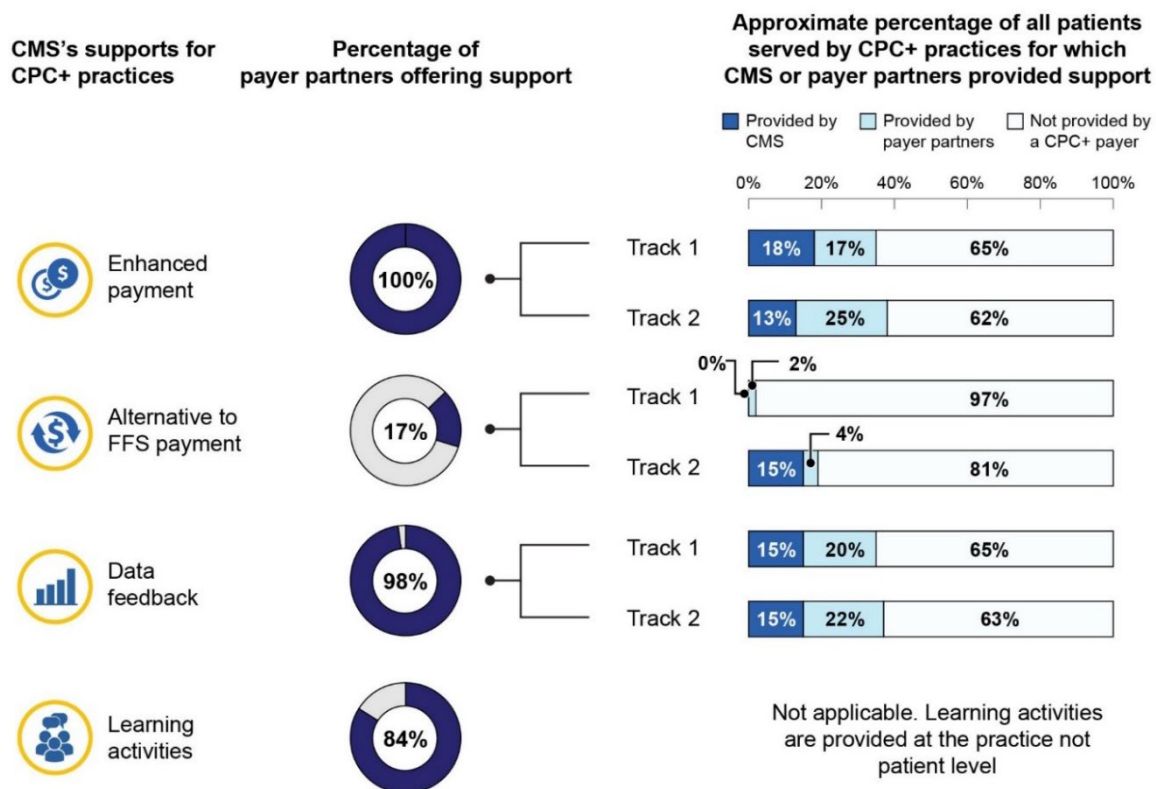
\$ We now turn from discussing how CMS and payer partners intended to provide CPC+ supports to practices to describing how these supports were implemented in PY 3, and how that compares to their implementation in the first two program years. In PY 3, CMS provided learning and data feedback support to 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*, 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.¹³ In contrast, 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. We analyzed the availability of each type of support from payers, and the approximate proportion of patients receiving supports (Figure 3.1).

Figure 3.1. Availability of CPC+ supports from CMS and payer partners in PY 3

CMS and all payer partners provided enhanced payments to practices, and most provided data feedback and learning supports. Fewer payer partners provided alternative to FFS payments.

Correspondingly, CPC+ practices received enhanced payments and data feedback from CMS and payer partners for about one-third of all patients they served. Practices received alternative to FFS payments for 2 percent of patients in Track 1 practices and 19 percent of patients in Track 2 practices.



Source: Mathematica’s analysis of data from the independent evaluation’s PY 3 CPC+ Payer Survey and PY 3 practice-reported financial data submitted to CMS.

Note: This analysis included 53 payer partners. We excluded seven payer partners from the analysis; five did not complete the PY 3 CPC+ Payer Survey and two did not have contracts with any CPC+ practices and, thus, could not provide CPC+ supports. The 53 payer partners included in this analysis covered 99 percent of payer partners’ attributed lives in PY 3.

The analysis included 1,233 Track 1 practices and 1,462 Track 2 practices. Track 1 practices reported serving 9,062,065 total patients and Track 2 practices reported serving 6,514,948 total patients in PY 3.

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

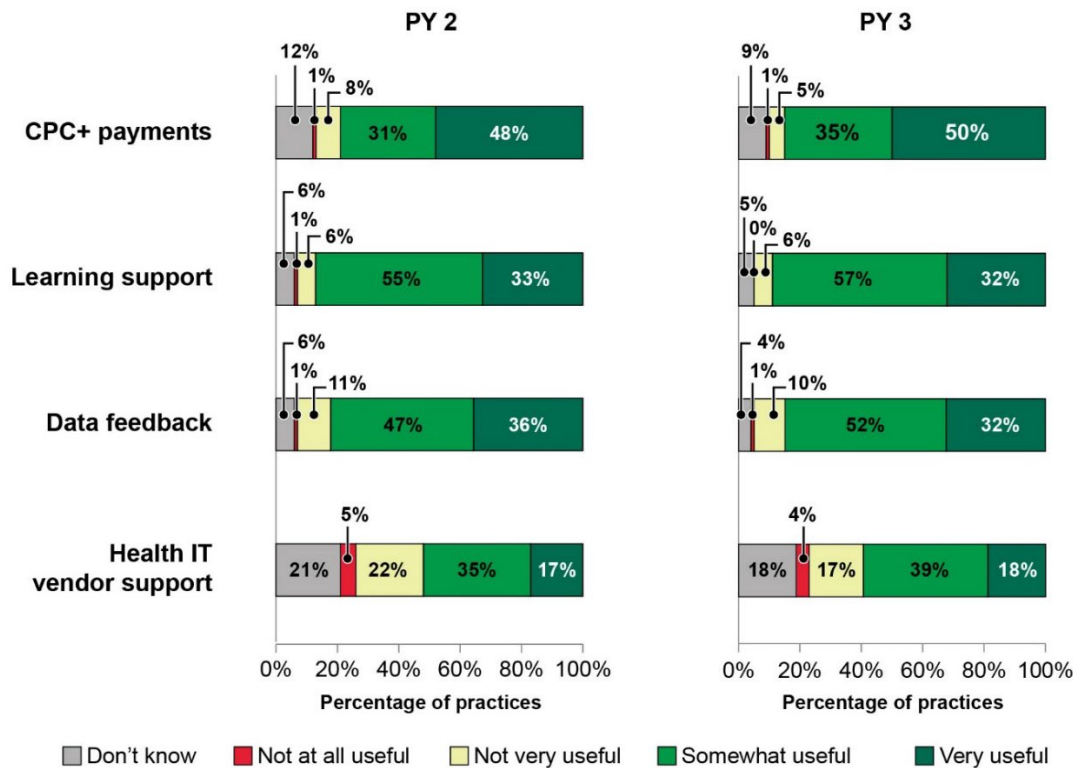
¹³ Some patients a practice serves may not be attributed by any CPC+ payer partner if these patients were (1) uninsured, (2) insured by a non-partnering payer, or (3) insured by a partnering payer but not attributed to the practice (for example, if they saw another practice more frequently or more recently). Although the intervention targets all patients the participating practices serve, we estimate impacts in Chapter 5 exclusively for the Medicare FFS beneficiaries.

CPC+ practices received enhanced payments and data feedback for about one-third of all patients they served. Only 17 percent of payer partners provided alternative payments and, correspondingly, practices received alternative payments for a smaller proportion of their patients (about 11 percent of all patients served across practices in both CPC+ tracks).

CPC+ practices continued to report on the PY 3 Practice Survey that the supports were useful in improving primary care, though they reported that payment and data feedback supports were most useful and health IT supports were least useful. Although 37 percent of practices rated their CPC+ payments from both CMS and payer partners inadequate for the work CPC+ requires, 85 percent of all practices surveyed reported in PY 3 that these CPC+ payments were very or somewhat useful for improving primary care (Figure 3.2). Similarly, 84 percent of all practices surveyed indicated the data feedback they received in PY 3 was very or somewhat useful. Similar to PY 2, among practices that received each type of CMS learning support, more than 75 percent of practices reported finding it somewhat or very useful for improving primary care in PY 3. Relatively fewer practices found health IT vendor support useful, with 57 percent of all practices surveyed reporting that health IT vendor support was somewhat or very useful in improving primary care.

Figure 3.2. Practices’ ratings of the usefulness of CPC+ supports in PYs 2 and 3

Consistent with PY 2, over 75 percent of CPC+ practices reported that CPC+ payments, learning support, and data feedback were useful for improving primary care in PY 3. Fewer practices (less than 60 percent) reported that health IT vendor support was useful.



Source: Mathematica’s analysis of data from the independent evaluation’s PY 3 CPC+ Practice Survey.

Note: N = 2,610 CPC+ practices. Not all practices 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. Enhanced and alternative payments

In PY 3, CMS and all payer partners continued providing substantial enhanced payments to CPC+ practices.¹⁴ CMS provided alternative payments to all Track 2 practices. Only about one in six payer partners did so, and no payer partners introduced new alternative payment approaches in PY 3.

A. Enhanced payments



All payers continued providing substantial enhanced payments in PY 3. 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 two 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 3, CMS and 96 percent of payer partners continued to provide *both* types of enhanced payments, as expected by CMS.¹⁵

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

Care management fees remain the dominant form of payment for participation. In PY 3, CMS and 96 percent of payer partners continued to provide enhanced payments for participation in the form of care management fees (Figure 3.3).¹⁶ Care management fees 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. Three payer partners provided payments for participation using enhanced FFS payments, which increase claims payments by a set percentage.¹⁷

¹⁴ 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). The average QPP adjustment in PY 3 was \$2.20 per beneficiary per month (PBPM) for Track 1 practices and \$2.50 PBPM for Track 2 practices. 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.

¹⁵ Two payer partners provided only one type of enhanced payment: one payer partner provided payments only for participation, and the other provided payments only for performance.

¹⁶ 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.

¹⁷ Of these three payer partners, two used enhanced FFS payments *instead of* care management fees, while one used *both* enhanced FFS payments and care management fees.

Figure 3.3. Enhanced and alternative payment approaches used by CMS and payer partners in PY 3

CMS and 98 percent of payer partners offered CPC+ practices enhanced payments (for participation and performance), with the most common enhanced payments being offered in the form of care management fees (CMS and 96 percent of payer partners). Along with CMS, only 17 percent of payer partners offered an alternative payment approach in PY 3, which fell short of CMS's goal that all payer partners offer alternative payments by the start of PY 2.

Type of payment support	Used by CMS for Medicare FFS?	Percentage of payer partners using approach ^a (N=53)
Offer ANY type of payment support	✓	100%
<hr/>		
Enhanced payments for CPC+ participation^b	✓	98%
Care management fees, not adjusted based on practice performance	✓	60%
Care management fees, adjusted based on practice performance ^c		36%
Enhanced FFS payments, adjusted based on practice participation in CPC+ or another program		6%
<hr/>		
Enhanced payments for performance^b		98%
Bonus payments for performance, prospectively paid	✓ for non-SSP practices ^d	9%
Bonus payments for performance, retrospectively paid		72%
Retrospective shared savings payments	✓ for SSP practices ^d	60%
Enhanced FFS payments, adjusted based on practice performance ^d		2%
<hr/>		
Alternative to FFS payments^e	✓ for Track 2	17%

Sources: Mathematica's analysis of PY 3 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 53 payer partners in 2017 regions that responded to the survey. All percentages have a denominator of N = 53.

^b Three payer partners made enhanced FFS payments in PY 3. The first 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. The second adjusted its enhanced FFS schedule based on practice tiers and was classified as providing only enhanced FFS payment based on participation. The third adjusted its entire enhanced FFS schedule based on practice performance; we classified it 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 3, we excluded from the analysis the three payers that operated only small, pilot alternative payment programs (see footnote 30).

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

- ***CMS's care management fees.*** As in PYs 1 and 2, CMS 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.¹⁸ 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+. This payment amounted to an average of \$0.59 PBPM in PY 3 (an increase from \$0.22 in PY 1 and \$0.47 in PY 2).¹⁹
- ***Payer partners' care management fees.*** The amount of payer partners' per member per month (PMPM) care management fees remained stable over the first three 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.)

Like CMS, 60 percent of payer partners in PY 3 paid these care management fees solely for participation, entirely separate from their payments for performance. However, 36 percent of payer partners, accounting for 53 percent of payer partners' attributed lives, used practice performance on cost, utilization, and/or quality metrics to determine care management fee eligibility or amounts.²⁰ This 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.

¹⁸ 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.

¹⁹ 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.

²⁰ Because payer survey data and payer interview data on performance-adjusted care management fees from these payers became available for the first time in PY 3, we are unable to report changes from previous program years.

Table 3.1. CPC+ payers' average PBPM and median PMPM care management fees in PY 3, by track and line of business

As expected, payer partners' median payments continued to be lower than CMS's average payments and varied widely across payers' lines of business. CMS's average payment was \$15 for Track 1 practices and \$28 for Track 2 practices.

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 3 CPC+ Payer Survey data.

Note: The 53 payer partners that completed the PY 3 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.

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

CMS continued using the same two strategies to pay for performance, depending upon practices' SSP status, while payer partners continued using several approaches to reward performance in PY 3:

- **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 PY 1 and PY 2, 72 percent of payer partners provided retrospective bonus payments and 60 percent provided shared savings opportunities in PY 3. Over the first three 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.

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

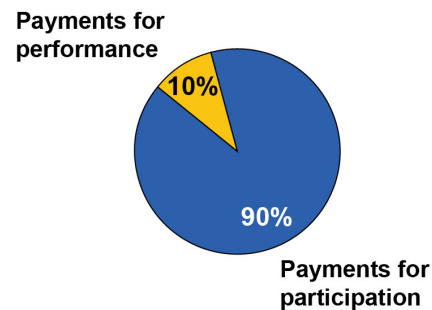
As in the first two program years, practices in both tracks continued to receive substantial enhanced payments; 90 percent of payments were for participation and 10 percent were for performance (Figure 3.4).²¹

In PY 3, the median enhanced payments that Track 1 practices received from CMS and payer partners totaled \$136,201 per practice, which represented a median of 10 percent of practice revenue (Figure 3.5). In PY 3, the median enhanced payment, calculated per primary care practitioner to account for differences in practice size, was \$43,460.

By design, Track 2 practices received larger enhanced payments from CMS and payer partners than Track 1 practices. Median payments were \$268,560 per practice, or 15 percent of practice revenue, and \$67,673 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

Figure 3.4. Median proportion of enhanced payments for performance and participation in PY 3

Payments for participation made up most of CPC+ enhanced payments.



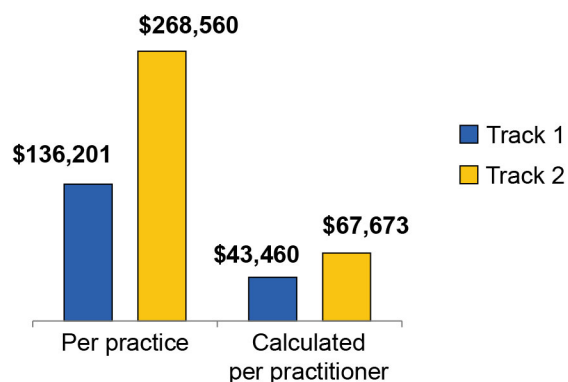
Sources: Mathematica’s analysis of data from the independent evaluation’s PY 3 CPC+ Payer Survey, PY 3 practice-reported financial data submitted to CMS, and PY 3 payment data provided by CMS.

Notes: N = 2,675 CPC+ practices that were participating at the end of PY 3.

PY = Program Year.

Figure 3.5. Median enhanced payments from CMS and payer partners in PY 3, by track

CPC+ practices received substantial payments from CMS and payer partners in PY 3.



Sources: Mathematica’s analysis of PY 3 practice-reported financial data submitted to CMS and PY 3 payment data provided by CMS.

Notes: N = 2,675 CPC+ practices that were participating at the end of PY 3.

²¹ Most payer partners’ performance-based payments paid in PY 3 were based on practices’ PY 2 performance; however, a few payer partners use rolling averages to assess practice performance and may have tied PY 3 payments partly to PY 3 performance.

partners provided equivalent payments to Track 1 and Track 2 practices.²²

The median enhanced payments per practice remained stable for both CPC+ tracks from PY 2 to PY 3 (Table 3.2); median payments per practitioner also remained stable in these two years.²³

Table 3.2. Enhanced payment amounts in PYs 1, 2, and 3

Practices in both tracks received substantial enhanced payments that contributed a stable percentage of total revenues over the first three program years.

Median payments per practice	PY 1		PY 2		PY 3	
	Track 1	Track 2	Track 1	Track 2	Track 1	Track 2
Payments for participation ^a	\$88,104	\$195,469	\$111,953	\$241,573	\$116,740	\$235,449
Payments for performance	NA	NA	\$11,343	\$22,033	\$19,461	\$33,111
Total enhanced payments	NA	NA	\$123,296	\$263,606	\$136,201	\$268,560
Total enhanced payments as a percentage of total practice revenue	8%^b	11%^b	10%	15%	10%	15%

Sources: Mathematica's analysis of PY 1, PY 2, and PY 3 practice-reported financial data submitted to CMS and PY 1, PY 2, and PY 3 payment data provided by CMS.

Notes: N = 2,905; 2,715; and 2,675 CPC+ practices that were participating at the end of PYs 1, 2, and 3, respectively.

^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 3, the total and median amounts received by practices were similar across all three 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.

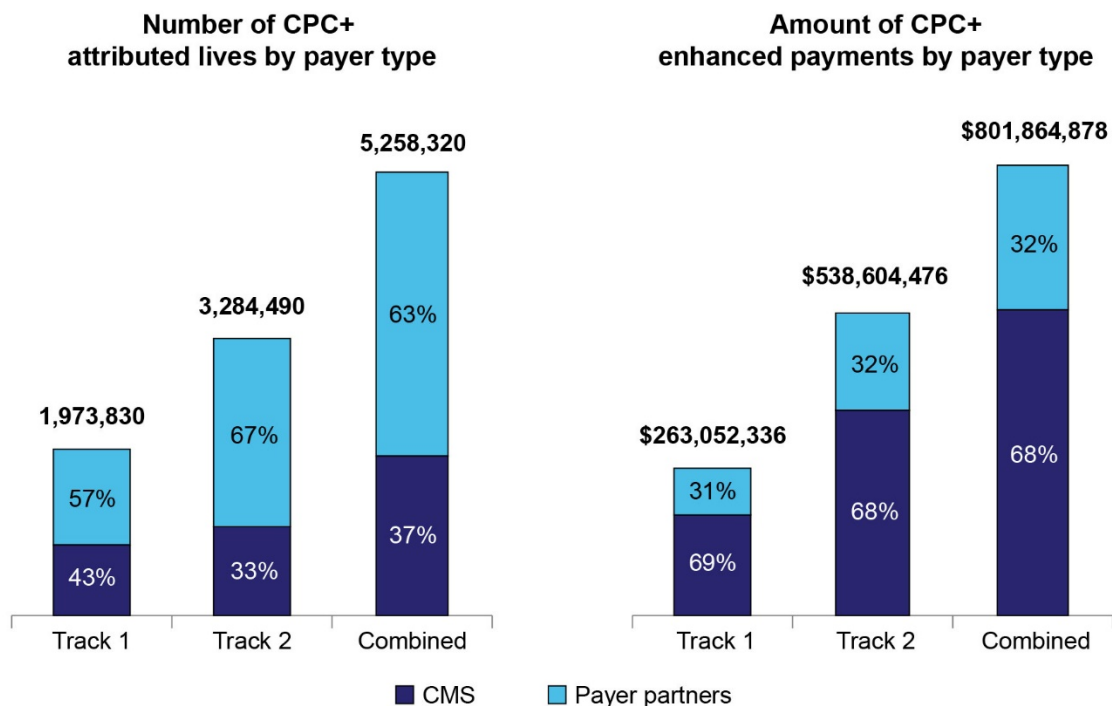
In PY 3, CMS continued providing a disproportionate share of the enhanced payments to practices in both tracks. Although CMS only covered 37 percent of attributed CPC+ patients in PY 3, it contributed 68 percent of the total enhanced payments practices received from all payers combined (Figure 3.6). Breaking the total enhanced payments into its components, CMS's share of total payments for *performance* (35 percent) was fairly proportional to its share of attributed lives (37 percent), but CMS's share of total payments for *participation* (78 percent) was double its share of attributed lives (again, 37 percent). This disproportionate share resulted from CMS paying higher care management fees than those contributed by payer partners.

²² One payer partner provided care management fees only to Track 1 practices.

²³ 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 three program years, were stable across all three years.

Figure 3.6. Relative contribution of CMS and payer partners to CPC+ enhanced payments in PY 3, by track

In PY 3, CMS accounted for 37 percent of CPC+ attributed lives but 68 percent of CPC+ enhanced payments.



Sources: Mathematica's analysis of PY 3 practice-reported financial data submitted to CMS and PY 3 Medicare FFS beneficiary attribution lists payment data provided by CMS.

Notes: N = 2,675 CPC+ practices that were participating at the end of PY 3.

FFS = fee for service; PY = Program Year.

In PY 3, two-thirds of total enhanced payments were unique to CPC+. Consistent with PY 2, approximately two-thirds of enhanced payments were available only to CPC+ practices (we refer to these payments as *unique* to CPC+), whereas the remaining one-third of the enhanced payments were available to at least some practices not participating in CPC+ in PY 3. In PY 3, CMS provided 92 percent of the unique funding for CPC+, and the remaining 8 percent of unique funding came from payer partners. The distinction between unique and non-unique payments is important because the unique amount that a practice receives 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.

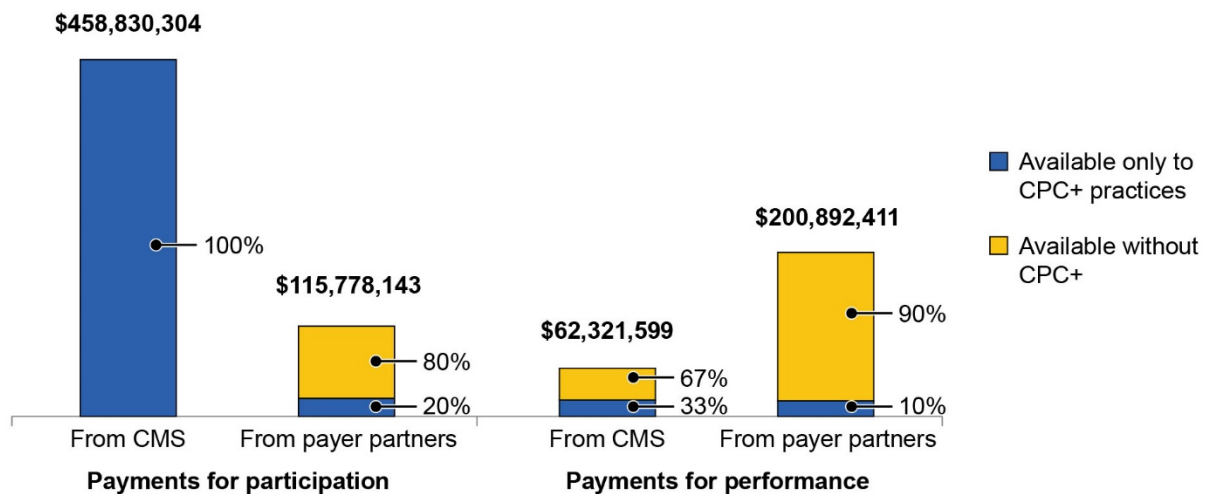
- CMS made unique payments for participation in CPC+, but many payer partners did not.** For *payments for participation*, CMS continued to provide CPC+ practices with care management fees that were available *only* to CPC+ practices (that is, payments that are 100 percent unique to CPC+) (Figure 3.7). In contrast, only 20 percent of payer partners' payments for participation in PY 3 were unique to CPC+. The remaining 80 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+. The proportion of care management fees unique to CPC+ remained stable over the first three program years and similar across the two tracks.

- 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 3, CMS’s PBIPs accounted for 33 percent of all of CMS’s CPC+ payments for performance, while SSP payments accounted for the remaining 67 percent. As for payer partners, in PY 3, only 10 percent of their payments for performance were unique to CPC+; the remaining 90 percent were available to some practices participating in payer partners’ other value-based payment programs. These proportions were similar in PY 2.

Figure 3.7. Enhanced payments from CMS and payer partners and the proportion of enhanced payments that were unique to CPC+ in PY 3

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 3 CPC+ Payer Survey, PY 3 practice-reported financial data submitted to CMS, and PY 3 payment data provided by CMS.

Notes: N = 2,675 CPC+ practices that were participating at the end of PY 3.

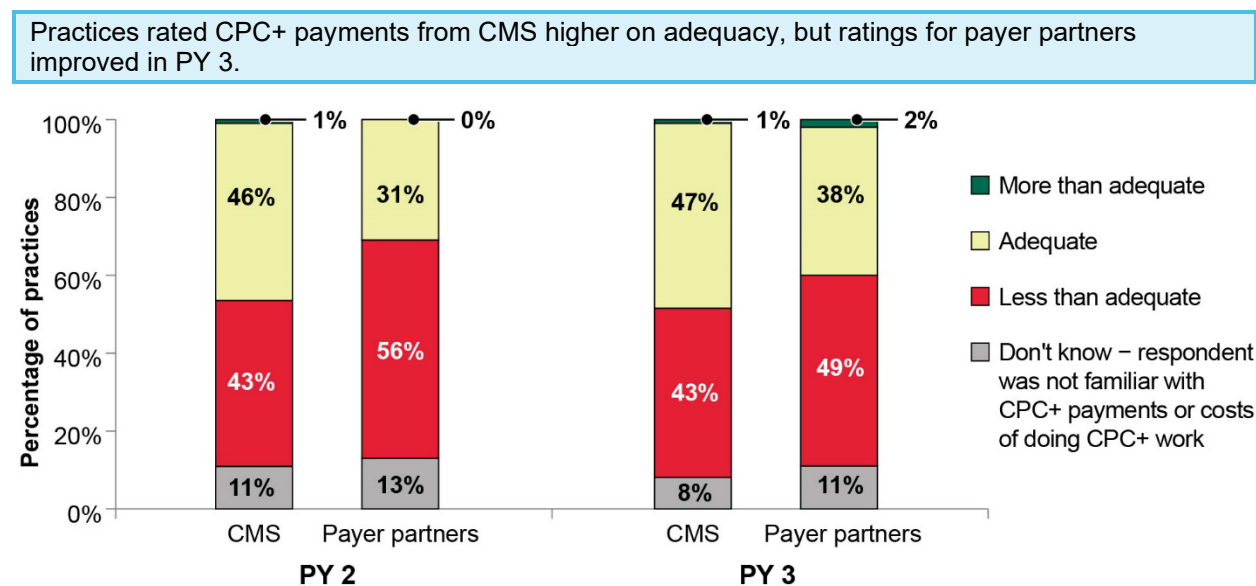
PY = Program Year.

A.4. Practices' and physicians' perspectives on CPC+ payments

On the PY 3 CPC+ Practice Survey, about one-half of all practices considered CPC+ payments from CMS adequate or more than adequate to complete CPC+ work (Figure 3.8).²⁴ The median CMS care management fee payments to practices that assessed CPC+ payments from CMS as adequate or better was higher than the median payment to practices that rated CPC+ payments from CMS as inadequate. Track 2 practices, which received larger CMS care management fees than Track 1 practices, were more likely to rate their payments as adequate or better. Both the overall and track-specific results remained stable from PY 2 to PY 3 (the two years for which we have data).

Practices' ratings of payer partners' payments improved. Among practices that reported receiving CPC+ payments from payer partners in PY 3, 40 percent deemed those combined payments to be adequate or more than adequate. While practices gave CPC+ payments from payer partners lower adequacy ratings compared to CPC+ payments from CMS in PYs 2 and 3, this gap closed in PY 3, as practices across both tracks improved their ratings of CPC+ payments from payer partners, while keeping their ratings of CPC+ payments from CMS the same in both years.

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



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

Notes: N = 2,606 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.

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

²⁴ The practice survey asked respondents to assess "CPC+ payments from Medicare FFS." Throughout this chapter, we report these survey findings as "CPC+ payments from CMS."

In PY 3, many physicians in CPC+ practices considered CPC+ payments inadequate. In PY 3, we began surveying physicians in CPC+ practices for the first time. Unlike the CPC+ Practice Survey, which asked separately about payments from Medicare FFS versus payments from payer partners, the Physician Survey asked respondents to assess payment adequacy *from all CPC+ payers combined*. In PY 3, 41 percent of physicians in CPC+ practices indicated that CPC+ payments from all payers combined (including CMS) were less than adequate, considering the amount of work that CPC+ required. There was no difference in ratings between the two tracks.²⁵ Twenty-four percent of physicians rated CPC+ payments as adequate or more than adequate, while 35 percent of physicians said they were not familiar enough with these payments or the cost of doing CPC+ work to rate payment adequacy. Taken together with the Practice Survey findings, these results indicate that a substantial proportion of both practices and physicians surveyed in PY 3 had concerns about the adequacy of CPC+ payments from CMS, payer partners, or both.

Most practices found CPC+ payments useful. While nearly one-half of practices rated their CPC+ payments inadequate for the work CPC+ requires, 50 percent of practices still reported in PY 3 that the CPC+ payments they received were *very* useful for improving primary care, and an additional 35 percent rated their CPC+ payments *somewhat* useful. Ratings of usefulness increased slightly from PY 2 and were similar across the two CPC+ tracks in both years.

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

Although we did not interview deep-dive practices about their CPC+ experiences in PY 3, below we briefly summarize findings from the second annual report about deep-dive practices' experiences with CPC+ payments in PY 2 (Anglin et al. 2020). The fourth annual report will include findings about practices' use and perceptions of CPC+ payments—including alternative payments—in PY 4.

As described in the second annual report, an increasing number of practices took steps to retain their maximum PBIPs from PY 1 to PY 2. Several practices reported that they took more concrete steps to improve quality than to curb utilization, partly because they perceived their control over utilization—particularly inpatient admissions—was limited.

PBIP scores increased overall, driven by increases in both quality and utilization scores.²⁶ Over the first three years of CPC+, practices eligible for PBIPs (that is, those that were not participating in SSP) improved their total PBIP scores, which are equally composed of quality and utilization components. In PY 3, the median PBIP proportion that practices retained was 73

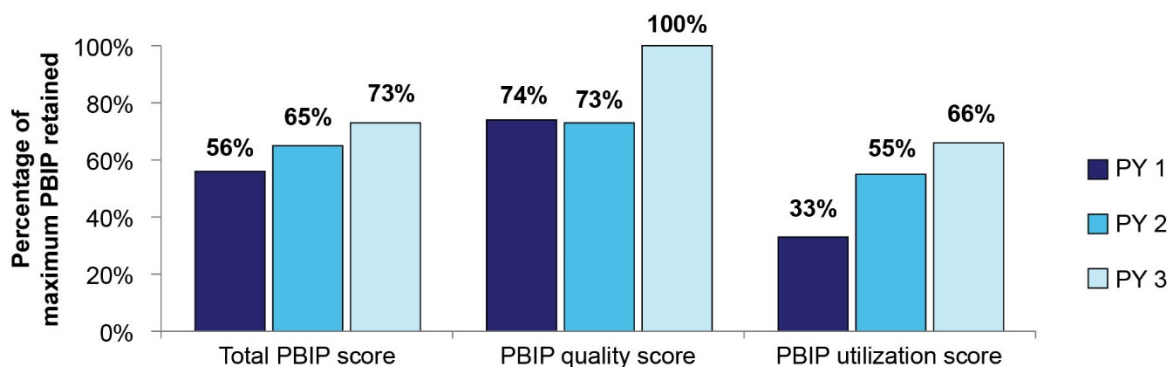
²⁵ Because the Practice and Physician Surveys had different sampling frames and were fielded separately to different types of respondents (practice managers versus physicians), and because the questions on payment adequacy were worded differently, we cannot directly compare responses to the two surveys about payment adequacy.

²⁶ The sample for this PBIP analysis excludes (1) practices that did not receive PBIPs for all three program years (i.e., practices that either withdrew from CPC+ or that 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.

percent—17 percentage points higher than in PY 1 (Figure 3.9).²⁷ Median utilization scores showed striking improvement from a low baseline of 33 percent in PY 1 to 67 percent in PY 3. Median quality scores also improved substantially, but from a high baseline (from 74 percent in PY 1 to 100 percent in PY 3); by PY 3, 56 percent of practices had reached the maximum score of 100.

Figure 3.9. Median PBIP scores in PY 1 through PY 3

Practices performed much better on quality than on utilization, but improvements in both quality and utilization drove the increase in total PBIP scores from PY 1 to PY 3.



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

Notes: N = 904 CPC+ practices that received PBIPs in PY 1 through PY 3 and did not change practice size or ownership status between PY 1 and PY 3.

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

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

Independent practices achieved higher PBIP scores than system-owned practices, driven by a substantial gap in utilization performance.²⁸ On quality, system-owned practices initially trailed independent practices by 6 percentage points in PY 1, but the gap closed by PY 3, when the median score for both types of practices was the maximum 100. In contrast, a much larger utilization gap persisted through the first three program years (with independent practices outperforming system-owned practices by 15 percentage points in PY 1 and by 18 percentage points in PY 3), as both types of practices improved their utilization performance. In interviews, some practices, payer partners, and regional conveners noted two factors that might account for this performance gap. First, because systems rely on inpatient use to drive organizational earnings, practices owned by systems may be more likely than physician-owned practices to face weak or conflicting incentives to contain inpatient utilization. Second, systems are more likely to

²⁷ The amount of total PBIP payments that a CPC+ practice retains equals the practice's PBIP score multiplied by the maximum PBIP payments the practice was paid prospectively at the beginning of each program year.

²⁸ Performance did not vary significantly by practice size. Practices with patient-centered medical home (PCMH) recognition outperformed those without PCMH recognition by 7 to 9 percentage points on overall PBIP scores. Track 2 practices performed slightly better than Track 1 practices on overall scores (by statistically significant but relatively small margins ranging from 3 percentage points in PY 1 to 5 percentage points in PY 3).

have layers of internal bureaucracy that practices must navigate before implementing concrete steps to respond to payment incentives.

In deep-dive payment interviews about PY 2, CPC+ practices reported struggling more to identify actionable steps to improve performance on utilization than to improve their performance on quality measures. Yet, overall utilization scores improved along with overall quality scores over the first three program years. This may be explained, at least in part, by findings from interviews with practice facilitators, who provided a different perspective than deep-dive practices. Practice facilitators in several regions reported that, in PY 2, they began prioritizing ways to help practices improve utilization performance. For example, most practice facilitators not only started providing group learning sessions focused on reviewing CPC+ utilization performance, but also began offering one-on-one quality improvement brainstorming sessions during which practices could review their utilization trends. In addition, several practice facilitators reported using Plan-Do-Study-Act (PDSA) cycles during coaching sessions, aimed at identifying and implementing concrete changes to boost utilization performance. These increased efforts may have contributed to the substantial boost in PBIP utilization scores over the first three program years.

The ability of many practices to achieve maximum quality scores in PY 3 likely reflects, at least in part, an increased emphasis from the Regional Learning Network, which provides region-level learning supports. The Regional Learning Network placed more emphasis on helping practices improve performance on the two eCQM measures that CMS mandated for the PBIP quality component in PY 3: (1) controlling hemoglobin A1c for diabetic patients and (2) controlling high blood pressure.

B. 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”).

B.1. CMS’s hybrid payment approach

In CMS’s alternative payment approach for Track 2 practices (called the “hybrid payment approach”), CMS calculates the average revenue PBPM for selected evaluation and management (E&M) services in a 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). In PY 3, Track 2 practices could elect to have either 40 or 65 percent of their payments paid prospectively via the CPCP.²⁹ 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”).

²⁹ 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.

More than three-quarters of practices elected 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 three program years. However, the proportion of practices choosing the maximum CPCP level of 65 percent more than doubled from PY 1 to PY 3 (from 10 percent to 22 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.

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

Seventeen percent of payer partners used an alternative payment approach in PY 3; this is comparable to the percentages of payer partners that did so in PY 1 and PY 2.³⁰ In addition, the few payer partners that launched pilot programs in PY 2 to test alternative payment approaches with a few practices elected to keep these small pilots in place in PY 3, rather than expanding them into full programs. Therefore, no additional payer partners introduced new alternative payment approaches in PY 3. As a result, 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.

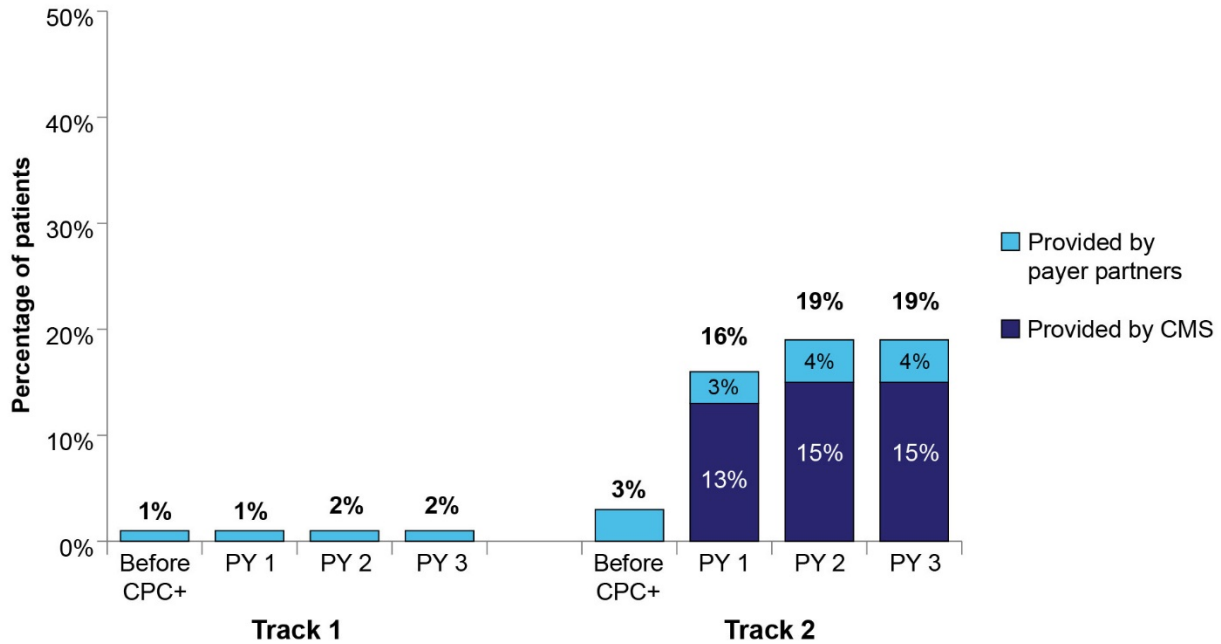
B.3. Alternative payments were not widespread in CPC+

Less than one in five patients in Track 2 practices were covered by payers with alternative payment approaches in PY 3. 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. The proportion increased slightly in PY 2 but remained unchanged in PY 3 at 19 percent (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 with the opportunity to benefit from such alternatives to traditional office visits remains quite limited.

³⁰ In the second annual report, we reported that 22 percent of payer partners (12 of 54 payer partners) had implemented alternative payments in PY 2. However, two of these payer partners clarified in subsequent interviews that they had launched only small pilot programs, that were not widely available to CPC+ practices. In this report, we have reclassified these two payer partners as having pilot alternative payment programs instead of full programs. In Figure 3.10, the PY 2 estimates have been recalculated to remove the patients attributed by these two payer partners. In addition, a third payer partner had fully implemented an alternative payment approach in PY 2 but did not respond to the PY 3 Payer Survey; thus, we also excluded this payer partner from the PY 3 payment analysis.

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

The proportion of CPC+ practices' patients covered by an alternative to FFS payment arrangement did not change in PY 3 and remained far below CMS's expectations for Track 2 practices.

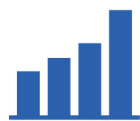


Source: Mathematica's analysis of data from the CPC+ Payer Survey, payment data provided by CMS, and practice-reported financial data submitted to CMS for PYs 1, 2, and 3.

Note: N = 1,233 Track 1 practices and 1,462 Track 2 practices that were participating at the end of PY 3. Track 1 practices reported serving 6,514,948 patients, and Track 2 practices reported serving 9,062,065 patients in PY 3.

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

3.2.2. Data feedback



Since the beginning of CPC+, CMS has provided practices with actionable data feedback to guide their decision making, and payer partners also committed to sharing data on utilization of services and/or total cost of care with practices at least quarterly. In addition, payer partners agreed to pursue data aggregation efforts by either contributing their data to an existing multipayer claims data system, or working with other payer partners in their region to develop a common approach for sharing data with CPC+ practices.³¹ CMS requires CPC+ practices to review quality measures calculated from EHR and claims data on a quarterly basis.



Closer look: Using the CMS data feedback tool reports in PY 3

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.^a Practices also can drill down to patient-level data and produce customized beneficiary reports. Monthly data feedback tool usage reports in PY 2 and PY 3 indicate:

Use of the CMS data feedback tool reports increased. The proportion of CPC+ practices using the data feedback tool reports increased from PY 2 to PY 3. During the first four months after the tool was introduced in PY 2, 57 percent of practices used it. During the same time period in PY 3 (August – December 2019), 68 percent of practices used the tool. In PY 3, more large- and medium-sized practices used the tool than small practices (77, 75, and 52 percent, respectively).^b

Practices most often used summary data. In PY 3, CPC+ practices most frequently viewed the data feedback tool's summary page (55 percent of page views), which included a snapshot of key performance indicators (such as total Medicare FFS expenditures, hospitalizations, and ED visits) and trends from previous quarters. Practices accessed drill-down detailed information less than summary information; utilization statistics accounted for 20 percent of page views and the Medicare FFS expenditures page accounted for only 6 percent of views.

^aIn addition to data provided in this tool, as part of PBIP score calculations, CMS provides practices with performance results on eQMs and utilization measures and, for a sample of all of their patients, survey data from CMS about patient experience of care.

^bWe defined these groups as: large practices (six or more primary care practitioners), medium practices (three to five practitioners), and small practices (one to two practitioners).

³¹ As part of their MOU, 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: (1) 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; and (2) 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.

A. Data feedback that CMS and payer partners provided to CPC+ practices

In PY 3, CMS and 98 percent of payer partners provided CPC+ practices with data feedback on at least a quarterly basis, an increase from 90 percent in PY 1.³² Most payer partners provide data calculated at the practice level, though many provide multiple levels of data, such as the practitioner, system, or patient level. As in the first two program years, most payer partners (94 percent) also provided data feedback to practices not participating in CPC+ in PY 3.

In PY 3, payer partners that offered data feedback most commonly reported providing claims-based cost and utilization measures, and claims-based quality measures (92 percent and 79 percent, respectively). The percentage of payer partners that included various types of data in their reports was fairly constant from PY 2 to PY 3.³³ Exceptions include a decline in the percentage of payer partners including claims-based quality measures (from 90 to 79 percent), and a corresponding increase in the percentage that opted to include eCQMs (from 24 to 38 percent). The percentages of payer partners that included costs of specific services and of patient experience measures were fairly low (under 40 percent and 20 percent, respectively).

B. Payers' data-aggregation efforts

As part of CPC+, payer partners agreed to try to produce regional multipayer reports to provide practices with a reporting tool 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 better manage population health and identify areas for quality improvement. The CPC+ care delivery requirements also encouraged practices to use claims data to improve population health management.

No additional regions began new data-aggregation efforts in PY 3 and progress on these efforts varied across the 14 regions (Figure 3.11):

- *Five regions* provided aggregated reporting tools to CPC+ practices *that included Medicare FFS data*. Three of these five regions built upon prior data-aggregation efforts from CPC Classic (Colorado, Oklahoma, Ohio/Kentucky), and two regions continued progress from the first two program years (Oregon, and Greater Philadelphia [PA]). Although they both began aggregating data in PY 2, Oregon released its aggregated reports for the first time in PY 3 and Greater Philadelphia began including Medicare FFS data in its reports for the first time in PY 3.
- *One region* provided aggregated reports with data from all payers in the region, but the tool did not include Medicare FFS data (Tennessee). Since the start of CPC+, Tennessee has

³² We report the percentage of payer partners that provide CPC+ practices with any type of data feedback report, which could include either of the following, or both: (1) an individual report in which the payer organization designed the content and structure of the feedback, or (2) an aggregated report developed with other payer partners in their region.

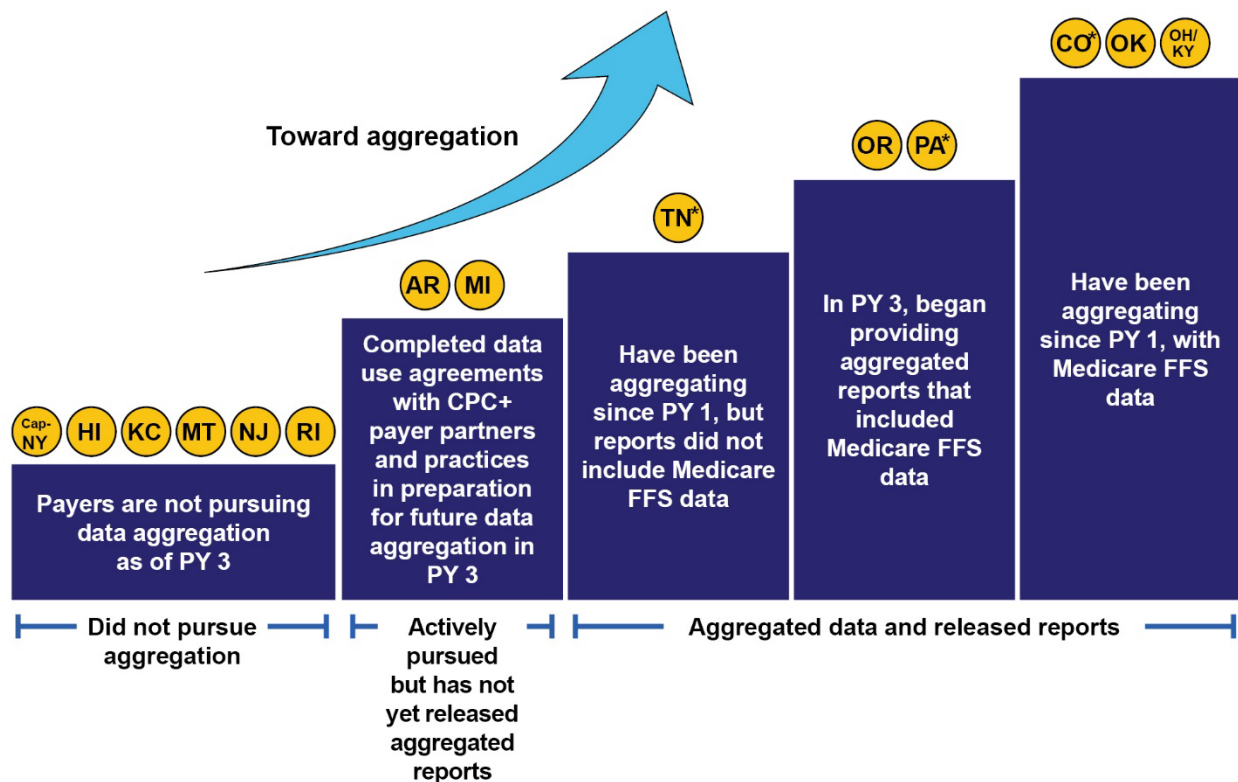
³³ Due to significant changes in the wording and number of response options in this survey question after PY 1, we did not compare findings from the PY 2 and PY 3 CPC+ Payer Surveys with those from the PY 1 survey.

aggregated data across all of the payer partners in its region, which are all Medicaid lines of business (from the state and managed care organizations).³⁴

- *Two regions* continued pursuing data-aggregation efforts, including establishing data use agreements with payer partners and practices (Arkansas and Michigan).
- *Six regions* did not pursue or progress in their data-aggregation efforts in PY 3. Hawaii has only one payer partner so the region is unlikely to pursue aggregation with only CMS as a potential partner. Payer partners in the five remaining regions (North Hudson-Capital Region [NY], Greater Kansas City, Montana, New Jersey, and Rhode Island) had not provided aggregated reports to CPC+ practices by the end of PY 3.

Figure 3.11. Regional progress toward aggregating data feedback, as of the end of PY 3

By the end of PY 3, five regions were releasing aggregated reports that included Medicare FFS data (CO, OK, OH/KY, OR, PA), and one additional region (TN) released a report that aggregated data for all payers in the region, without Medicare FFS data. Two additional regions (AR, MI) were working towards aggregated reports.



Source: Mathematica’s analysis of data from the independent evaluation’s interviews conducted with payer partners and data aggregators in Fall 2019 and Spring 2020, respectively; and data worksheets collected from data aggregators in Spring 2020.

*Indicates all CPC+ payer partners in that region are submitting claims data to be included in the data feedback tool/report as of the end of PY 3.

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

³⁴ Given the difference between Medicaid and Medicare beneficiaries, the region decided not to add Medicare FFS data to its aggregated reports.

B.1. Challenges regions experienced aggregating data

In PY 3, data aggregators in most regions continued to experience two key challenges developing aggregated feedback for CPC+ practices. First, although it is common to expect some lag when processing and analyzing claims data, most regions reported these lags were exacerbated by the need to align multiple payers' data submissions for aggregation. Two regions reduced the risk of data processing delays by proactively reaching out to payer partners about their timeline and data-validation processes. Second, payer partners in most regions remained concerned about submitting their sensitive cost data and antitrust issues because cost data could give insight into payers' contracting arrangements and negotiations with providers. To address this challenge, two data aggregators developed proxies for proprietary cost data, such as presenting averages of the allowed payment amount in their aggregated reports.

B.2. Challenges practices experienced using aggregated data

As in the first two program years, data aggregators reported that practices experienced two key challenges when using their aggregated reports. First, two data aggregators noted engagement was lower than anticipated, as measured by low attendance at trainings designed to teach practices how to use the tools, and fewer practices accessing the aggregation tool than anticipated. These two data aggregators tried to boost practice engagement by linking practices to CMS learning contractors for training on using aggregated data.

Second, gaps in the proportion of payers' patients included in the aggregated tool can limit practices' ability to effectively manage their patient population. Of the five regions providing aggregated reports with Medicare FFS data in PY 3, two regions included all CPC+ payer partners' data in the aggregated report (Colorado and Greater Philadelphia); three others indicated gaps in participation from one or more CPC+ payer partners (Ohio/Kentucky, Oklahoma, and Oregon). In PY 3, payer partners in a couple of regions were trying to expand the proportion of practices' patients included in aggregated reports by encouraging other non-partnering payers in the region to join data-aggregation efforts.

C. Practices' use of data feedback

As in prior program years, almost all CPC+ practices (98 percent) reported on the PY 3 Practice Survey that they received data feedback on practice or physician performance in the past year. Most practices (84 percent) indicated this feedback was somewhat (52 percent) or very (32 percent) useful for improving primary care. Practices also reported to CMS in the care delivery requirement data that they were more likely to use claims data from CMS (90 percent of practices) and payer partners (80 percent of practices) to improve care delivery; they were less likely to use data from other sources, such as ACOs or Independent Practice Associations (57 percent) or health information exchanges or all-payer claims databases (39 percent). Less than 40 percent of practices reported to CMS that they received *aggregated* feedback, which could have been from a report including aggregated data, multipayer data from health information exchanges, or an all-payer claims database.

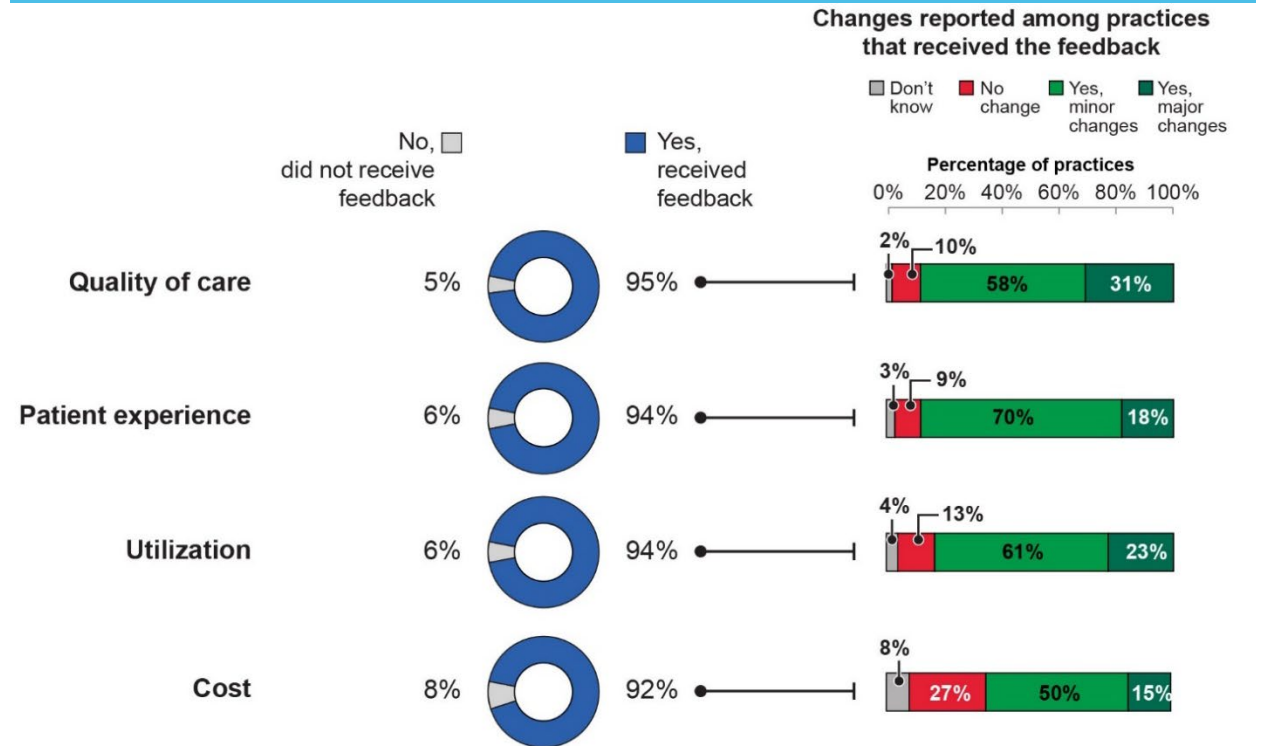
In PY 3, physicians in CPC+ practices were more likely to receive data feedback than physicians in comparison practices. According to the PY 3 Physician Survey, physicians in CPC+ practices were 10 to 22 percentage points more likely than physicians in comparison

practices to report receiving different types of feedback data, suggesting CPC+ increased data feedback. Differences between CPC+ and comparison physicians were similar across tracks, though physicians had a range of responses based on the type of data feedback (for example, data on patients’ quality of care, utilization, or costs).

Practices and physicians reported using quality of care, patient experience, or utilization data more than cost data to make changes in care delivery; most changes they made to care delivery were minor. Among the 92 to 95 percent of CPC+ practices that reported on the PY 3 Practice Survey that they received each type of data, practices responded that they were most likely to make changes to care delivery based on quality of care, patient experience, or utilization data in PY 3 (each 84 percent or higher). In contrast, 65 percent of the practices that reported receiving cost data also reported using it to drive practice change (Figure 3.12). Most practices reported making minor changes in response to the feedback they received.

Figure 3.12. Percentage of CPC+ practices that reported making changes to care delivery, and the extent of changes, in response to data feedback in PY 3

Among practices that received each type of feedback, CPC+ practices were most likely to make changes to care delivery based on feedback on quality of care (89 percent), patient experience (88 percent), or utilization (84 percent) in PY 3. In contrast, only 65 percent of practices used cost data to change care delivery.



Source: Mathematica’s analysis of data from the independent evaluation’s PY 3 CPC+ Practice Survey.

Note: N = 2,624 CPC+ practices that responded to the CPC+ Practice Survey in each program year. Due to item nonresponse, denominators vary slightly across items (by less than 5 percent).

PY = Program Year.

3.2.3. Learning supports



Since the beginning of CPC+, CMS has sponsored CPC+-specific learning supports for practices that aim to (1) provide practices with detailed information and resources on achieving the Comprehensive Primary Care Functions and (2) promote peer learning among CPC+ practices. While CMS has been the main source of learning support for CPC+ practices, most payer partners also provided some form of learning support to CPC+ practices that supplemented CMS's learning supports, even though this was not part of their MOU. Typically, payer partners also provided these learning supports to their non-CPC+ practices, whereas CMS's learning supports are unique to CPC+ practices.

A. CMS's learning supports

CMS provided practices the same types of learning supports in PY 3 as in the first two program years.

We grouped these into three broad categories: (1) *information dissemination tools*, which provide comprehensive information about CPC+; (2) *group learning supports*, which promote interaction and learning between CPC+ practices; and (3) *tailored support*, in which practice facilitators deliver virtual or in-person support to practices. In PY 3, CMS provided learning supports to all CPC+ practices through the National Learning Team, Regional Learning Network (RLN), and the implementation contractor.³⁵

In PY 3, CMS shifted CPC+ learning content to focus on improving patient outcomes, rather than process measures that gauged whether practices met CPC+ care delivery requirements. During the first two program years, CMS and its learning contractors had focused learning efforts more on introducing practices to CPC+ and helping them meet model requirements. In addition, in PY 3 CMS further emphasized peer learning as a way to broaden their reach and engage as many CPC+ practices as possible. Several learning contractors reported in PY 3 interviews that this shift in focus for PY 3 allowed for more regional flexibility and successfully facilitated peer learning (see Table 3.3 for major changes, with additional details below the table).

Payer partners' learning supports in PY 3

Most payer partners continued providing learning supports to CPC+ practices. In PY 3, 85 percent of payer partners reported on the CPC+ Payer Survey that they provided learning supports to practices that supplemented CMS's learning supports, typically practice coaching or technical assistance. Though practices reported using the learning supports from the payer partners less often and rated them less favorably than the CMS learning supports, this is expected given that CMS devoted more resources to learning supports and was intended to be the main source of such supports for CPC+.

³⁵ The National Learning Team leads CPC+-wide learning supports for practices (for example, hosting national webinars and disseminating information about CPC+). The Regional Learning Network provides region-level learning supports, including regional learning sessions and tailored one-on-one support to individual practices (called "practice coaching" or "practice facilitation"). The implementation contractor supports CMS's work across a variety of learning supports, including onboarding practices, calculating CPC+ payments, and maintaining a help desk for practices.

Table 3.3. Major changes CMS made to CPC+ learning supports in PY 3

In PY 3, CMS newly required each region's practice facilitators to submit biannual regional learning plans, required practice facilitators to offer every practice or system two coaching visits per year, and made Regional Implementation Networking Groups (RINGS) optional.

Learning support	Description	Key changes made during PY 3
Major changes		
Regional learning plans	Biannually, each region's practice facilitator documents the year's learning supports and uses regional data to identify areas where practices need support, including how to address practice needs.	Newly required in PY 3.
Practice coaching	Virtual or in-person interactions between practices and practice facilitators.	CMS required practice facilitators to offer every practice or system two visits per year, either in person or virtually. (In PYs 1 and 2, CMS only required practice facilitators to visit priority practices.)
Regional Implementation Networking Groups (RINGS)	Virtual topic- or role-based groups led by practice facilitators in each region.	In PY 3, RINGS became optional in each region. (In PY 2, RINGS were introduced and were required for care managers and practice managers either monthly or quarterly in each region.)

PY = Program Year; RINGS = Regional Implementation Networking Groups.

A.1. Regional learning plans

Regional learning plans fostered the use of data when planning a more tailored approach to delivering learning supports. In PY 3, CMS introduced biannual regional learning plans to encourage practice facilitators to use regional data to design regional learning supports. The plans included which practices to engage, what content to cover, and the data-driven justification behind these decisions. Practice facilitators reported these regional learning plans were both helpful and burdensome. For instance, a couple of practice facilitators reported it was helpful to collaborate with the RLN and CMS on their regional learning plans, but a few facilitators thought meeting monthly to discuss regional learning plans was unnecessary because the regional data they discussed at the meetings were not updated this frequently.

A.2. Practice coaching

Several practice facilitators appreciated the new requirement to provide coaching to *all* CPC+ practices, regardless of their priority level. In PY 3, practices moved from the model in the first two program years that prioritized some practices to receive coaching to a model in which they provided at least two sessions annually to every practice. Several practice facilitators felt this gave them greater flexibility to provide tailored assistance and reach a broader group of practices. Practice facilitators did not find it challenging to meet this requirement. (Previously, CMS only required practice coaches to conduct visits to practices that had been prioritized based on data from the coaching support priority tool, which was not used to focus on priority practices in PY 3.) Based on our analysis of coaching logs that practice facilitators submitted to CMS, about 62 percent of practices received at least two coaching interactions and 86 percent received

at least one session with a practice facilitator during PY 3. This increased from PY 2, when 73 percent of practices received at least one coaching session.^{36,37}

CPC+ practices and practice facilitators both reported that coaching provided valuable support; however, practice facilitators reported that certain types of practices were more challenging to engage. As in PY 2, more than 90 percent of practices that received coaching in the first half of PY 3 reported on the PY 3 Practice Survey that they found in-person and virtual coaching at least somewhat useful. However, several learning contractors noted it was more difficult to complete the biannual coaching requirement with certain types of practices, particularly those they described as disengaged or under-resourced. A couple of practice facilitators noted it can be challenging to meet this coaching requirement for smaller, independent practices, as coaching is provided during business hours and all practice staff are generally essential to a small practice's daily operations.

A.3. Small group coaching

CMS focused on building peer learning networks in PY 3, which led to more small group coaching rather than individualized practice support; this approach allowed practice facilitators and CMS to broaden their reach. These activities fostered networking and learning among practices with similar characteristics and experiences, and ideally would help practices build peer learning networks they can leverage after CPC+ ends. With the increased flexibility for structuring group learning in PY 3, more practice facilitators began bringing practices within a system together for small group coaching sessions. This marked a change from previous years, when a few of the practice facilitators we interviewed met one-on-one with a system representative, rather than with staff from the system's individual practices.

A.4. Regional Implementation Networking Groups

RINGs became optional in PY 3, which allowed practice facilitators flexibility in hosting them; however, they still reported challenges engaging practices in RINGs. Most practice facilitators valued the flexibility to hold and structure RINGs differently, basing the content on their region's interests and learning needs, without extensive review from CMS and the RLN. According to our analysis of regional learning plans for the second half of PY 3, practice facilitators hosted two types of RINGs: (1) peer-based affinity groups (for example, a RING for care managers) and (2) topic-based groups (for example, a RING about pharmacy integration).

As in PY 2, RINGs for care managers were the most common type of RING; in the second half of PY 3, about 20 percent of RINGs were for care managers across all regions. In PY 3, practice facilitators continued to report that it was challenging to engage practices in RINGs. For example, one practice facilitator noted that RINGs are generally scheduled during lunch time, when practice staff are distracted, multitasking, and therefore unlikely to engage in the

³⁶ From PY 2 to PY 3, CMS changed the coaching log tool that practice facilitators use to report on their coaching sessions. Therefore, these data may not be comparable across years and should be interpreted with caution.

³⁷ The coaching log data may undercount coaching interactions. However, our analysis of coaching log data aligned with what practices reported in the PY 3 CPC+ Practice Survey, in which 89 percent of practices reported receiving any coaching in the previous six months (13 percent virtual coaching only, 10 percent in-person coaching only, and 66 percent both modes).

interactive discussions meant to take place during RINGs. According to the PY 3 CPC+ Practice Survey, only 65 percent of practices had attended RINGs in the past six months, and only 75 percent of those that attended found the RINGs very (23 percent) or somewhat (52 percent) useful, making RINGs one of the least-attended and lowest-rated CPC+ learning supports.

A.5. Minor changes to CPC+ learning supports in PY 3

CMS created a Regional Collaborative Facilitator position in PY 3, which evolved from the previous cluster lead position.³⁸ The Regional Collaborative Facilitator role was intended to help practice facilitators adapt learning supports to their regions' needs by reviewing regional data, identifying areas for improvement, and developing learning strategies to improve CPC+ outcomes. CMS also: (1) shifted from didactic regional learning sessions to more discussion-based sessions, (2) upgraded CPC+ Connect (an online information resource and collaboration site for CPC+) and tried to increase practice engagement on the platform, (3) slightly revised the CPC+ Implementation Guide, and (4) discontinued Practice in Action meetings.

CMS also stopped offering Health IT Affinity Groups at the end of PY 3, due primarily to low attendance. These were virtual groups, in which a health IT vendor and the practices they worked with discussed best ways to use health IT functionalities to support CPC+ implementation. CMS did not make any changes to the CPC+ Help Desk in PY 3, though the Help Desk continued to be a point of contact for CPC+ practices to ask questions via phone or email.

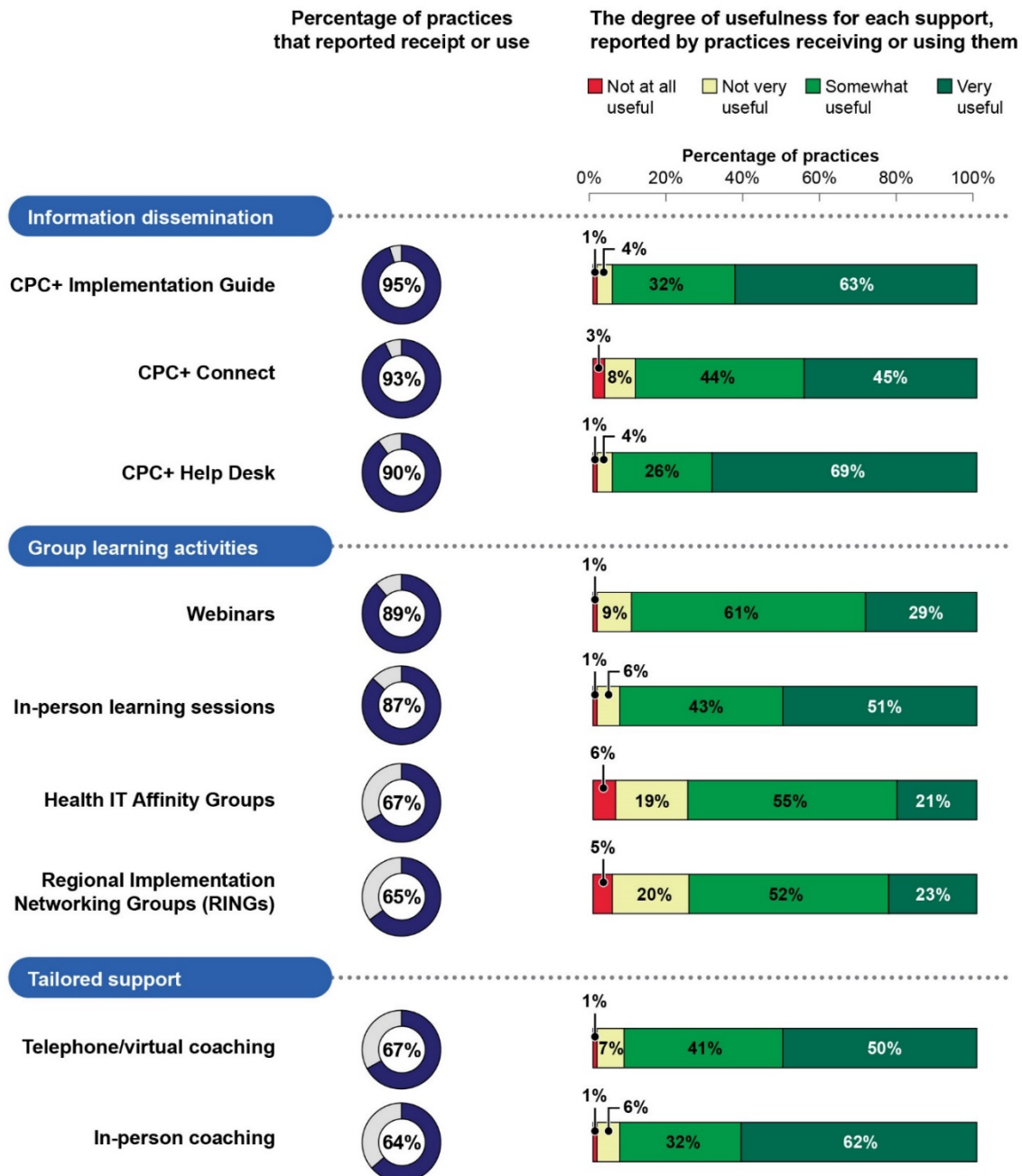
B. CPC+ practices' use and perceptions of CMS's learning supports

Between 64 and 95 percent of practices reported on the PY 3 Practice Survey that they received a variety of learning supports and generally found them useful. Similar to PY 2, more than 75 percent of these practices that reported receiving each type of learning support found them to be somewhat or very useful for improving primary care (Figure 3.13). The learning supports that practices rated most useful did not change from PY 2, and included the Implementation Guide, CPC+ Help Desk, and practice coaching; more than 50 percent of practices that reported receiving these supports found them very useful for improving primary care. None of the ratings of these supports varied by track. (Practices' rating of Health IT Affinity Groups was the only learning support rating to vary across tracks. In Track 1, 27 percent of practices found these groups very useful and 48 percent found them somewhat useful; in Track 2, 16 percent of practices found these groups very useful and 60 percent found them somewhat useful.)

³⁸ At the time of our interviews, the RLN contractor had staffed six Regional Collaborative Facilitators across the 14 regions that joined CPC+ in 2017.

Figure 3.13. Practices’ use and perceptions of CMS’s CPC+ learning supports in the first half of PY 3

Practices were highly engaged with each of CMS’s learning supports in PY 3 and generally found them useful. Among those engaged in a particular support, practices reported finding the CPC+ Implementation Guide, the CPC+ Help Desk, learning sessions, and practice coaching most useful for improving primary care.



Source: Mathematica’s analysis of the independent evaluation’s PY 3 CPC+ Practice Survey.

Note: N = 2,624 CPC+ practices that responded to the survey each program year. The survey asked practices about their use of CPC+ learning supports in the prior six months. Practices’ self-report of their use of learning supports may differ from actual use.

IT = information technology; PY = Program Year.

C. How CMS's CPC+ learning supports have embraced adult learning principles

Reflecting best practices from adult learning theory, the CPC+ learning supports in PY 3 provided practices with opportunities to self-direct their learning, gain practical knowledge through experiential learning, and reflect on information gathered through peer learning.

Adult learning theory emphasizes that the learner is an active part of the learning process and support the acquisition of practical knowledge through experiential education and reflection (Knowles 1975, 1984). The CPC+ learning model accomplishes this in several ways. For example, the CPC+ learning supports in the first two program years primarily focused on teaching all practices similar content around meeting model requirements. As CMS shifted the focus to ways practices could improve patient outcomes in PY 3, practice facilitators also were newly asked to create regional learning plans that considered the unique learning needs of practices in their region. As adult learning theory suggests, this is an opportunity to make learning more effective by considering learners' current knowledge and tailoring information to what the learners need to know (Knowles 1984).

Based on adult learning theory and the challenges practice facilitators reported, there may be opportunities to further refine CMS's learning supports in the final years of CPC+. Several learning contractors reported that, while practices were more willing to share their knowledge with other practices in PY 3 than they were in prior years, engaging more advanced systems and practices remained challenging. As in prior years, a couple of facilitators we interviewed also reported concerns that small, independent practices were especially burdened by time-intensive learning events that occurred during business hours.

Lessons learned about tailoring learning content to groups of practices

To address challenges that they reported in PYs 1 and 2, practice facilitators reported in PY 3 that it was helpful to tailor learning content to groups of practices with similar characteristics, such as ownership status, type of EHR, or rural location. Practice facilitators reported several lessons about tailoring learning content by practice type, including:

- Practice facilitators most commonly mentioned the value of grouping practices based on their ownership status (independent or system-owned), emphasizing the significant differences in how independent and system-owned practices operate, the resources available to them, and the type and intensity of learning support they often need.
- Practice facilitators' ability to tailor learning content to groups of practices allowed practices to learn more efficiently because they were receiving only the most relevant information.
- Although the learning contractors found it valuable to create subgroups of practices, they noted some distinctions were not as meaningful when delivering certain learning supports. For example, one practice facilitator had previously grouped practices by track, but reported many Track 1 practices can be as advanced as Track 2 practices.

3.3. Health IT vendor support



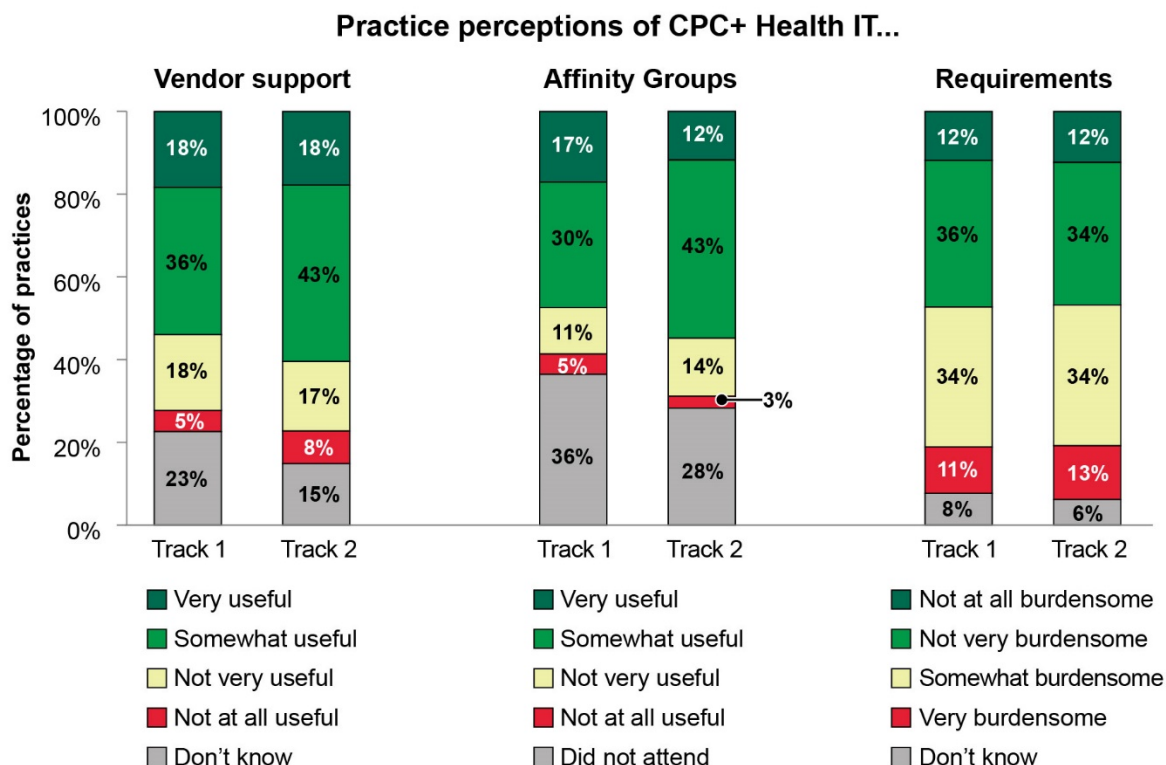
In PY 3, Track 2 practices continued to formally partner with 56 health IT vendors that committed to (1) provide them with advanced health IT functionalities to meet the CPC+ Comprehensive Primary Care Functions and (2) support them in implementing these advanced health IT functionalities. Though only Track 2 practices were required to formalize their health IT vendor relationship for CPC+, practices in both tracks worked with health IT vendors through CPC+-sponsored learning activities or vendor-initiated forums. CMS introduced the CPC+ advanced health IT requirements at the start of CPC+, refined them in PY 2 to reduce practice burden, and made no changes during PY 3.

In PY 3, most health IT vendors continued to make improvements to their advanced health IT functionalities. By the end of PY 3, all 12 health IT vendors we interviewed, who worked with 85 percent of CPC+ practices, reported providing practices functionality to meet the Track 2 advanced health IT requirements for the comprehensiveness and coordination function (for example, using an electronic screening tool to assess patients for depression). Most vendors reported providing practices functionality to meet the Track 2 advanced health IT requirements for the care management function (for example, using an electronic care plan) and the planned care and population health function (for example, using health IT to display and update practice site-level eQMs). These changes reflect major refinements for several vendors to the functionalities since first providing them in PY 1 or PY 2. Most vendors offered these functionalities to all of their practices (those that were and were not participating in CPC+), as either a core or add-on product. However, often only Track 2 CPC+ practices opted to purchase or use these functionalities, because they needed them to meet the CPC+ advanced health IT requirements.

As in the first two program years, over one-half of CPC+ practices rated their experiences with health IT support favorably, but still lower than other CPC+ supports. Sixty-one percent of Track 2 practices and 54 percent of Track 1 practices reported on the PY 3 Practice Survey that health IT vendor support was somewhat or very useful, and about half of practices in each track that participated in Health IT Affinity Groups reported that they were somewhat or very useful in improving primary care (Figure 3.14). In comparison, more than 80 percent of practices reported that the other supports (that is, payment, data feedback, and learning) were somewhat or very useful in PY 3. Additionally, nearly one-half of practices in each track reported that meeting advanced health IT requirements was somewhat or very burdensome.

Figure 3.14. Practices’ perceptions of usefulness of health IT vendor support and Affinity Groups in improving primary care, and burden of meeting CPC+ health IT requirements in PY 3, by track

Over one-half of CPC+ practices rated their experiences with health IT support favorably, reporting that health IT vendor support was somewhat or very useful and Health IT Affinity Groups were somewhat or very useful in improving primary care. Additionally, less than one-half of practices in each track reported that meeting advanced health IT requirements was somewhat or very burdensome.



Source: Mathematica’s analysis of data from the independent evaluation’s 2019 CPC+ Practice Survey.

Note: N = 1,140 Track 1 practices and 1,390 Track 2 practices that (1) reported working with an EHR in all three years in practice-reported health IT data submitted to CMS and (2) responded to the PY 3 CPC+ Practice Survey. The number of practices that answered each question varied because practices were not required to answer each question in the survey. However, the percentage of missing data is small (0.7 percent to 1.5 percent, or 16 to 36 practices).

IT = information technology; PY = Program Year.

Several health IT vendors reported in PY 3 that they planned to further refine their advanced health IT functionalities moving forward, and many planned to sustain at least some of these functionalities after CPC+ ends. Several health IT vendors we interviewed reported plans to refine functionalities to better support the CPC+ functions of comprehensiveness and coordination, care management, and planned care and population health in the final two years of CPC+. Many vendors also reported plans to sustain functionalities that are also useful for other advanced primary care initiatives after CPC+ ends; some of these functionalities include documenting quality measures, empaneling and risk stratifying patients, creating care plans, and administering social needs assessments. However, some vendors noted it may be challenging to sustain these functionalities given that supporting them can be resource-intensive.

4. CPC+ PRACTICE CHANGE: PRACTICES MADE MANY CHANGES IN PY 3, THOUGH THERE IS MORE WORK TO DO TO FULLY IMPLEMENT THE CPC+ MODEL



Key takeaways

CPC+ practices continued to be satisfied with their decision to join CPC+ and perceived improvements from participating. Although there is still work to do to more fully implement the model during the remaining two years of CPC+, the data suggest that, compared with the first two years of CPC+, more CPC+ practices reported in PY 3 that they:

- Provided patients with after-hours access to a physician or other clinical staff member who has real-time access to the practice's EHR.
- Used designated care managers, typically on-site staff who are registered nurses, to deliver longitudinal care management services. About one-half of care managers/and or care coordinators had behavioral health training.
- Had formal, written agreements with specialists to support coordinated referral management.
- Improved coordination and information exchange with hospitals and EDs that see their patients.
- Followed up in a timely manner with their patients after they were seen by a hospital or ED.
- Co-located a behavioral health specialist and offered behavioral health counseling at the practice site.
- Screened patients for unmet behavioral health and social service needs.
- Co-located a pharmacist at the practice site to support comprehensive medication management.
- Convened and collected feedback from patients during Patient and Family Advisory Council (PFAC) meetings.
- Took steps to integrate advance care planning into care delivery.

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. Some requirements pertained only to Track 2; as expected, Track 2 practices were more likely than Track 1 practices to report advanced activities for most of these requirements. However, as in previous years, Track 1 practices did some work related to some of the Track 2-only requirements (such as providing comprehensive medication management and screening for health-related social needs), despite not being required to do so. There were no consistent differences in care delivery changes between SSP and non-SSP practices within tracks, based on the data practices reported to CMS and on the CPC+ Practice or Physician Surveys.

Responses from physicians on the PY 3 CPC+ Physician Survey provide evidence of greater transformation in care delivery approaches among physicians in CPC+ than those in comparison practices in some areas. For example, physicians in CPC+ practices reported offering considerably more access to after-hours care, use of risk stratification and care managers, timely follow-up after ED and hospital visits, and progress integrating behavioral health than physicians in comparison practices.

However, physicians' survey responses also suggest that, on average, CPC+ and comparison physicians used similar approaches to many of the other aspects of care delivery that CPC+ promotes, including alternatives to traditional office visits, advance directives for high-risk patients, health information exchange with other providers, screening for health conditions, and using data feedback to change care delivery.

Although CPC+ appears to be improving care delivery, there is more work to do for some of the more challenging care delivery requirements. In PY 3, CPC+ practices continued to face challenges related to making some of the model's care delivery changes and reaching all patients who would benefit from new services. They also continued to report in PY 3 that CPC+ requirements—especially financial reporting requirements—were burdensome. Areas where practices had room for improvement include:

- Providing longitudinal care management services to a larger proportion of their patients at higher risk, integrating risk stratification into all aspects of care delivery, and using care plans more fully to guide ongoing care for high-risk patients.
- Integrating behavioral health services more thoroughly, including identifying and training staff and using measures to monitor and refine services for patients with mental health conditions.
- Offering alternatives to traditional office visits (such as scheduled phone or video visits) to more patients.
- Using information on what payers pay for specialists' services when making referral decisions.
- Using PFAC feedback to consistently guide practice improvements.
- Documenting advance care preferences in their EHR for high-risk patients.

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 outcomes (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. CMS encourages practices to view the care delivery requirements as starting points to build on as they work to improve the care they deliver. 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. CMS also encouraged practices to expand their work beyond care delivery processes and to enhance their focus on outcomes as they entered the second half of the five-year model. Practices have autonomy to decide how they will approach CPC+ 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 changes. Table 4.1 describes the care delivery requirements for PY 3, by track, and how the requirements changed over the first three years of CPC+.

Table 4.1. Care delivery requirements in PY 3 and changes to requirements over time



Track 1 ^a in PY 3	Track 2 in PY 3	Changes to requirements from PY 1 to PY 3
 1. Access and continuity		
Access		
Ensure patients have 24/7 access to a care team practitioner with real-time access to the EHR. ^b	Same as Track 1.	In PYs 1 and 2, CMS required all practices to maintain at least 95 percent empanelment (assignment) to a practitioner and/or care team. In PY 3, this was encouraged but no longer required.
Continuity		
Optimize continuity of care for empaneled patients while preserving access.	Same as Track 1.	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 PY 3, CMS required practices to optimize continuity of care while preserving access.
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 PY 3, CMS instructed 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.	Same as Track 1.	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 PY 3, 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.


Table 4.1. (continued)

Track 1 ^a in PY 3	Track 2 in PY 3	Changes to requirements from PY 1 to PY 3
Longitudinal care management		
Ensure patients who have complex needs and are likely to benefit receive proactive, relationship-based care management.	Same as Track 1.	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 PY 3, CMS encouraged, but no longer required, practices to use risk stratification to identify patients for longitudinal care management.
Care plans		
No Track 1 requirements.	No Track 2 requirements.	In PYs 1 and 2, CMS required Track 2 practices to use a plan of care for patients receiving longitudinal care management. In PY 3, CMS encouraged, but no longer required, practices to use a plan of care.
Episodic care management		
Ensure all patients receive timely follow-up contact from your practice after ED visits and hospitalizations, as clinically indicated.	Same as Track 1.	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 PY 3, 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 for specialists to whom they frequently make referrals and/or high-cost specialist care.	Same as Track 1.	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 PY 3, 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.	Same as Track 1.	In PY 1, CMS required Track 2 practices to develop a plan for implementing behavioral health. In PY 2, CMS required all practices to plan for behavioral health integration. In PY 3, CMS required all practices to <i>provide</i> integrated behavioral health care.

Table 4.1. (continued)

Track 1 ^a in PY 3	Track 2 in PY 3	Changes to requirements from PY 1 to PY 3
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 PY 3, CMS required Track 2 practices to implement their plan to provide comprehensive medication management.
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 PY 3, 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.	No Track 2 requirements.	CMS required Track 2 practices in PY 1 to identify a capability to address the needs of a subpopulation of patients with complex needs and in PY 2, to develop that capability. In PY 3, 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.	Same as Track 1.	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 PY 3, CMS relaxed the frequency requirement by not specifying the regularity 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 PY 3, CMS required Track 2 practices to ensure patients' goals, preferences, and needs are integrated into care through advance care planning.

Table 4.1. (continued)

Track 1 ^a in PY 3	Track 2 in PY 3	Changes to requirements from PY 1 to PY 3
Self-management support		
No Track 1 requirements.	No Track 2 requirements.	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 PY 3, 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.	Same as Track 1.	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 to use 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 PY 3, 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.	No Track 2 requirements.	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 and payer partners and internal monitoring, and to use these data to guide testing of tactics to improve care and achieve practice goals in CPC+. In PY 3, CMS encouraged, but no longer required, practices to hold data-focused care team meetings.

Source: Center for Medicare & Medicaid Innovation, "2019 CPC+ Implementation Guide: Guiding Principles and Reporting," January 1, 2019.

^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 PY 2 and PY 3, 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; PFAC = Patient and Family Advisory Council; PY = Program Year.



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

We rely primarily on self-reported data to understand practices', physicians', and beneficiaries' experiences in CPC+. We analyzed data from seven sources described in Table 1.2 to understand progress in the ways CPC+ practices deliver care. These included the CPC+ Practice, Physician, and Beneficiary Surveys (collected in PYs 1, 2, and 3; PY 3; and PYs 2 and 3, respectively), care delivery data that practices reported to CMS (through PY 3), interviews with physicians and staff at a representative sample of "deep-dive" practices (in PY 2), and interviews with a sample of patients at deep-dive practices (in PY 3). The Appendices provide additional details about these data sources.^a

Data analysis

Tracking changes in care delivery over time. When analyzing quantitative data on a given topic, we considered whether findings among CPC+ practices varied in meaningful ways between PYs 1, 2, and 3 (when data were available for all three program years).

Understanding how findings differ by practice and respondent type. 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. We also considered whether findings varied in meaningful ways between physician and beneficiary respondents from CPC+ and comparison practices (when data from comparison practices were available).

Characterizing meaningful differences. For the 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 CPC+ Physician Survey (Appendix 3.C), the CPC+ Beneficiary Survey (Appendix 5.A), the in-depth study of patient experiences with care management (Appendix 4.B), and findings from our analysis of practices' care management strategies (Appendix 4.C).

4.2. Practices' perspectives of and overall approaches to CPC+ in PY 3

4.2.1. Practices' overall impressions of CPC+

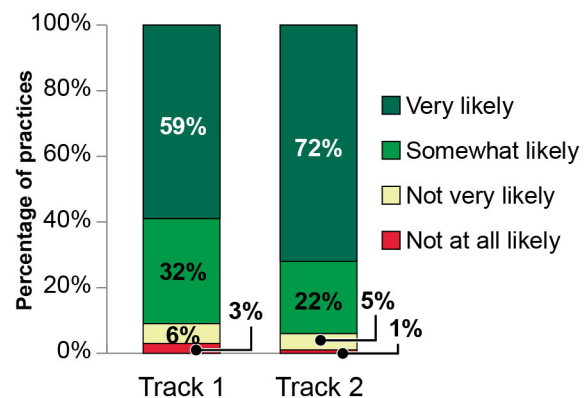
Many practices were satisfied with their decision to join CPC+, yet they noted the work is challenging. Based on their overall experience with CPC+, 66 percent of practices reported on the PY 3 CPC+ Practice Survey that they would be very likely, and 27 percent would be somewhat likely, to participate in CPC+ again if given the opportunity. These results are similar to PY 2, the first year practices were asked about CPC+. More Track 2 than Track 1 practices (72 versus 59 percent) reported that they would be very likely to participate in CPC+ again (Figure 4.1).

Despite being likely to participate again, many practices continued to report that CPC+ requirements—especially financial reporting requirements—were burdensome in PY 3. Even with the reported burden of CPC+ requirements, physicians in CPC+ and comparison practices reported similar levels of job satisfaction, burnout, and likelihood to leave their current practice. About three-quarters of physicians in CPC+ and comparison practices reported on the PY 3 CPC+ Physician Survey that they “agreed” or “strongly agreed” with the statement “Overall, I am satisfied with my current job.” While there were no differences between physicians in CPC+ and comparison practices, about one-third of physicians reported that they were experiencing burnout, and about one-quarter reported that they were “somewhat” or “very likely” to leave their current practice within two years.

Although physicians' survey responses about CPC+ participation overall were generally positive, physicians' and staff members' buy-in to specific CPC+ care delivery requirements varied. As discussed later in this chapter and noted in the second annual report, some deep-dive practices perceived limited benefits or value of investing finite staff and financial resources in employing risk-stratification processes, developing and using care plans, enacting collaborative care agreements, or using data on what insurers pay when making specialist referral decisions. The next wave of deep-dive interviews will examine the extent to which these findings persist and the reasons behind them.

Figure 4.1. Likelihood that practices would participate in CPC+ if they could do it all over again, by track

Based on their overall experience with CPC+, most practices reported that they were likely to participate in CPC+ again if given the opportunity.



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

Notes: N = 1,199 Track 1 practices and 1,407 Track 2 practices that responded to the survey.

PY = Program Year.

4.2.2. Practices' approaches to implementing CPC+

Practices' approaches to CPC+, including their autonomy in making decisions related to staff, priorities, and clinical work processes, were similar across program years. Similar to prior program years, more than one-half of CPC+ practices reported on the PY 3 CPC+ Practice Survey that they had high autonomy to make decisions about hiring (71 percent), clinical work processes (57 percent), and the specialists to whom the practice site refers patients (62 percent). As in PYs 1 and 2, independent practices generally reported that they had more autonomy in carrying out CPC+ requirements than practices that were part of a hospital or health care system. Most practices also continued to report that medical directors or clinician leads at the practice site, clinical support staff, and physicians were very or somewhat involved in implementing CPC+ in PY 3.

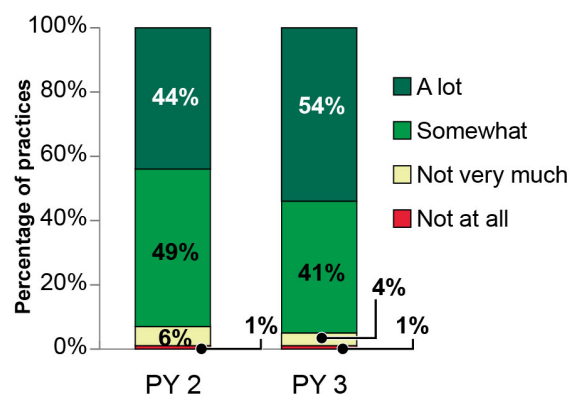
4.2.3. Practices' progress improving primary care delivery

Practices continued to report that CPC+ improved the quality of care provided to patients. Most practices (95 percent) reported on the PY 3 CPC+ Practice Survey that participating in CPC+ improved the quality of care they provided to patients somewhat or a lot (Figure 4.2).

Practices continued to provide more advanced approaches to care delivery over the course of CPC+. Practices reported on the modified Patient-Centered Medical Home Assessment (M2-PCMH-A) part of the annual CPC+ Practice Surveys how they delivered various aspects of care. Mathematica summarized practices' responses and classified their summary scores by how advanced their approaches were. These scores indicated that practices in both tracks made improvements to care delivery during the first three years of CPC+.³⁹ Over time, more practices' responses indicated they provided fairly advanced or very advanced care overall (Figure 4.3). On the PY 3 CPC+ Practice Survey, 30 percent of Track 1 practices and 44 percent of Track 2 practices indicated they were providing fairly advanced approaches to primary care delivery, and another 7 percent of Track 1 and 15 percent of Track 2 practices indicated they were providing very advanced approaches to care. While improvements to care delivery for both tracks have been relatively steady each year, Track 2 practices continue to report more advanced approaches to care delivery.

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

As in PY 2, most practices reported that participating in CPC+ improved the quality of care they provided to patients somewhat or a lot in PY 3.



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

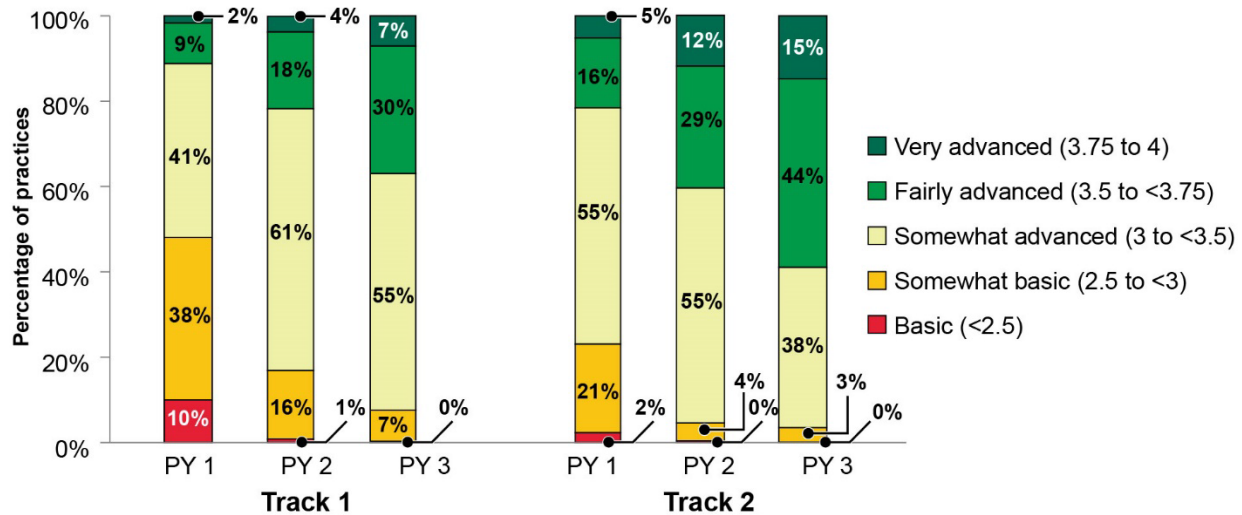
Notes: N = 1,202 Track 1 practices and 1,413 Track 2 practices. Not all practices responded to the question each year. The percentage of missing responses each year was less than 1 percent.

PY = Program Year.

³⁹ Appendix 3.B includes more information on the M2-PCMH-A content and administration of the CPC+ Practice Survey.

Figure 4.3. Distribution of regression-adjusted average overall M2-PCMH-A scores in PYs 1, 2, and 3, by track

Practices in both tracks improved care delivery over the first three years of CPC+. Track 2 practices continued to use more advanced care delivery processes than Track 1 practices.



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

Notes: N = 1,206 Track 1 practices and 1,418 Track 2 practices that responded to the survey each program year. Practices rated their approaches to care delivery on a scale from 1 to 4. Mathematica summarized practices' responses and classified their summary scores by how advanced their approaches were. We determined the five categories using the survey instrument and the summary statistics from the PY 1 survey.

M2-PCMH-A = modified version of the Patient-Centered Medical Home-Assessment; PY = Program Year.

Practices in both tracks made fairly similar progress on most care delivery requirements, but Track 2 practices were more likely to report headway on some. As anticipated, for most of the requirements that pertained only to Track 2, Track 2 practices were more likely than Track 1 practices to report care delivery changes. For instance, more Track 2 than Track 1 practices reported offering scheduled phone, video, or eVisits to at least some of their patients (54 versus 36 percent) and screening for health-related social needs (99 versus 86 percent) in PY 3. Track 2 practices also continued to be more likely than Track 1 practices to report making a few of the care delivery changes required of both tracks in PY 3. For example, while CMS required practices in both tracks to provide integrated behavioral health care in PY 3, more Track 2 than Track 1 practices reported having a behavioral health specialist (63 versus 33 percent) and behavioral health counseling services (72 versus 56 percent) available at the practice site. Track 2 practices were more likely than those in Track 1 to make some care delivery changes, partly because Track 2 practices (1) received larger enhanced payments and (2) were generally required to make more advanced care delivery changes (and in some cases to make changes earlier in CPC+) than Track 1 practices. Track 2 practices also had to demonstrate that they were using more advanced care strategies—such as risk-stratification tools and care plans—when they applied to CPC+ to qualify for Track 2. There were no consistent differences in care delivery between SSP and non-SSP practices within tracks, based on the data practices reported to CMS or on the CPC+ Practice or Physician Surveys.

Responses to the PY 3 CPC+ Physician Survey provide evidence of greater care delivery transformation among physicians in CPC+ practices than those in comparison practices in some areas of care delivery. For example, physicians in CPC+ practices reported considerably more behavioral health care integration (such as the availability of on-site behavioral health counseling) than physicians in comparison practices. Physicians' responses also indicated more CPC+ practices than comparison practices provide access to after-hours care, use risk stratification and care managers to improve care management for high-risk patients, use a designated staff person to link patients with supportive community-based resources (such as transportation, caregiver support, and housing), and ensure timely follow-up after ED and hospital visits. Responses from CPC+ and comparison physicians indicated *no differences* in other care delivery approaches, including offering alternatives to traditional office visits (such as home visits and video visits). There were also no differences in physicians' reports about continuity of care; consistent with this, beneficiaries in CPC+ and comparison practices reported similar levels of continuity with their regular primary care provider. In addition, there were no differences between reports of physicians in CPC+ practices and those in comparison practices in terms of using data on what insurers pay for specialists to inform referrals, using advance directives for high-risk patients, exchanging health information with other providers, screening for health conditions, and (despite appearing to receive more data feedback) using data feedback on quality of care to change care delivery.

Taken together, findings since CPC+ began suggest that, although participating practices have made a number of important changes in the way they deliver care, work remains to implement some of the more challenging care delivery requirements. Such challenging work includes providing longitudinal care management services to a larger proportion of their patients at higher risk, integrating risk stratification into "all aspects of care delivery," and using care plans more fully to guide ongoing care for high-risk patients. It also includes integrating behavioral health services more thoroughly, such as identifying and training staff and using measures to monitor and refine services for patients with mental health conditions. At the end of PY 3, practices had much work to do to offer alternatives to traditional office visits (such as scheduled phone or video visits) to more patients. They also could make more use of information on what payers pay for specialists' services when making referral decisions. Finally, practices could work to use PFAC feedback to guide practice improvements more consistently.

4.3. Practices' progress and areas for improvement by Comprehensive Primary Care Function

4.3.1. Access and continuity



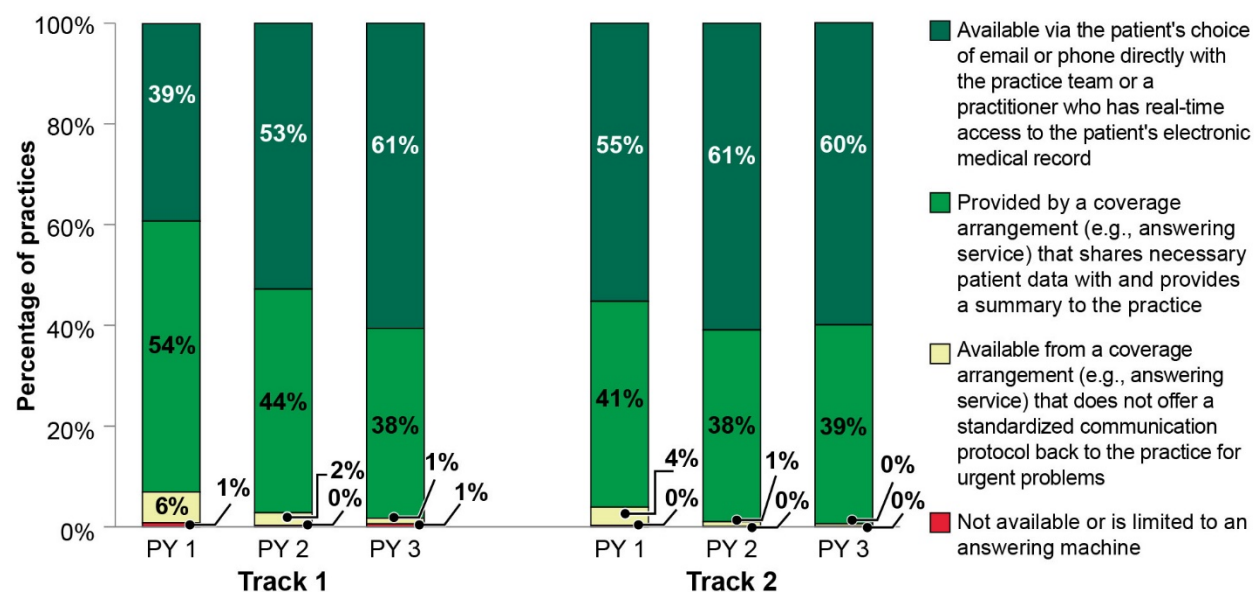
CPC+ encourages practices to improve patients' access to, and continuity of, primary care. CPC+ defines *access to care* as the availability of health services when patients need and want them, and *continuity of care* as the creation of long-term, trusting relationships between patients and practitioners to enable effective provision of care (CMMI 2019). 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 ED visits.

A. 24/7 access

More than one-half of practices provided after-hours access to care, via the patient's choice of email or phone. In PY 3, 60 percent of CPC+ practices reported on the CPC+ Practice Survey providing after-hours access via the patient's choice of email or phone directly with a practitioner or other practice team member, up from 48 percent in PY 1 and 57 percent in PY 2. Nearly all of the remaining practices (39 percent) reported that they provided after-hours access through a coverage arrangement (for example, an answering service) that shares necessary patient data with and provides a summary to the practice. Practices in both tracks have improved after-hours access since CPC+ began, making the largest improvements between PYs 1 and 2. By PY 3, Track 1 practices, which had lagged Track 2 practices in this area in PYs 1 and 2, reported similar percentages as Track 2 practices (Figure 4.4).

Figure 4.4. CPC+ practices' reported arrangements for after-hours access in PYs 1, 2, and 3, by track

In PY 3, many CPC+ practices reported providing after-hours access by phone or email with a practitioner or other practice team member who could access the patient's EHR in real time; practices made the biggest improvements between PY 1 and PY 2. While Track 1 practices lagged Track 2 practices in providing patients access via direct contact with a practitioner or care team member in PYs 1 and 2, similar percentages reported doing so in PY 3.



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

Note: N = 1,206 Track 1 practices and 1,418 Track 2 practices that responded to the survey each program year. Not all practices responded to the question each year. The percentage of missing responses each year was less than 1 percent. Percentages may not sum to 100 due to rounding.

PY = Program Year.

Physicians in CPC+ practices reported better patient access to after-hours care than those in comparison practices. In PY 3, about 90 percent of physicians in CPC+ practices reported on the CPC+ Physician Survey that their patients had after-hours access to a physician or other clinical staff with real-time access to the practice's EHR, which is higher than the approximately 80 percent of physicians in comparison practices who reported their patients had this type of access.

Around half of CPC+ practices continued to offer extended hours appointments when patients needed them. Fifty-four percent of practices reported to CMS always offering patients early morning, evening, or weekend office visits when needed in PY 3, similar to the 53 percent that reported doing so in PYs 1 and 2. Additionally, about two-thirds of the 8 percent of Medicare FFS beneficiaries in both CPC+ and comparison practices who reported contacting their doctor’s office outside of regular business hours on the PY 3 CPC+ Beneficiary Survey reported that they received timely answers to their health questions, similar to findings from PY 2.

B. Continuity of care

Although CPC+ practices have reported increased continuity of care over time, continuity of care did not differ between CPC+ and comparison practices, based on responses to the PY 3 CPC+ Physician and Beneficiary Surveys. In PY 3, 99 percent of CPC+ practices reported to CMS that they track continuity of care, up from 78 percent in PY 1 and 92 percent in PY 2. On the PY 3 CPC+ Practice Survey, 72 percent of practices reported that they “almost always” scheduled patients with their specific physician. Many practices (88 percent) also reported that the specific physician or a care team member who has primarily worked with the patient almost always responded when a patient contacted the practice with clinical questions or concerns between scheduled encounters. These findings are consistent with practices’ reporting since PY 1. However, it is unclear whether CPC+ altered continuity of care. 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. (For both CPC+ and comparison practices, physicians in independent and smaller practices were more likely to report usually or always seeing their assigned patients for acute care visits in PY 3 than physicians in larger or health system-owned practices.) 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.

C. Alternative visits

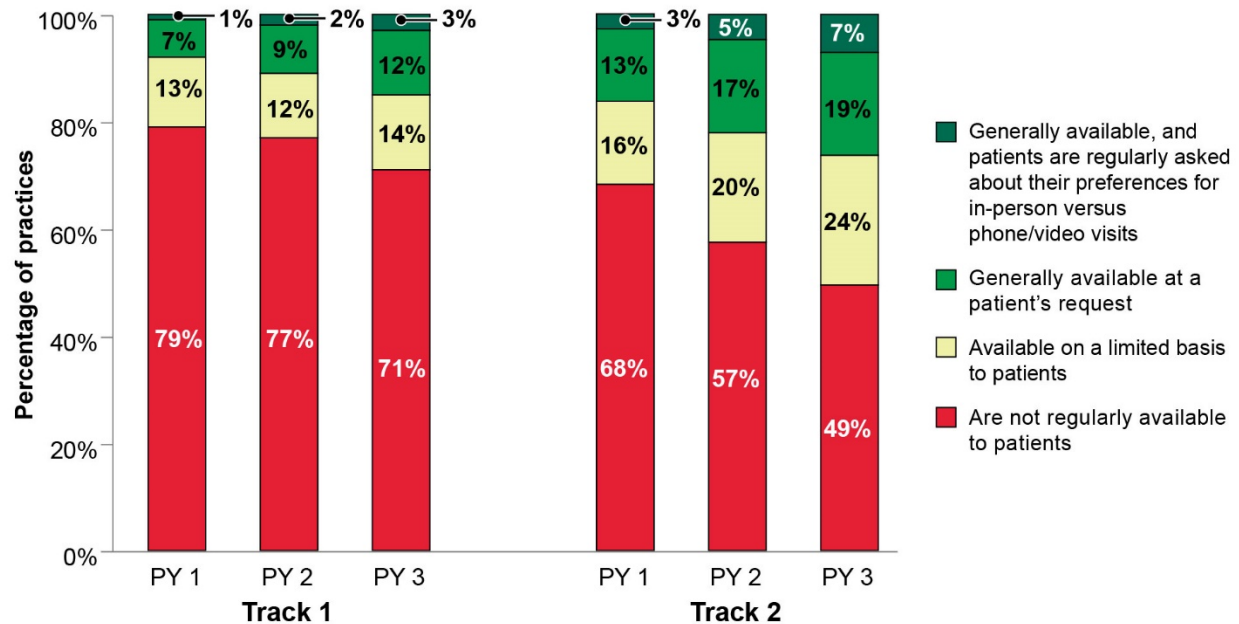
Few CPC+ practices offered alternatives to traditional office visits during the first three years of CPC+. For example, 3 percent of Track 1 and 7 percent of Track 2 practices reported on the CPC+ Practice Survey that scheduled phone or video visits with a physician were “generally available and patients were regularly asked about their preferences for in-person versus phone/video visits” in PY 3, similar to PYs 1 and 2. Consistent with this requirement pertaining only to Track 2 practices, over the course of CPC+ Track 2 practices have shown slightly more progress in making scheduled phone or video visits generally available than Track 1 practices (Figure 4.5). Analysis of claims data indicates similarly low rates of telehealth or non-face-to-face visits for Medicare FFS beneficiaries in CPC+ and comparison practices in PY 3 (0.1 percent of all primary care ambulatory visits).⁴⁰ Very few patients (less than 0.5 percent) reported on the PY 3 CPC+ Beneficiary Survey that they had a video appointment with a doctor or someone from the doctor’s office. Likewise, few CPC+ practices in either track reported to CMS that they used the flexibility of their CPC+ payments to offer alternatives to

⁴⁰ We will monitor how the coronavirus disease 2019 (COVID-19) pandemic increased use of telehealth services starting in PY 4.

office visits, such as hospital, home, group, or video-based conferencing visits, to patients in PY 3.

Figure 4.5. Practices' reported availability of scheduled phone or video visits with a physician in PYs 1, 2, and 3, by track

CPC+ practices have made little progress since PY 1 in making scheduled phone or video visits generally available and asking patients regularly about their preferences for in-person versus phone or video visits. Track 2 practices have made more progress than Track 1 practices in making these types of visits available on at least a limited basis over the course of CPC+.



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

Note: N = 1,205 Track 1 practices and 1,418 Track 2 practices that responded to the survey each program year. Not all practices responded to the question each year. The percentage of missing responses each year was less than 1 percent. Percentages may not sum to 100 due to rounding.

PY = Program Year.

4.3.2. Care management



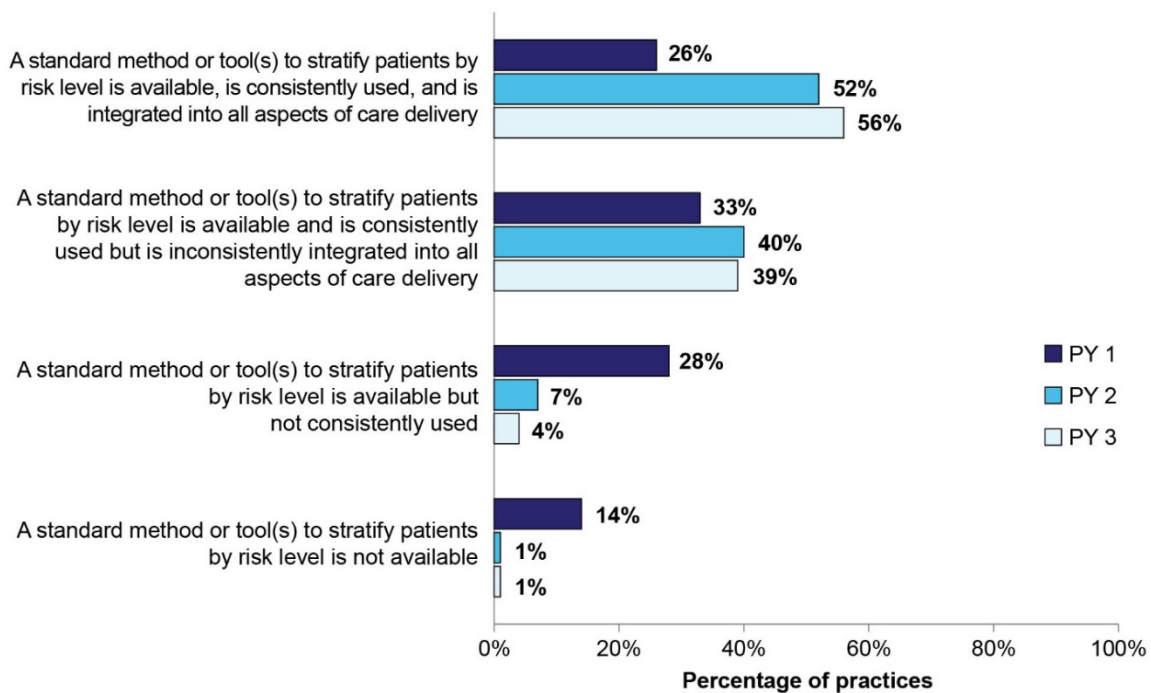
CMS views care management for patients with complex needs or high health care costs as a hallmark of primary care. The term “care management” describes a set of proactive activities intended to improve patients’ quality of life and health outcomes and reduce high utilization (CMMI 2019). CPC+ requires 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 acute care events such as ED visits and hospitalizations.

A. Risk stratification

Most CPC+ practices continued to report that they were risk stratifying empaneled patients in PY 3; however, only about one-half of these practices integrated their risk-stratification process into all aspects of care delivery. Ninety-five percent of practices reported on the CPC+ Practice Survey consistently using a standard process for risk stratification in PY 3, and 56 percent reported also integrating risk stratification into all aspects of care delivery (Figure 4.6). Additionally, substantially more physicians in CPC+ practices than comparison practices reported on the PY 3 CPC+ Physician Survey that their practice or health system used a standard process for risk stratification (80 versus 35 percent). However, findings related to practices' and physicians' reports of using risk-stratification processes should be interpreted with caution. In PY 2, many deep-dive practices reported that physicians were uncertain about how automated risk scores were calculated and perceived that their practice had insufficient EHR functionality to support the risk-stratification process or lacked a clear process for updating risk scores based on clinical intuition. These factors, reported by deep-dive practices, affected practitioners' perceptions of the accuracy of risk scores, and thus their buy-in to the value of assigning risk scores and using risk scores during care delivery.

Figure 4.6. CPC+ practices' reports about availability and use of a standard method or tool to stratify patients by risk level in PYs 1, 2, and 3

The percentage of CPC+ practices that reported consistently using a standard method or tool to stratify patients by risk level increased between PY 1 and PY 2 and remained high in PY 3 at 95 percent. The percentage of practices that consistently used and integrated a risk-stratification method or tool into all aspects of care delivery remained lower, around 50 percent in PY 3.



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

Notes: N = 1,206 Track 1 practices and 1,418 Track 2 practices that responded to the survey each program year. Not all practices responded to the question each year. The percentage of missing responses each year was less than 1 percent.

PY = Program Year.

B. Longitudinal care management

CPC+ practices improved the quality of care management services in PY 3. About three-quarters of practices reported on the PY 3 CPC+ Practice Survey that they used on-site care managers to deliver care management services to high-risk patients; the remaining practices used care managers within the practice’s organization but not physically located at the practice site (24 percent) and very few used a care manager from an outside organization (1 percent). About three-quarters of all practices that include care managers on the care team (regardless of who employs them or whether they are located on site) had care managers who were registered nurses, and about one-half of practices had care managers with behavioral health training. More CPC+ practices reported on the annual CPC+ Practice Surveys that they provided self-management support—including helping patients to set goals—each program year (56, 72, and 81 percent in PYs 1, 2, and 3, respectively).

More physicians in CPC+ than comparison practices used and regularly met with designated care managers. On the PY 3 CPC+ Physician Survey, substantially more physicians in CPC+ practices (about 90 percent) reported that their practice used designated care managers to deliver longitudinal care management than did physicians in comparison practices (about 66 percent). Among physicians who reported that their practice used designated care managers, about two-thirds to three-quarters of physicians in CPC+ practices reported engaging with care managers daily or weekly to discuss high-risk patients, compared to about one-half of physicians in comparison practices. Additionally, among physicians whose practices used designated care managers, more physicians in CPC+ than comparison practices reported that designated care managers were at the practice site at least once a week (about 88 versus about 73 percent).

More physicians in CPC+ than comparison practices developed a plan of care for high-risk patients, though physicians in both groups had room to improve their use of care plans. In PY 3, CMS encouraged, but no longer required (as it did in PYs 1 and 2) that Track 2 CPC+ practices use a plan of care for patients receiving longitudinal care management. Nonetheless, on the PY 3 Physician Survey, 84 percent of physicians in CPC+ practices reported that they (or someone from their care team) developed a plan of care for at least some (most or all, many, or some) of their high-risk patients, compared to about two-thirds of physicians in comparison practices. More physicians in Track 2 practices reported care plans were developed for most or all high-risk patients compared to physicians at comparison practices (29 versus 11 percent, respectively). The percentage of Track 1 physicians who reported this was similar for CPC+ and comparison practices (16 and 10 percent, respectively). Among physicians in CPC+ practices who reported that they or someone from their care team develops care plans for high-risk patients, 29 percent reported that they “usually or always” use care plans for ongoing care, 46 percent reported care plans are “usually or always” updated after major events such as a hospital discharge or exacerbation of a condition, and 42 percent reported care plans are “usually or always” shared with patients. There were no meaningful differences in these findings by CPC+ track or between physicians from CPC+ and comparison practices. Findings related to physicians’ development and use of care plans should be interpreted with caution. In PYs 1 and 2, practitioners and practice managers at several Track 2 deep-dive practices used the term “care plan” when referencing other clinical documentation, such as after-visit summaries, progress or

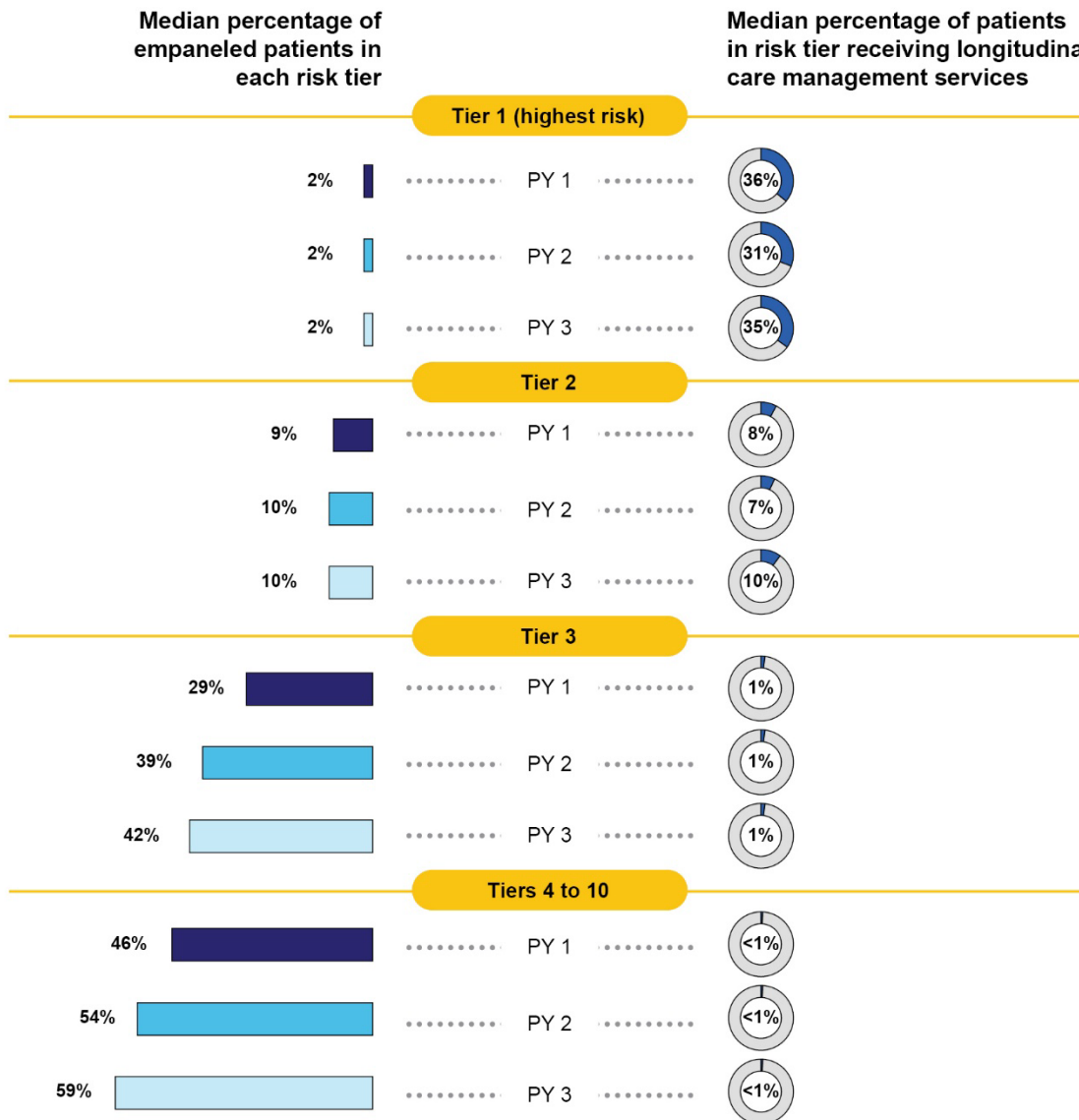
encounter notes, or pre-visit planning documents. Due to this confusion about terminology, the CPC+ Physician Survey data may not accurately capture practices' development or use of care plans as envisioned by CMS.

As in prior program years, small proportions of patients in CPC+ practices received longitudinal care management services in PY 3.⁴¹ Based on practices' reports to CMS, practices continued to provide longitudinal care management services to a lower percentage of their high-risk population than CMS anticipates. 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, with 1 to 10 percent of the practices' total empaneled population receiving longitudinal care management services (CMMI 2019). CPC+ practices placed a median of 2 percent of patients in the highest risk tier; among these patients, a median of 35 percent were receiving longitudinal care management in PY 3 (Figure 4.7). In addition, practices placed a median of 10 percent of patients in the next highest risk tier; of these patients, a median of 10 percent were receiving longitudinal care management in PY 3 (these percentages are similar to the findings from PYs 1 and 2).

⁴¹ See Appendix 4.C for additional findings from our analysis of practices' care management strategies.

Figure 4.7. Comparison of patients’ receipt of longitudinal care management services in PYs 1, 2, and 3

In all three program years, CPC+ practices reported to CMS that the median percentage of empaneled patients in the highest-risk tier was about 2 percent. Of these patients, practices reported that a median of about one-third received longitudinal care management.



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

Note: 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 3 and had at least one patient in that risk tier. The number of practices reporting in each risk tier varied by year.

For Q4 2017, Tier 1 included 2,642 practices; Tier 2 included 2,566 practices; Tier 3 included 2,417 practices; and Tiers 4 to 10 included 1,525 practices.

For Q4 2018, Tier 1 included 2,638 practices; Tier 2 included 2,705 practices; Tier 3 included 2,626 practices; and Tiers 4 to 10 included 1,636 practices.

For Q4 2019, Tier 1 included 2,611 practices; Tier 2 included 2,669 practices; Tier 3 included 2,613 practices; and Tiers 4 to 10 included 1,572 practices.

PY = Program Year; Q4 = fourth quarter.



Closer look: Patients' experiences with care management and goal setting

In-depth interviews with a sample of 40 high-risk patients participating in care management services at 12 CPC+ practices revealed the following:

- Most patients engaged in goal setting with their primary care practitioner or care manager.
- Most patients felt their goals reflected their values and preferences for care.
- Most patients were satisfied with the goal-setting process.
- A few patients reported that they would have liked discussions of goals to have resulted in a different outcome, such as receiving a different medication or more practical help following through on the doctor's recommendations.
- Care managers' active listening skills, accessibility, responsiveness, and caring personalities facilitated patients' engagement with them.
- Several patients reported financial and transportation barriers to following care managers' referrals to specialty care and support services. Several also mentioned their personal time constraints presented a barrier to engaging in care management services.
- A few patients said their own reluctance to participate in care management was a barrier to engaging in these services. Patients reported that this reluctance came from self-reported lack of motivation to change health behaviors or struggle to accept that they needed assistance.

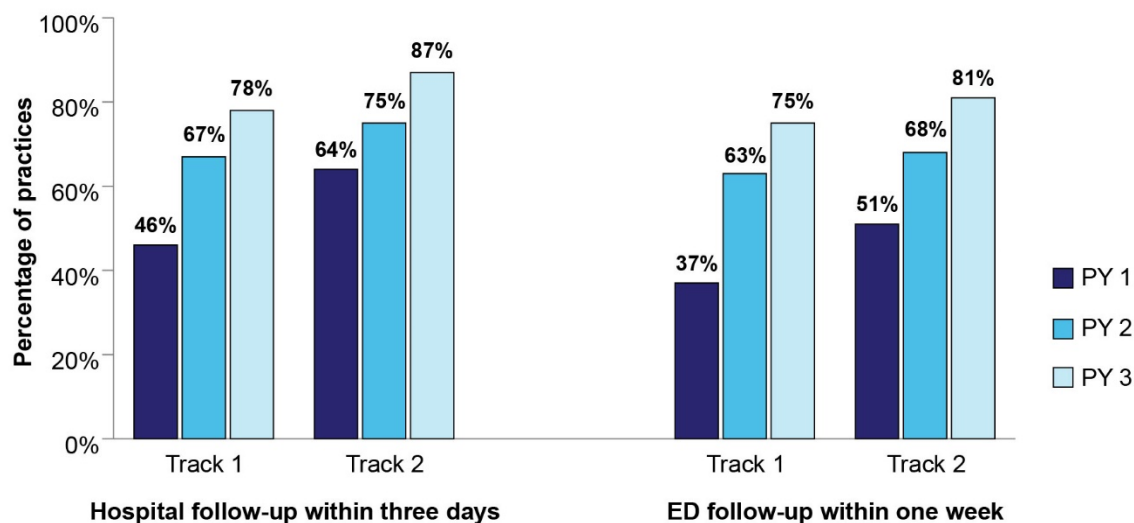
See Appendix 4.B for additional findings from the in-depth patient study.

C. Episodic care management

Practices continued to improve delivery of episodic care management services in PY 3. The percentage of CPC+ practices that reported on the annual CPC+ Practice Surveys providing timely outreach to “most or all” patients after hospital and ED discharge increased each program year, from 56 to 71 to 83 percent for hospital follow-up, and from 44 to 66 to 78 percent for ED follow-up (data not shown). Overall, a larger percentage of Track 2 practices reported on the annual CPC+ Practice Surveys that they conducted timely outreach after hospital and ED discharges than Track 1 practices in each program year (Figure 4.8). For example, in PY 3, 87 percent of Track 2 practices reported conducting outreach to patients within three days of a hospital discharge, compared to 78 percent of Track 1 practices. Track 1 practices reported greater improvement than Track 2 practices for both types of outreach between PYs 1 and 2, while both tracks experienced similar improvement between PYs 2 and 3.

Figure 4.8. Percentage of practices that reported following up with most or all patients within three days of a hospital discharge and within one week of an ED visit in PYs 1, 2, and 3, by track

Practices in both tracks reported improvements in the timeliness of outreach to patients after hospital discharges and ED visits over the first three program years. A larger proportion of practices in Track 2 than in Track 1 reported conducting timely outreach after hospital and ED discharges in each program year.



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

Note: N = 1,203 Track 1 practices and 1,418 Track 2 practices that responded to the survey each program year. Not all practices responded to the question in each year. The percentage of missing responses each year was less than 1 percent.

ED = emergency department; PY = Program Year.

The timeliness of information exchange between practices and hospitals and EDs improved in PY 3. According to the annual CPC+ Practice Surveys, the percentage of practices that had arrangements in place with EDs and hospitals to both track patients and ensure that follow-up occurs within a few days after discharge has increased markedly—rising from 48 to 69 to 78 percent in PYs 1, 2, and 3, respectively. Moreover, physicians in CPC+ practices were more likely than those in comparison practices to report having hospital and ED notification arrangements in place (more than three-quarters compared to about two-thirds, respectively). A greater percentage of CPC+ practices also reported receiving clinical information from hospitals and EDs about their patients each program year. The percentage of practices that reported usually receiving clinical information from hospitals about their patients who had a hospital visit within one day of discharge increased from 36 to 50 to 59 percent in PYs 1, 2, and 3. Likewise, the percentage of practices that reported that they usually received clinical information from the ED within one day of the patient's visit increased from 37 to 54 to 62 percent over the three program years.

4.3.3. 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 assisting with care transitions—and access community resources to meet their needs (CMMI 2019).

A. Coordinated referral management

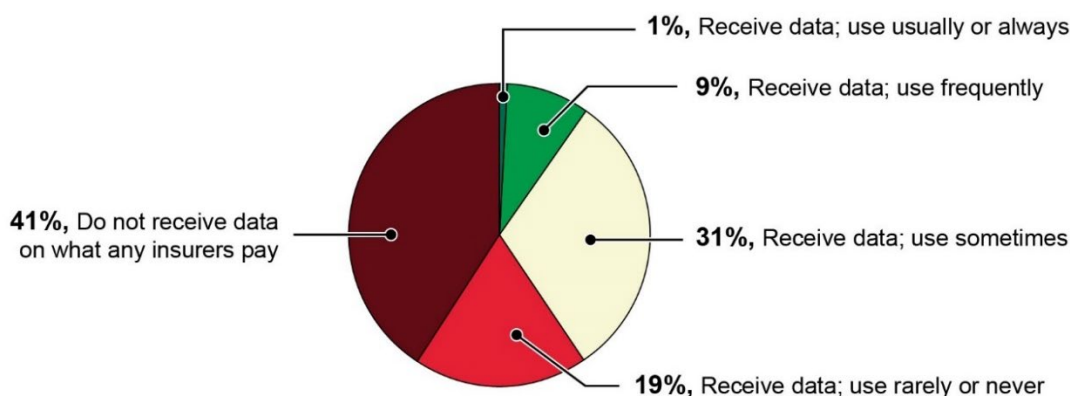
Many practices continued to enact or maintain collaborative care agreements with specialists, even though CMS no longer required this in PY 3. According to the annual CPC+ Practice Surveys, the percentage of practices that reported having formal, written agreements with “some,” “many,” or “most or all” medical and surgical specialist groups more than doubled during the first three program years, from 44 to 81 to 93 percent; the largest increase was in the percentage of practices reporting they established these agreements with “some” specialist groups. However, deep-dive data from PYs 1 and 2 indicate that physicians perceived limited benefits of collaborative care agreements and that the agreements had little effect on physicians’ workflows or on their choice of specialists for patient referrals. Physicians asked about collaborative care agreements during deep-dive interviews typically viewed the agreements as a formality (required at that time for CPC+) and emphasized that, before CPC+, they had already established informal relationships with specialists that served the same purpose.

Nearly all practices reported to CMS that they supported coordinated referral management with at least one type of specialty care in PY 3. In PY 3, the first year this question was asked, practices most commonly did so with cardiology (70 percent) and gastroenterology (54 percent).

More practices received data to identify high-cost specialist services in PY 3 than in PY 2, though few reported using these data. The percentage of practices that reported on the PY 3 CPC+ Practice Survey that they receive data on what “all” or “some” insurers pay for specialist services increased from 43 percent in PY 2 to 59 percent in PY 3. However, in PY 3, only 10 percent of practices reported that they “usually or always” or “frequently” use these data when making decisions about where to refer patients for specialist services (Figure 4.9). Correspondingly, 11 percent of physicians in CPC+ (and 5 percent in comparison practices) reported on the PY 3 CPC+ Physician Survey that they use data on what insurers pay for individual specialists “a lot” or “somewhat” when deciding to whom to refer a patient. Findings from deep-dive interviews in PYs 1 and 2 noted that barriers to changing primary care physicians’ referral patterns include patients’ preferences to see conveniently located specialists even if they cost more and physicians’ existing relationships with specialists they know and trust.

Figure 4.9. Percentage of practices that reported receiving and using data on what insurers pay for specialist services when making referral decisions in PY 3

Only 41 percent of practices reported receiving data on what insurers pay for specialist services and using those data at least sometimes to inform decisions about where to refer patients for specialist services.



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

Note: N = 1,196 Track 1 practices and 1,408 Track 2 practices that responded to the survey each program year. Percentages may not sum to 100 due to rounding.

PY = Program Year.

B. Integration of behavioral health care with primary care

In PY 3, 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:

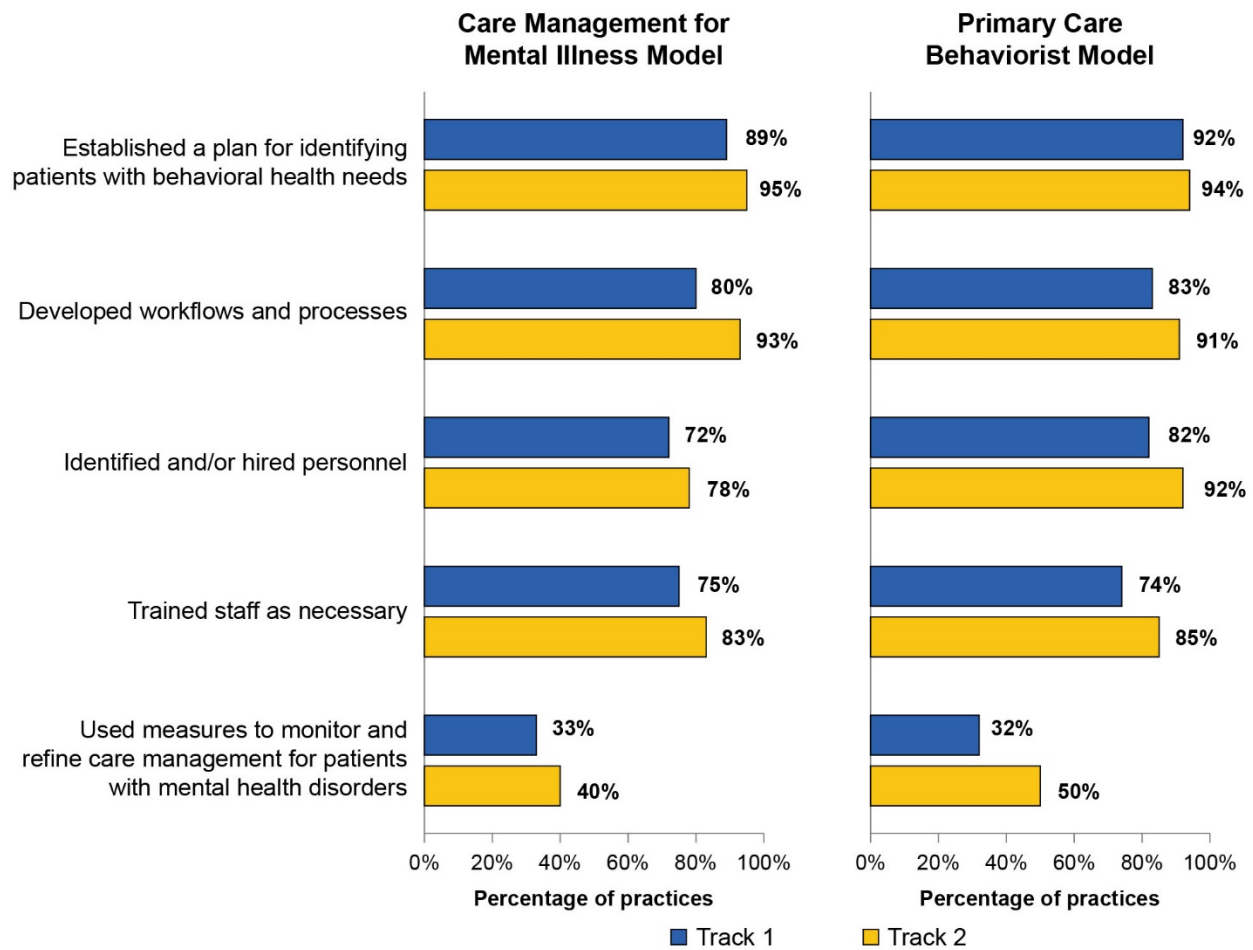
1. *Primary Care Behaviorist model.* In this model, a behavioral health specialist (psychologist, social worker, or psychiatric nurse practitioner) is located on site at the primary care practice to provide time-limited therapy for patients with behavioral health needs.
2. *Care Management for Mental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

Almost all practices are implementing a strategy to address behavioral health needs. Most practices (99 percent) reported to CMS that they were integrating a strategy to address behavioral health needs in PYs 1, 2, and 3. In PY 3, 55 percent of practices reported to CMS that they address behavioral health needs using the Primary Care Behaviorist model, 39 percent reported that they use the Care Management for Mental Illness model, and 5 percent indicated that they use both approaches.

Practices took steps to develop workflows and staff training for behavioral health integration; fewer used measures to monitor and refine their care approach for patients with behavioral health needs. Regardless of the BHI model (or combination of models) used, more than one-half of CPC+ practices reported to CMS that they had implemented at least four or five recommended steps for integrating behavioral health into primary care in PY 3. Three-quarters or more of practices pursuing each model (across both tracks) reported to CMS that they had established a plan for identifying patients with behavioral health needs, developed workflows and processes for BHI, identified and/or hired staff, or trained staff as necessary in PY 3. Fewer practices (across both tracks and models) reported to CMS that they used measures to monitor and refine their care approach for patients with mental health conditions, a step CMS added to the care delivery reporting data in PY 3. Among practices that chose to implement the Primary Care Behaviorist model, more Track 2 than Track 1 practices reported using measures to monitor and refine care management (50 versus 32 percent), identifying and hiring personnel (92 versus 82 percent), and training staff (85 versus 74 percent). Among practices that chose to implement the Care Management for Mental Illness model, similar percentages of Track 1 and Track 2 practices reported taking each of the steps to integrate the model, with the exception that more Track 2 than Track 1 practices reported developing workflows and processes (93 versus 80 percent) (Figure 4.10). In general, the percentages of practices within each track that took each of the four steps increased by about 10 percentage points from PY 2 to PY 3 (data not shown).

Figure 4.10. Percentage of practices that reported taking steps to integrate behavioral health in PY 3, by track and BHI model

Practices that identified their primary strategy for addressing behavioral health needs as either the Care Management for Mental Illness or Primary Care Behaviorist model were asked about the steps they took to integrate behavioral health within the models. Many practices had established a plan for identifying patients with behavioral health needs, developed workflows and processes, and identified and trained staff to address those needs. Fewer practices had used measures to monitor and refine their care approach for patients with a mental health disorder.



Source: Mathematica’s analysis of PY 3 practice-reported care delivery data submitted to CMS.

Notes: Care Management for Mental Illness model: N = 689 Track 1 practices and 487 Track 2 practices. Primary Care Behaviorist model: N = 593 Track 1 practices and 1,020 Track 2 practices. Sample includes practices that were participating in CPC+ at the end of PY 3. In previous program years, practices were required to select only one BHI model as their primary strategy for addressing behavioral health needs. In PY 3, practices could select one or both models.

BHI = behavioral health integration; PY = Program Year.

More physicians in CPC+ than comparison practices had behavioral health counseling services available at the practice in PY 3. Consistent with practices' reports, a higher percentage of physicians in CPC+ than comparison practices (across both tracks) reported on the PY 3 CPC+ Physician Survey having behavioral health counseling services available at the practice (around 65 versus 45 percent). Perhaps corresponding to the greater availability of counseling at the practice site, physicians in CPC+ practices were less likely than physicians in comparison practices to report on the PY 3 CPC+ Physician Survey that their ability to provide optimal care for patients was limited “a great deal” by the lack of available behavioral health specialists for consultations and/or referrals (42 versus 51 percent for Track 1; 35 versus 48 percent for Track 2).

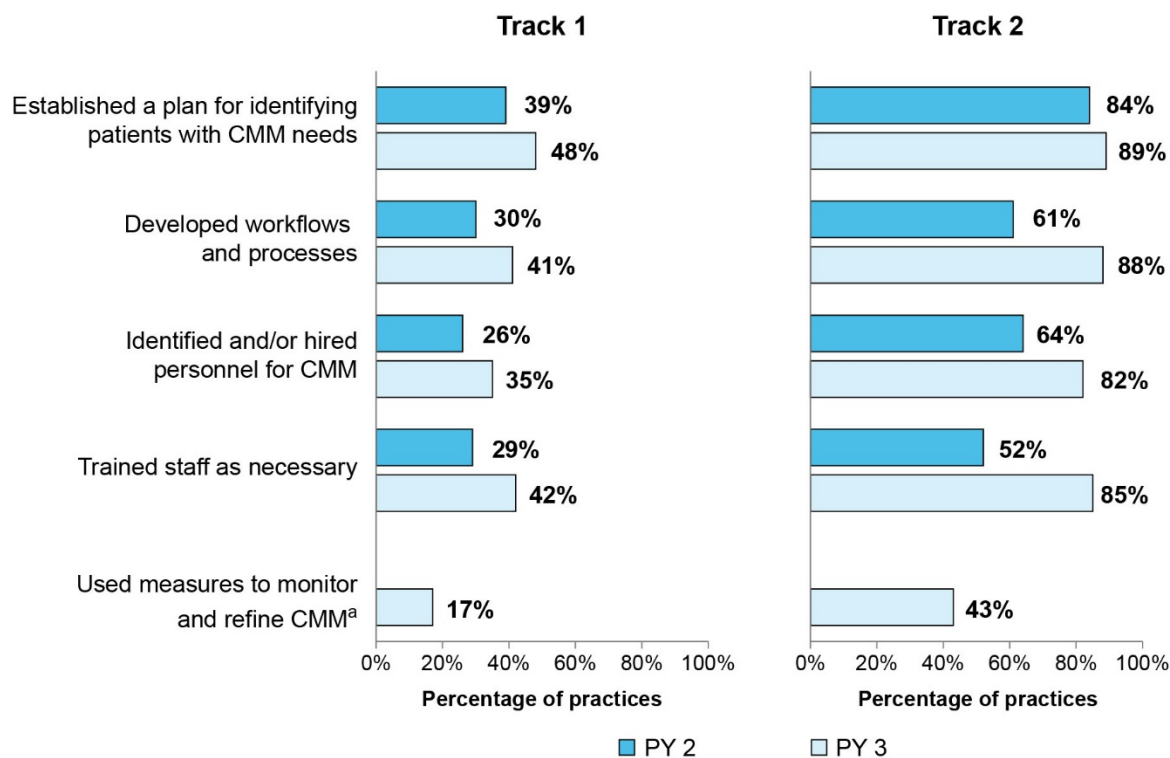
Having a co-located behavioral health specialist was more common among large and system-owned practices than among small or independent practices. As in PYs 1 and 2, substantially more large than small practices reported on the annual CPC+ Practice Surveys having a co-located behavioral health specialist in PY 3 (71 versus 28 percent). In addition, more system-owned than independent practices reported having a co-located behavioral health specialist in PY 3 (56 versus 40 percent). These differences are consistent with findings reported by deep-dive practices in PYs 1 and 2, which suggested that large and system-owned practices have more resources to hire and retain behavioral health specialists (and thus support more patients) than do practices that are smaller and independently owned.

C. Comprehensive medication management (CMM)

More practices took recommended steps to implement CMM over time; this was especially true for Track 2 practices, which were required by CMS to provide CMM. Between PYs 2 and 3, more Track 2 practices reported to CMS that they took steps to develop workflows (up from 61 to 88 percent), identify or hire staff (up from 64 to 82 percent), and train staff as necessary (up from 52 to 85 percent) to implement CMM. Despite not being required to provide CMM, Track 1 practices also made progress (Figure 4.11).

Figure 4.11. Percentage of practices that reported taking steps to implement CMM in PYs 2 and 3, by track

To implement CMM, more Track 2 practices developed workflows and processes, identified and hired personnel, and trained staff in PY 3 than in PY 2. Despite not being required to do so, Track 1 practices also made progress implementing CMM in PY 3, most notably in taking steps to develop workflows and train staff as necessary.



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

Note: N = 1,192 Track 1 practices and 1,413 Track 2 practices in PY 2. N = 1,229 Track 1 practices and 1,445 Track 2 practices in PY 3. Sample includes practices that were participating in CPC+ at the end of PY 3.

^a Information on practices' use of measures to monitor and refine CMM was not collected in PY 2.

CMM = comprehensive medication management; PY = Program Year.

CMM was most commonly provided on site. Similar to PY 2, 46 percent of Track 2 practices providing CMM reported to CMS that they accomplished this through co-management with a pharmacist, program, or service located at their practice. Thirty percent of Track 2 practices providing CMM reported to CMS that the practice's primary care practitioners delivered this service, and the remaining 24 percent reported that they coordinated with an external pharmacist.

In PY 3, about one-quarter of practices provided CMM to most or all patients who were under care management and/or in transitions of care. This finding 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 interview data from PY 2 suggest that Track 1 deep-dive practices may not fully understand what CMM is. They may not realize, despite the description in the CPC+ Implementation Guide, that CMM is a whole-person approach to medication therapy for high-risk patients, including assessments of current and past medication appropriateness and

value, action plans, individualized therapy goals, and planned follow-up, and they may conflate it with medication reconciliation or medication review, which occur at a single point in time at a transition in care.

D. Assess and address patients' social needs

Most practices reported to CMS that they screened patients for health-related social needs in PY 3. Nearly all Track 2 practices (99 percent) reported to CMS that they screened patients for health-related social needs (up from 86 percent in PY 1 and 98 percent in PY 2). Though not required by CPC+ to conduct this type of screening, 86 percent of Track 1 practices also reported to CMS that they screened patients for health-related social needs in PY 3 (up from 72 percent in PY 1 and 78 percent in PY 2). Practices continued to favor using tools developed in house rather than standardized tools published by a third party. Across tracks, among practices that use a tool to screen for health-related social needs, the proportion that reported to CMS that screening tools are integrated into their EHR or health IT system increased steadily from 59 to 73 to 88 percent in PYs 1, 2, and 3, respectively.

Social needs that practices reported prioritizing in PY 3

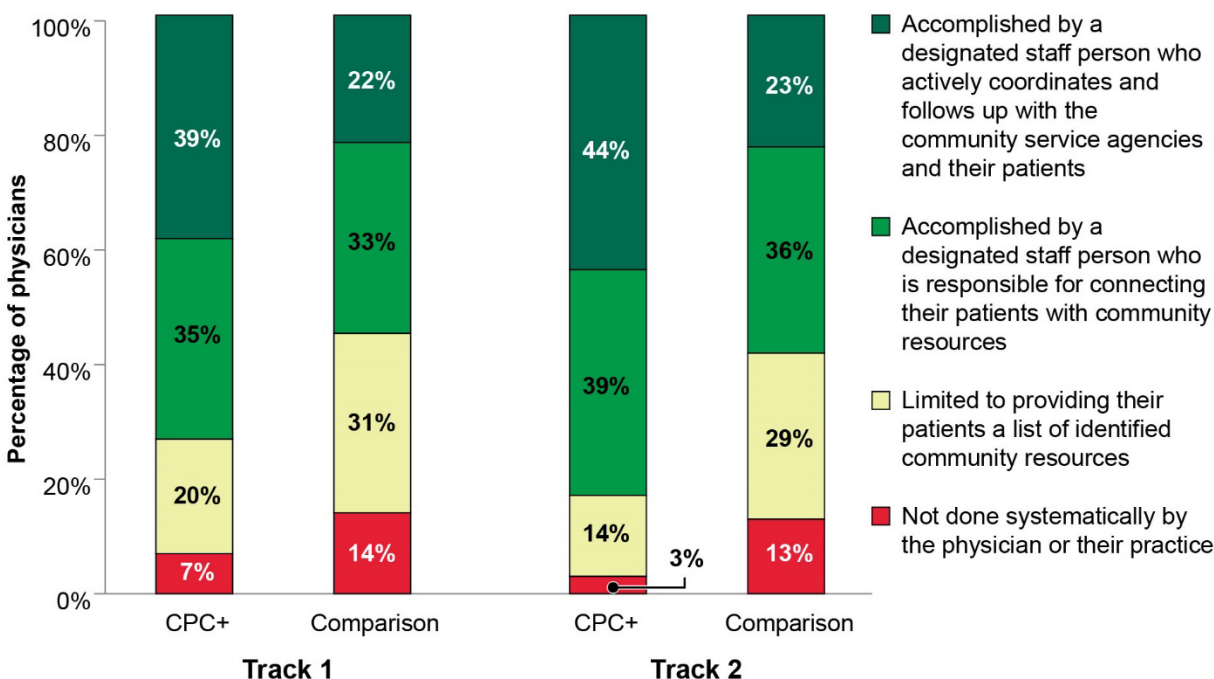
Similar to PY 2, practices in both tracks reported to CMS that they prioritized and had established relationships to address a range of social needs:

- Transportation (80 percent of practices)
- Food insecurity (74 percent)
- Safety (68 percent)
- Housing instability (59 percent)
- Financial resource strain (59 percent)
- Utility needs (57 percent)
- Social isolation (49 percent)

More physicians at CPC+ than comparison practices use a designated staff person to link patients with supportive community-based resources. Physicians at CPC+ practices were more likely than physicians at comparison practices to report on the PY 3 CPC+ Physician Survey that linking patients to supportive community-based resources is accomplished by a designated staff person (79 versus about 52 percent) (Figure 4.12). Physicians at CPC+ practices were more likely than physicians at comparison practices to report that these staff actively coordinate and follow up with community service agencies and patients (42 versus about 22 percent).

Figure 4.12. Percentage of physicians in CPC+ and comparison practices who reported various strategies for linking patients to supportive community-based resources in PY 3, by track

More physicians in CPC+ than comparison practices reported that a designated staff person at their practice links patients to supportive community-based resources.



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

Note: N = 1,241 and 1,412 physicians in Track 1 and their comparison practices, respectively; N = 1,528 and 1,307 physicians in Track 2 and their comparison practices, respectively. CPC+ sample includes practices that responded to the survey in each program year and comparison sample includes practices that responded to the survey in PYs 1 and 3. Each outcome is weighted to account for sampling design and nonresponse and to ensure CPC+ and comparison respondents had similar practice-level and respondent-level characteristics. Percentages may not sum to 100 due to rounding.

PY = Program Year.

4.3.4. Patient and caregiver engagement



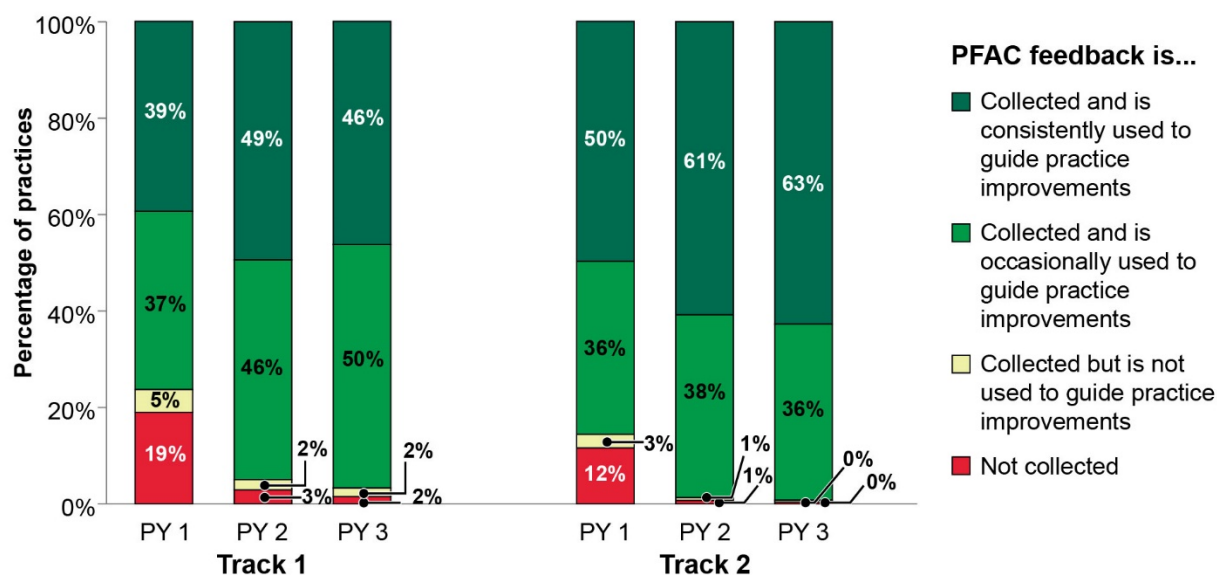
CPC+ encourages practices to promote patient and caregiver engagement in care delivery. This means using patients' and caregivers' experience and expertise to improve processes and accelerate practice change. Because patients and caregivers see and experience care in ways that practices often do not, they can point out areas for improvement and identify solutions that practices may not have considered (CMMI 2019). Also, 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 2019).

A. Engaging patients in Patient and Family Advisory Councils (PFACs)

Most practices continued to collect feedback from patients through PFACs, though just over one-half consistently used the feedback to guide practice improvements. Nearly all practices reported on the PY 3 CPC+ Practice Survey that they collect feedback from patients through PFACs. Just over one-half of the practices reported that they consistently used feedback and just under one-half of practices reported that they occasionally used feedback from PFACs to guide practice improvements. Practices in Track 2 were more likely to report consistently using feedback than those in Track 1 in each program year (Figure 4.13). As reported in the second annual report, although deep-dive practices reported many benefits from formal patient feedback, they also reported challenges to using and responding to some types of PFAC feedback. They found that responding to feedback related to issues that were outside the practice's control such as changing building signage, improving public transportation, or including a radiology department within the primary care practice was challenging.

Figure 4.13. Percentage of practices that reported collecting and using PFAC feedback to guide practice improvements in PYs 1, 2, and 3, by track

As in PY 2, nearly all practices were collecting feedback from PFAC participants in PY 3. Most practices used PFAC data to guide practice improvements at least occasionally.



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

Note: N = 1,205 Track 1 practices and 1,416 Track 2 practices that responded to the survey in each program year. Not all practices responded to the question each year. The percentage of missing responses each year was less than 1 percent. Percentages may not sum to 100 due to rounding.

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

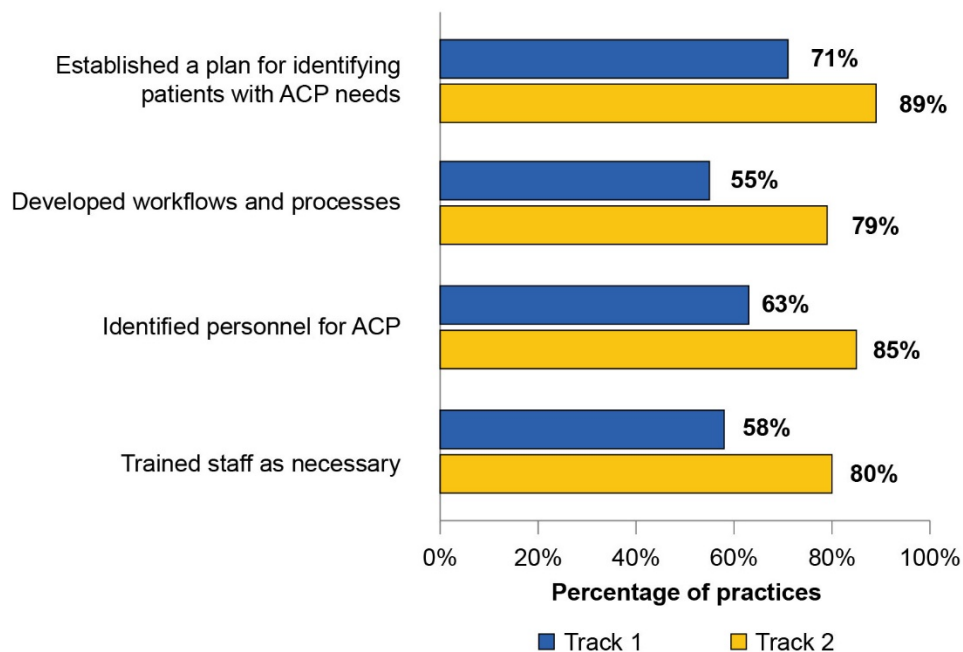
B. Advance care planning

Many Track 2 practices took steps to integrate advance care planning into their practice in PY 3. For example, 89 percent of Track 2 practices reported to CMS that they had established a plan for identifying patients with advance care planning needs, 79 percent developed workflows and processes to implement advance care planning, 85 percent identified personnel for providing

advance care planning, and 80 percent had trained staff as needed. Even though it was not required, more than one-half of Track 1 practices also reported taking these steps (Figure 4.14).

Figure 4.14. Percentage of practices that reported taking steps to implement advance care planning in PY 3, by track

Many Track 2 practices took recommended steps to implement advance care planning in PY 3. While this requirement applied only to Track 2 practices, more than one-half of Track 1 practices also reported taking each of these steps.



Source: Mathematica's analysis of PY 3 practice-reported care delivery data submitted to CMS.

Notes: N = 1,229 Track 1 practices and 1,445 Track 2 practices. Sample includes practices that were participating in CPC+ at the end of PY 3. Practices could select all applicable responses.

ACP = advance care planning; PY = Program Year.

Similar percentages of physicians in CPC+ and comparison practices reported that they (or someone from their care team) documented advance care preferences in their EHR. About 40 percent of physicians in CPC+ and comparison practices reported on the PY 3 CPC+ Physician Survey that they or someone from their care team documented advance care preferences in their EHR for “most or all” of their high-risk patients. The remaining physicians reported doing so for many (about 40 percent) or some (about 20 percent) of their high-risk patients. Among a sample representative of *all* Medicare FFS beneficiaries in CPC+ and comparison practices, not only high-risk beneficiaries, about two-thirds reported on the PY 3 CPC+ Beneficiary Survey having an advance care plan and about 40 percent reported being asked about their end-of-life care wishes or about creating an advance care plan.

4.3.5. 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 care 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, although most changes to care delivery were minor (see Section 3.2.2). As in PY 2, most practices reported on the PY 3 CPC+ Practice Survey that they received data feedback on quality of care (95 percent), patient experience (94 percent), utilization (94 percent), and cost (92 percent). According to responses on the PY 3 CPC+ Physician Survey, physicians in CPC+ practices were less likely than the practices to report receiving data feedback on utilization (72 percent) and cost (35 percent); however, they were still 10 to 22 percentage points more likely than physicians in comparison practices to report receiving each of these types of data. Differences between CPC+ and comparison physicians were similar across tracks, though physicians had a range of responses based on the type of data feedback. Of the practices and physicians that reported receiving data feedback, many reported using it to make minor changes to care delivery, but few practices and physicians reported making *major* changes to care delivery based on data feedback. Both practices and physicians reported that they were less likely to use data feedback on cost to enact changes to care delivery than data feedback on quality of care or utilization (see Figure 3.12 in Chapter 3).

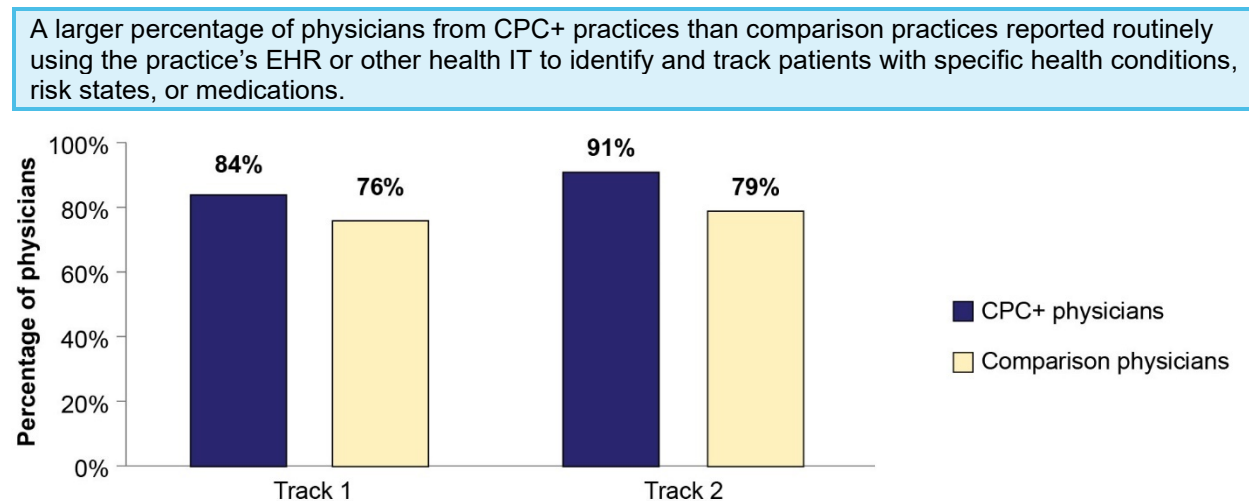
Physicians in independent practices were more likely to report receiving utilization and cost feedback than physicians in system-owned practices, regardless of CPC+ participation. On the PY 3 CPC+ Physician Survey, physicians in independent CPC+ and comparison practices in each track were 12 to 24 percentage points more likely than those at system-owned CPC+ and comparison practices to report receiving data on their patients' utilization and cost of health care. Differences between physicians in independent and system-owned practices were similar across tracks, though physicians had a range of responses based on the type of data received. There were no meaningful differences in the percentage of physicians who reported receiving quality-of-care data by practice ownership. In PY 2, many system-owned deep-dive practices reported that their system employed a quality improvement lead who spearheaded efforts to review, disseminate, and use data for quality improvement. These system-level staff typically put the data into reports aggregated across all feedback data from various sources, which might have contributed to fewer physicians at system-owned than independent practices reporting that they received these cost and utilization data.

Practices continued to discuss quality improvement data during data-focused care team meetings in PY 3. Although CMS no longer required practices to hold data-focused care team meetings to review data feedback from CMS and payer partners, many practices continued to report doing so in PY 3. Similar to PY 2, 15 percent of Track 1 practices and 31 percent of Track 2 practices reported to CMS that they met at least weekly, and an additional 58 percent of Track 1 practices and 53 percent of Track 2 practices reported that they met at least monthly to review quality improvement data in PY 3. Practices' continued use of data-focused care team meetings

in the absence of a formal requirement suggests that they considered discussing quality improvement goals and progress valuable for improving care delivery.

More physicians in CPC+ than comparison practices used health IT to identify and track patients with specific health conditions, risk states, or medications. On the PY 3 CPC+ Physician Survey, 84 percent of physicians in Track 1 practices and 91 percent of physicians in Track 2 practices reported that they or someone from their care team routinely used the practice's EHR or other health IT to identify and track patients with specific health conditions, risk states, or medications. Percentages were higher for physicians in CPC+ than comparison practices (Figure 4.15).

Figure 4.15. Percentage of physicians in CPC+ and comparison practices who reported using the practice's EHR or other health IT to identify and track groups of patients in PY 3, by track



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

Note: N = 1,244 and 1,411 physicians in Track 1 and their comparison practices, respectively; N = 1,521 and 1,304 physicians in the Track 2 and their comparison practices, respectively. Sample includes physicians who responded to the survey. Each outcome is weighted to account for sampling design and nonresponse and to ensure CPC+ and comparison respondents had similar practice-level and respondent-level characteristics.

EHR = electronic health record; health IT = health information technology; PY = Program Year.

5. OUTCOMES FOR MEDICARE FFS BENEFICIARIES: CPC+ HAD A FEW SMALL IMPACTS OVER THE FIRST THREE YEARS



Key takeaways

Even with practices' progress with transformation, we did not expect to see favorable effects of CPC+ on Medicare expenditures or large effects on other outcomes after three years of the five-year model. In line with this expectation, in the first three years, CPC+ had a few small favorable impacts on some measures of service use, quality of care, and patient experience, but it increased Medicare expenditures by 2 percent in Track 1 and 3 percent in Track 2 when including CMS's enhanced payments to CPC+ practices for CPC+ and SSP.

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

Primary care practice transformation is a complex process that takes time to implement and manifest in improved patient outcomes. Therefore, based on the primary care literature, we did not expect to see large effects of CPC+ implementation on Medicare expenditures for attributed FFS beneficiaries after three years of the five-year model, even when excluding the enhanced payments CMS paid to CPC+ practices. At this stage, we expected that—if the model were successful—we would see improvements in measures of service use, quality of care, and patient experience 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, or patient-reported access to care). However, we expected it would take longer for CPC+ to affect costs and other measures of service use, such as hospitalizations. Specifically, we 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.F), 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.

In Table 5.1, we summarize our findings on the impacts of CPC+ in the first three program years. For each outcome, we provide (1) the annual impact estimates averaged over the first three program years and (2) the annual estimates for PY 3 alone. 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).

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





	Significant findings over the first three program years (average annual estimate) ^a		Significant year-specific findings for PY 3 ^a		What does it mean?
	Track 1	Track 2	Track 1	Track 2	
 Service use					
Acute hospitalizations	–	-0.9%	–	-1.7%	<i>During the first three years, CPC+:</i> Slightly reduced the rate of acute hospitalizations for Track 2. PY 3 was the first year with a statistically significant reduction.
Outpatient ED visits	-1.5%	-1.5%	-1.6%	-1.5%	Slightly reduced the rate of ED visits, with reductions of similar magnitude in each year.
Ambulatory primary care visits	–	-1.1%	–	–	Slightly slowed the growth of billable ambulatory primary care visits for Track 2 during the first three program years, with no effect in PY 3.
Ambulatory specialty care visits	–	–	–	–	Did not impact the rate of ambulatory specialty care visits.
Hospice use	+2.8%; +3.6% ^b	+3.5%; +3.7% ^b	+4.0%; +4.6% ^b	+4.3%; +5.6% ^b	Slightly increased hospice use. For Track 1, the increase was similar each year. For Track 2, the increase in PY 3 was similar to PY 2, and slightly larger than in PY 1.
Readmissions	–	–	–	–	Did not impact hospital readmission rates.
 Medicare expenditures					
Without CMS's enhanced payments for CPC+ and SSP ^c	–	–	–	–	<i>During the first three years, CPC+:</i> Did not impact expenditures for Medicare Part A and Part B services.
With CMS's enhanced payments for CPC+ and SSP ^d	+1.7%	+2.8%	+1.5%	+2.1%	Increased expenditures when <i>including</i> enhanced payments. In PY 3, the increase in expenditures was slightly smaller compared to previous years.
 Quality of care					
Beneficiaries with diabetes receiving recommended services ^e	+0.2 to +1.0pp	+0.3 to +1.1pp	+0.4 to +0.9pp	+0.4 to +1.5pp	<i>During the first three years, CPC+:</i> Slightly increased the percentage of beneficiaries who received various recommended services for diabetes. In PY 3, the increase was similar to PY 2, and slightly larger than in PY 1.
Female beneficiaries receiving breast cancer screening	+0.7pp	+0.8pp	+0.8pp	+0.9pp	Slightly increased the percentage of female beneficiaries who received breast cancer screening. In PY 3, the increase was similar to PY 2, and slightly larger than in PY 1.

Table 5.1. (continued)



	Significant findings over the first three program years (average annual estimate) ^a		Significant year-specific findings for PY 3 ^a		What does it mean?
	Track 1	Track 2	Track 1	Track 2	
Continuity of care ^f	–	–	–	–	Did not impact continuity of care.
Comprehensiveness of care ^g	–	–	–	–	Did not impact physicians' comprehensiveness of care.
Patient experience					
					<i>Relative to comparison beneficiaries, in PY 3, beneficiaries served by CPC+ practices reported:</i>
Follow-up after an overnight hospital stay	NA	NA	–	+10.2pp	More timely follow-up after hospital stay for Track 2.
Other measures of patient experience (10 composite measures and 37 other individual measures)	NA	NA	–	–	Similar experiences with other aspects of care for both tracks.

Source: Mathematica's analysis of Medicare claims data from January 2013 through December 2019 for service use, expenditures, and quality-of-care measures and of data from the independent evaluation's PY 3 CPC+ Beneficiary Survey for patient experience measures.

^a This table includes estimates that were statistically significant at the 10 percent level on a two-sided test, and for beneficiary survey results, also differed meaningfully between CPC+ and comparison beneficiaries (by 5 percentage points or more). Dashes indicate findings that are not significant or meaningful in size. For measures of service use, expenditures, and quality of care, impact estimates are from a difference-in-differences analysis. For measures of patient experience, we compare survey responses at one point in time for CPC+ and comparison beneficiaries.

^b 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.

^c Expenditures for Part A and Part B services in PY 3 include Quality Payment Program 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 (calculated based on 2018 claims for these practitioners). 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.

^e We report a range because four different measures of diabetes care are represented in this row. The four recommended services we show are: receiving an HbA1c test, eye exam, and attention for nephropathy, and a composite measure of receiving all three services.

^f 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. Although two measures had statistically significant effects for Track 2, the impact estimates were close to zero and in opposing directions, so we do not consider these effects to be meaningful.

^g Comprehensiveness of care is measured using two claims-based physician-level outcome measures: (1) involvement in patient conditions, which captures the percentage of beneficiaries seen in a given year for whom the physician had the greatest involvement in the patient's conditions; and (2) new problem management, which measures the extent to which a physician managed a patient's new symptom or problem instead of a specialist. Although one measure had a statistically significant effect for Track 1, the impact estimate was close to zero, so we do not consider these effects to be meaningful.

CPCP = Comprehensive Primary Care Payment; ED = emergency department; FFS = fee-for-service; NA = not available; PY = Program Year; SSP = Medicare Shared Savings Program; pp = percentage points.



Methods: Understanding the effect of CPC+ on Medicare FFS beneficiaries' claims-based outcomes

Comparison group. We compare outcomes for CPC+ practices relative to a matched comparison group. To form the comparison group, we selected practices that were not participating in CPC+ but were similar in other ways to CPC+ practices before CPC+ began (once the matching weights were applied). CPC+ and comparison practices had similar (1) Medicare FFS beneficiaries (with similar characteristics, chronic conditions, Medicare expenditures, hospitalizations, and ED use); (2) practice characteristics (such as size, health system ownership status, and experience with primary care transformation and 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/non-SSP status.

We also used regression models to further (1) adjust for beneficiary risk, (2) improve the precision of our models, and (3) account for remaining measurable differences in beneficiary and practice characteristics at the start of CPC+.

The analysis of survey-based outcomes uses the same comparison group. Section 5.1.4 describes the other methods for survey-based outcomes.

Claims-based measures. We examined the effects of CPC+ on expenditures, service use, and selected aspects of quality of care for Medicare FFS beneficiaries during the first three years of CPC+.

Analytic methods. We estimated the impact of CPC+ on claims-based measures using difference-in-differences regressions. For this technique, we calculated the mean change in outcomes for Medicare FFS beneficiaries from the year before CPC+ to the first three 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 two measures of comprehensiveness of care, we estimated the difference-in-differences regressions at the discharge level and physician level, respectively (instead of at the beneficiary level like the other outcomes), used discharge-level and physician-level control variables, and incorporated matching weights only.

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 that could arise if we examined only the beneficiaries who remained attributed to practices over time or the practices that remained in the sample.

Methods (continued)

For Track 1, we compared claims-based outcomes for more than 1.3 million Medicare FFS beneficiaries served by nearly 1,400 CPC+ practices with outcomes for nearly 4.5 million beneficiaries served by more than 5,000 comparison practices. The corresponding sample sizes in Track 2 were over 1.6 million beneficiaries in more than 1,500 CPC+ practices and over 3.7 million beneficiaries in nearly 4,000 comparison practices.

Appendices. Appendices 5.B–5.D provide additional details on the methodological approach related to attribution, claims-based measures, and regression analysis. Appendices 5.E–5.H describe supplemental analyses conducted to test the robustness of our main findings and takeaways, including participation in other initiatives by CPC+ and comparison practices, long-term effects for CPC Classic practices, the triple-differences model used for a sensitivity analysis, and fragmentation of care over time.

5.1.1. Service use

Practices' progress on the five Comprehensive Primary Care Functions may change Medicare FFS beneficiaries' service use (Peikes et al. 2018b). 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. 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 non-billable 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.

CPC+ had some effects on Medicare FFS beneficiaries' service use over the first three program years, but these were small. In the first three years of CPC+, relative to the comparison practices, CPC+:

- **Reduced outpatient ED visits in both tracks.** Outpatient ED visits include ED visits that do not lead to a hospitalization, as well as observation stays. Outpatient ED visits declined more during the three years of CPC+ for CPC+ practices than for comparison practices. Relative to the comparison group, we estimate that CPC+ led to a small net decrease in outpatient ED visits in each track of about seven visits per 1,000 beneficiaries (1.5 percent; $p < 0.01$ for each track; Table 5.3, at the end of this chapter).

For Track 2 practices, the reduction in overall outpatient ED visits was driven almost entirely by reductions in primary care substitutable ED visits (that is, for conditions that could be treated in a primary care setting) and potentially primary care preventable ED visits (visits

that require ED resources but that effective primary care might have been able to prevent). Specifically, there were reductions of 2.5 and 2.0 percent for primary care substitutable and potentially primary care preventable ED visits, respectively ($p < 0.01$ for each; Table 5.3). For Track 1 practices, these two categories of ED visits also largely, but not entirely, drove the reduction in overall outpatient ED visits, with reductions of 1.9 percent for primary care substitutable ED visits ($p < 0.01$) and 1.4 percent for potentially primary care preventable ED visits ($p = 0.02$).

- **Reduced hospitalizations in Track 2.** During the first three years, acute hospitalizations declined in both tracks for both CPC+ and comparison practices compared to the year before CPC+ began. In Track 2, the decrease was slightly larger for CPC+ practices relative to comparison practices, contributing to an annualized average reduction of three hospitalizations per 1,000 beneficiaries per year (0.9 percent; $p = 0.07$). This effect was driven by a statistically significant reduction in hospitalizations that emerged in PY 3 (1.7 percent; $p < 0.01$) and was accompanied by a 2 percent reduction ($p < 0.01$) in expenditures on acute inpatient care in PY 3. CPC+ did not have a statistically significant effect on hospitalizations for Track 1 practices (-0.7 percent; $p = 0.17$).
- **Slowed the growth of billable ambulatory care visits to primary care practitioners in Track 2.** While both CPC+ and comparison practices saw an increase in the rate of ambulatory care visits to primary care practices during the first three years of CPC+ compared to the year before CPC+ began, the increase was smaller for CPC+ practices in Track 2 than for the comparison practices. Annualized ambulatory care visits to primary care practitioners increased by 50 fewer visits per 1,000 beneficiaries (1.1 percent; $p = 0.01$) in CPC+ versus comparison practices. There was no discernable effect on billable ambulatory primary care visits for Track 1 CPC+ practices over the three years.
- **Had no effect on ambulatory visits to specialists for either track.** As with primary care visits, visits to specialists increased for both CPC+ and comparison practices during the three years of CPC+. However, growth was similar for CPC+ practices and comparison practices, indicating that CPC+ had no effect on ambulatory specialist visits.

To summarize the 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 in both tracks and fewer hospitalizations in Track 2. Yet the estimated differences were small and, as described in the next section, they did not yield discernable reductions in total Medicare expenditures. Moreover, given the small impacts, they are unlikely to reflect a major shift in clinical care for most beneficiaries over the first three program years.

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 5.2 reports what each measure contains). In PY 3, expenditures without enhanced payments included Quality Payment Program (QPP) payment adjustments, which CMS first applied that year, based on practitioner 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 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 Comprehensive Primary Care Payment (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 without and with enhanced payments (Table 5.2).

Table 5.2. 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 break practices into SSP versus non-SSP based on their practice's SSP 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 SSP, 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.

^b Traditional FFS payments for Medicare Parts A and B include QPP payment adjustments in PY 3, based on practitioner 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).

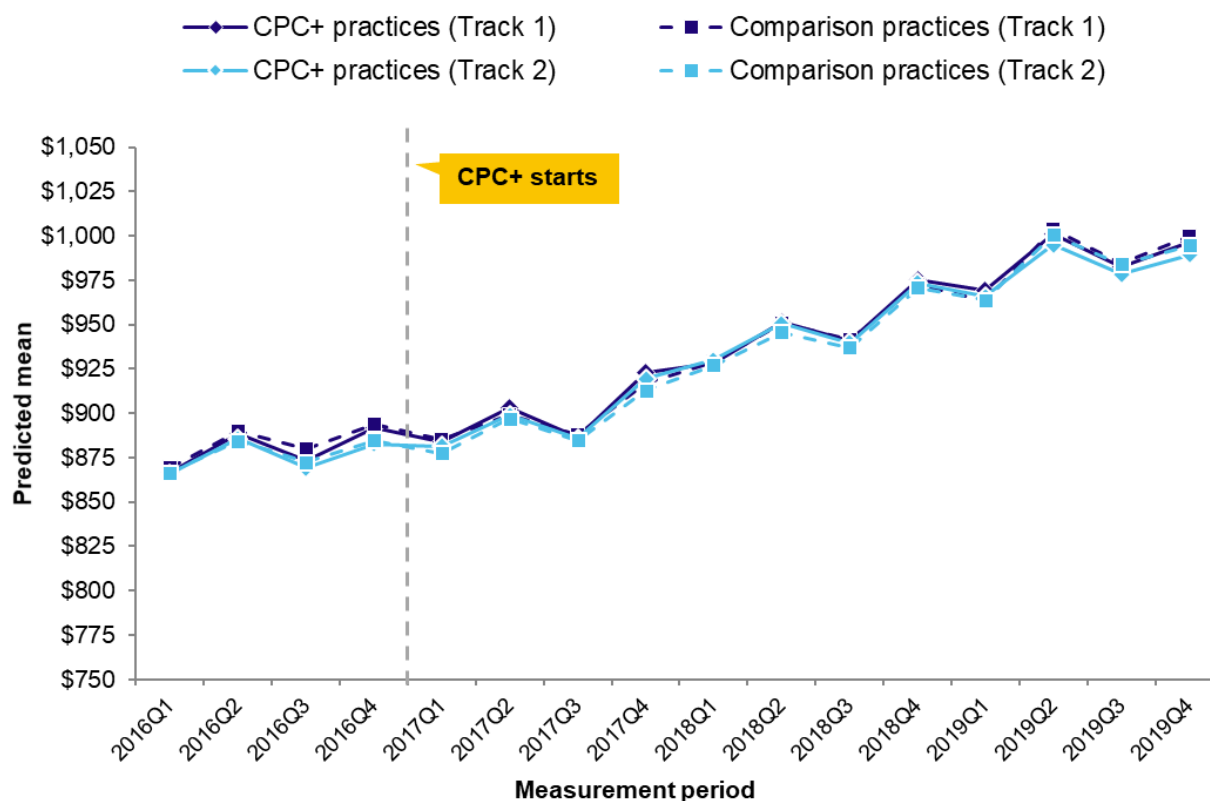
^c The Advanced APM bonus payment—the second type of QPP payment adjustment—is a lump sum incentive payment to eligible practitioners who participated in Advanced APMs in 2017 (calculated based on 2018 claims for these practitioners).

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 affect Medicare expenditures when excluding CMS’s enhanced payments.** During the first three years, average annual impact estimates were close to zero and were not statistically significant in either track (\$3 per beneficiary per month [PBPM] in Track 1, $p = 0.34$; and \$2 PBPM in Track 2, $p = 0.64$) (Table 5.3). The size of these estimated increases is small—about 0.5 percent of the mean PBPM Medicare expenditure that CPC+ practices’ beneficiaries were projected to incur in the absence of the model. 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 5.1).

Figure 5.1. Quarterly trends in mean Medicare Part A and Part B expenditures PBPM, 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 three years of CPC+.



Source: Mathematica’s analyses of Medicare claims data from January 2013 through December 2019.

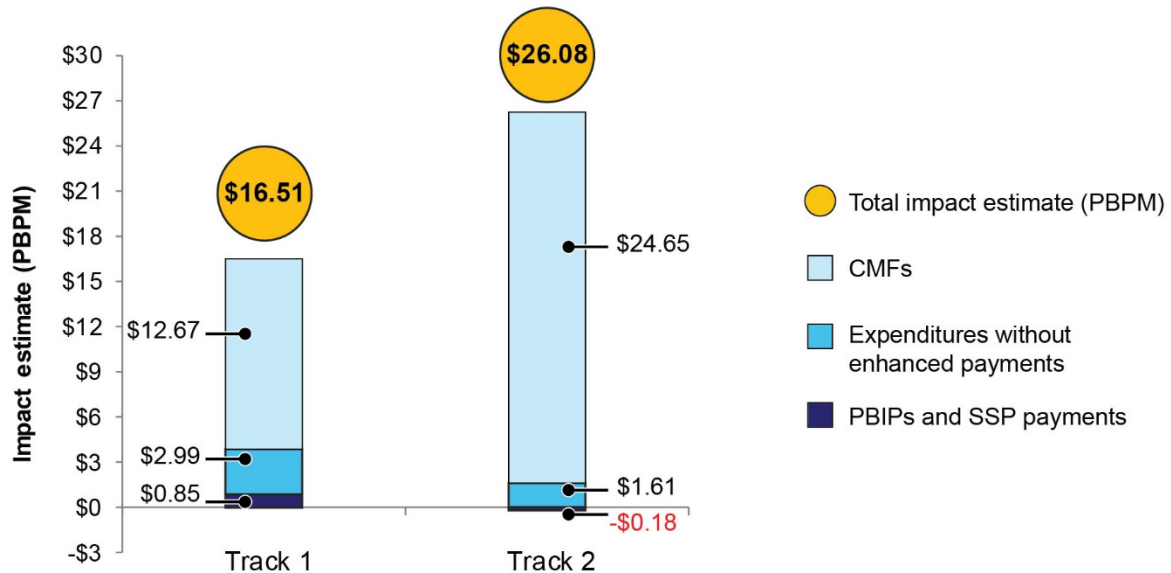
Notes: For beneficiaries attributed to CPC+ and comparison practices, the figure shows actual, unadjusted average expenditures in the baseline quarters, which are similar for the two groups due to matching. In the intervention quarters, the comparison group mean is regression-adjusted (using baseline characteristics as control variables). We obtain 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 12 quarters in 2017 through 2019 represent the first three program years. 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.

PBPM = per beneficiary per month.

- **When including CMS’s enhanced payments, CPC+ increased costs for Medicare FFS beneficiaries.** Over the first three program years, Medicare expenditures, including CMS’s care management fees (CMFs) and the comprehensiveness supplement for Track 2 practices, increased by \$16 and \$26 PBPM (1.7 and 2.8 percent), respectively, in Track 1 and Track 2 ($p < 0.01$ for each track), relative to comparison practices. For each track, the estimated increase in these Medicare expenditures was slightly larger in size than 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 (PBIPs that practices retained and the shared savings payments made to their ACOs for practices that participated in SSP for both tracks) in addition to the CMFs and the comprehensiveness supplement, expenditures for Track 1 and Track 2 practices increased by \$17 and \$26 PBPM (1.7 and 2.8 percent), respectively, relative to comparison practices ($p < 0.01$ for each track).
- **Increased spending on primary care from the CPC+ enhanced payments accounted for nearly all of the increase in Medicare costs.** Before including CMS’s enhanced payments, there were no meaningful impacts on total Medicare expenditures or on Medicare expenditures for ambulatory primary care visits in either track. The enhanced payments that were paid directly to CPC+ practices (CMFs, the comprehensiveness supplement, and PBIPs), increased Medicare expenditures on ambulatory primary care by \$13 and \$27 PBPM (53 and 105 percent; $p < 0.01$) in Track 1 and Track 2, respectively, relative to comparison practices. This spending, particularly the CMFs, accounted for most of the overall increase of \$17 and \$26 PBPM in Medicare expenditures with enhanced payments among Track 1 and Track 2 CPC+ practices, respectively (Figure 5.2) .

Figure 5.2. Per beneficiary per month impact estimates for Medicare expenditures during the first three program years, with CMS’s enhanced payments, by track

Care management fees (CMFs) accounted for the largest share of the increase in Medicare expenditures when including enhanced payments.



Source: Mathematica’s analysis of Medicare claims data from January 2013 through December 2019.

Notes: The impact estimates on expenditures without enhanced payments (\$2.99 in Track 1 and \$1.61 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 \$0.18 and larger for Track 1 by \$0.85, 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 \$1.37 higher for CPC+ practices than for comparison practices (because only CPC+ practices receive PBIPs) and the change due to SSP payments was \$1.55 lower for CPC+ practices than for comparison practices. This resulted in the Track 2 impact estimate decreasing by \$0.18 after including both PBIPs and SSP payments.

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.

CMF = care management fee; PBIP = Performance-based Incentive Payment; PBPM = per beneficiary per month; SSP = Medicare Shared Savings Plan.

- Impacts on Medicare expenditures were *slightly* worse for practices not participating in SSP relative to practices participating in SSP when CPC+ started.** In Track 1, expenditures *without* enhanced payments increased 1 percent per year for non-SSP practices ($p = 0.048$), and this was significantly different from the corresponding estimate for SSP practices, which showed no effect (-0.3 percent; $p = 0.50$). In Track 2, we observed the same pattern for non-SSP and SSP practices as in Track 1, but the impact estimates for each group were not statistically different from zero (and the difference in estimates between the two groups was not statistically significant). For expenditures *including* enhanced payments, non-SSP and SSP practices experienced increases in both tracks, and the increases were larger for non-SSP practices in both tracks. Specifically, after including payments for performance, the CMFs, and the comprehensiveness supplement, expenditures in Track 1 increased 2.5 percent per year for non-SSP practices ($p < 0.01$), and this was significantly different from the corresponding estimate for SSP practices of 1.1 percent ($p = 0.01$). Similarly, in Track 2, expenditures including enhanced payments increased 3.5 percent per year for non-SSP practices ($p < 0.01$), and this was significantly different from the estimated increase of 1.9 percent among SSP practices ($p < 0.01$).
- The findings for expenditures for both tracks were robust to various sensitivity tests and generally did not vary by beneficiary- or practice-level subgroups in either track.**⁴² However, we found limited evidence in both tracks that, in the non-SSP group, CPC+ practices that were owned by a hospital or health system increased expenditures without enhanced payments more than their counterparts in comparison practices (about 1.9 percent; $p < 0.01$ in both tracks). In contrast, there were no statistically significant effects among independent practices in the non-SSP group. The unfavorable effects for hospital- or system-owned practices in the non-SSP group were consistent across all program years, and the differences in impact estimates by practice ownership were statistically significant in both tracks. In the SSP group, impacts were similar for hospital- or system-owned and independent practices in both tracks. This indicates there may be a positive interaction between SSP and CPC+, with SSP countering incentives for hospitals and health systems to generate revenue, but this evidence is early and limited. Further, we examined 12 subgroup categories covering five types of practice subgroups, so this finding may also have occurred by chance. We will continue examining these differences by type of practice ownership and SSP participation in future reports to see if more robust evidence emerges.

⁴² We analyzed our findings on Medicare expenditures 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.

We also analyzed our findings for certain subgroups of beneficiaries that 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.

5.1.3. Claims-based quality measures

Among the limited claims-based quality measures we examined, both CPC+ tracks were associated with small improvements. 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 (Table 5.4), and (2) patient and caregiver engagement measures of hospice use (Table 5.3). For recommended services for diabetes, Track 2 practices improved by about one percentage point or less on all 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 1 practices improved by one percentage point or less for all but one of these measures (HbA1c testing). Regarding breast cancer screening, in both tracks, there was an improvement of less than one percentage point. In both tracks, there were relative increases in the percentage of beneficiaries receiving hospice services (0.1 percentage points; $p < 0.01$)⁴³ and in the length of hospice stays (by three days, or approximately 3.6 percent; $p < 0.02$)—the evaluation’s two measures of patient and caregiver engagement.

For some quality measures, there was little room for improvement, so it was not surprising that impacts were small; for example, more than 90 percent of beneficiaries with diabetes received an HbA1c test in the year before CPC+ began. However, for most 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+.

As in our second annual report, we found some evidence that there were more improvements, relative to comparison practices, in quality of care among CPC+ practices not in SSP than among those in SSP. In both tracks, the improvements in breast cancer screening were concentrated in the non-SSP group (1.4 percentage points, $p < 0.01$ in Track 1; and 1.2 percentage points, $p < 0.01$ in Track 2), with no effects for SSP practices. Improvements were also statistically larger among non-SSP practices for two of five measures for patients with diabetes (eye exam and receiving all three recommended tests for Track 1; and receiving attention for nephropathy and not receiving any of the three tests for Track 2). For these measures, there were favorable impacts of 1.5 percentage points or less for non-SSP practices and no effects for SSP practices.

In both tracks, there was little evidence that CPC+ improved continuity, fragmentation, or comprehensiveness of care, 30-day unplanned readmissions, or mortality. While there were a few statistically significant effects, all of the estimates were close to zero, so we do not consider them meaningful.

Given the limited set of claims-based quality measures we examined and the small estimated improvements, we cannot draw definitive conclusions about the impact of CPC+ on quality. For example, many practices use eQMs 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 eQMs because we lack comparable eQm data between the CPC+ and

⁴³ 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.

comparison practices, making meaningful comparisons challenging. Further, the eQMs 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 these other quality measures that the evaluation cannot include.

5.1.4. Experience of care

Patient-centeredness is a core tenet of CPC+, and several aspects of CPC+ aim to improve patient experience through transformation of care delivery. For example, access to care and continuity of care should help patients at CPC+ practices receive care more readily, get the right care at the right time, and develop more meaningful, longitudinal relationships with their providers. Additionally, by promoting episodic care management CPC+ aims to strengthen practices' ability to support patients experiencing an acute event, such as an ED visit or a hospitalization. To understand the association between CPC+ and patient experiences, we used a patient survey to examine the self-reported experiences of Medicare FFS beneficiaries served by CPC+ practices during PY 3, relative to beneficiaries in comparison practices.



Methods: Understanding the association between CPC+ and Medicare FFS beneficiary experiences

Survey-based measures of beneficiary experience. The CPC+ Beneficiary Survey instrument primarily contains items based on the Clinician and Group Consumer Assessment of Healthcare Providers and Systems 6-Month Survey (CAHPS version 3.0). We modified CAHPS survey items and created new survey items to reflect the innovative features of CPC+.

We grouped 36 of the 38 survey items on patient experience in the PY 3 CPC+ Beneficiary Survey into 10 composite measures (composite measures shown in Table 5.A.5a of Appendix 5.A). These measures organize patients' responses by content areas based loosely on the Comprehensive Primary Care Functions and other topics that are important to CPC+.

The domains do not map perfectly to the care delivery requirements, nor do they completely capture all aspects of the functions. For example, the care management domain includes some items that align with care delivery requirements (such as timely follow-up care after an ED or hospital visit), as well as questions that relate to care management but are not covered in the care delivery requirements (such as items about prescription medicines or obstacles to taking care of the patient's health).

Conversely, other aspects of care management covered in the care delivery requirements were excluded from the survey if (1) they were aspects of care that patients would not have experienced first-hand (for example, risk stratification), or (2) patients found the concept too difficult to understand during survey pre-testing (for example, care plans).

Analytic methods. We administered the PY 3 survey to Medicare FFS beneficiaries in February through May 2019. The survey asked beneficiaries about their experiences of care received in the prior six months. The survey was not conducted before CPC+ began, which is a limitation because the CPC+ and comparison beneficiaries may have had different experiences of care before CPC+. For this cross-sectional analysis, we used logistic and ordinary least squares regression models. We controlled for patient and practice characteristics, clustered standard errors at the practice level, and weighted for matching, sampling, and nonresponse.

Sample. In each track, we received completed surveys from about 42 percent of Medicare FFS beneficiaries from CPC+ and comparison practices who received the survey and were estimated to be eligible to respond. Our survey analysis included almost 8,000 Medicare FFS beneficiaries who received care from a CPC+ practice at least once in the six months before they completed the survey, and nearly 6,000 beneficiaries who received care from a comparison practice.

Medicare FFS beneficiaries in CPC+ and comparison practices reported generally similar experiences of care during PY 3, similar to PY 2. We analyzed each of the 38 survey items in the PY 3 CPC+ Beneficiary Survey separately, and also grouped 36 of the survey items into 10 content areas based loosely on the Comprehensive Primary Care Functions and other topics that are important to CPC+ (see Appendix Table 5.A.5a).⁴⁴ CPC+ and comparison beneficiaries' experiences did not differ meaningfully on any of these 10 composite measures, with differences in each measure of less than two percentage points for each track. These findings did not differ based on practice or patient characteristics, or from PY 2.

Moreover, patient-reported experience of care differed meaningfully for only 1 of the 38 individual survey questions among Track 2 practices and did not differ meaningfully for any questions among Track 1 practices. (The individual survey items are shown in Tables 5.A.7a to 5.A.7b of Appendix 5.A.) For Track 2 practices, a higher proportion of CPC+ than comparison beneficiaries reported timely follow-up after a hospitalization (62 versus 52 percent; $p < 0.01$).

5.2. Discussion of impact findings

Over the first three years, CPC+ had small favorable effects on some measures of service use, quality of care, and patient experience, but did not reduce expenditures without CMS's enhanced payments; CPC+ increased expenditures when these enhanced payments are included. The findings for each track were robust to various sensitivity tests. In addition, differential participation rates of CPC+ and comparison practices in other initiatives do not appear to bias our results (see Appendix 5.E). One limitation of the evaluation is that it is non-experimental—meaning that we compare outcomes of the CPC+ practices to outcomes of other practices that we identified as similar before CPC+ began—and there is always a chance that something other than CPC+ is driving the differences we observe. Yet, these findings are largely consistent with findings from other studies, which found mixed results from practice transformation initiatives.⁴⁵ The impact findings are also consistent with our findings on how practices are implementing CPC+ and with our original hypotheses that there would be small, if any, effects in the first few years.

CPC+ practices have improved the way they deliver care. These efforts could explain the following small favorable impacts of CPC+:

- **Reductions in ED visits and hospitalizations.** CPC+ practices have increased the delivery of short-term, episodic care management, as required by CPC+, which involves timely outreach to patients after a hospital or ED discharge. For example, findings from the PY 3

⁴⁴ As described in the methods box, composites do not map perfectly to the care delivery requirements, nor do they completely capture all aspects of the Comprehensive Primary Care Functions.

⁴⁵ 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).

CPC+ Physician Survey suggest that a higher proportion of physicians in CPC+ than in comparison practices provided timely follow-up after ED visits and after-hours access. As described in our second annual report, deep-dive practices are also educating patients about appropriate ED use, particularly for patients who have historically used the ED for nonurgent care, and they have emphasized access and continuity for their patients. 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. These process improvements could contribute to the favorable effects on ED visits in both tracks and on hospitalizations in Track 2. Further, these qualitative findings may explain why there were reductions in primary care substitutable and potentially primary care preventable ED visits, which drove the reduction in overall outpatient ED visits.

- **Improvements in claims-based quality-of-care measures.** We know from interviews with deep-dive practices in PY 2 that CPC+ practices were working to improve planned care and population health. CPC+ encouraged improvements in these areas, including in diabetes services and breast cancer screening, and CMS's performance-based payments incentivized practices to make them. Many deep-dive practices were using eCQMs, and some were also using utilization data, to systematically guide quality improvement activities. In PY 3, many CPC+ practices continued to receive and use data feedback on quality of care to make changes to care delivery and conduct monthly (or more frequent) data-focused care team meetings. CPC+ practices also continued to expand efforts to track and monitor patients with specific conditions, risk states, or medications using health IT. Finally, the small increase in the percentage of beneficiaries receiving hospice services is consistent with reports by many deep-dive practices that they refined or expanded their advance care planning efforts after joining CPC+.
- **Evidence of growing but small effects.** In both tracks, reductions in ED visits persisted over time and some quality-of-care outcomes slightly improved. In Track 2, reductions in hospitalizations (and inpatient expenditures) emerged in PY 3.

Turning to effects by subgroups of practices, practices in both tracks had similarly small improvements in quality-of-care measures. Track 2 practices had slightly more favorable effects on service use than those in Track 1 but, reflecting CMS's higher care management fees, they also had a slightly larger increase in expenditures including enhanced payments. We found that Track 2 practices had a favorable reduction in acute hospitalizations (an annualized average of just under 1 percent), while Track 1 practices did not have a statistically significant decline, though they did have favorable estimates that grew in magnitude each program year. Consistent with the reductions in hospitalizations, expenditures for acute hospitalizations also declined over the first three program years for Track 2 practices; we found no effect for Track 1 practices. We also found expenditures with enhanced payments increased more for Track 2 practices than for Track 1 practices over the first three program years (3 and 2 percent, respectively), reflecting larger enhanced payments paid to Track 2 practices.

One explanation for the differences between tracks could be that the larger CMF payments and more advanced care delivery requirements enabled Track 2 practices to improve care delivery more than Track 1 practices, which might have led to slightly better service use outcomes. However, these fees and requirements (as described in Chapters 3 and 4) may have also led Track 2 practices to have slightly larger increases in expenditures with enhanced payments.

Practices that were not in SSP when CPC+ began had more unfavorable impacts on expenditures than practices that were in SSP, but they also had slightly more favorable effects on quality-of-care outcomes. Non-SSP practices showed increases in Medicare expenditures without enhanced payments (in both tracks, but only statistically significant in Track 1). In contrast, we did not find effects on expenditures for SSP practices. For expenditures *including* enhanced payments, both non-SSP and SSP practices experienced increases, which were larger for non-SSP practices in both tracks. Non-SSP practices had slightly more favorable effects on quality-of-care outcomes than SSP practices.

Now that we are past the halfway mark of the model, impacts on patients' health, service use, and cost could emerge and grow during the remaining two years of CPC+ and also beyond the model test period. 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. For CPC+, the persistence of reductions in ED visits and improvements in quality of care—as well as the reduction in hospitalizations in Track 2 that emerged in PY 3—are promising. However, for CPC+ to achieve cost neutrality during the next two years, the favorable effects on service use outcomes, particularly hospitalizations (which are one of the biggest drivers of Medicare expenditures) would need to grow.

CPC+ practices still have work to do in the remaining two years to fully implement the model. If practices continue to advance their care delivery approaches, we could see more impacts in the final years of the model. For example, the provision of longitudinal care management for high-risk patients has continued to be lower than one might expect among CPC+ practices (as discussed in Chapter 4). We also learned from our deep-dive interviews that CPC+ practices could continue 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 service use—better manage their conditions. In addition, practices might make more use of information on what payers pay for specialists' services when making referral decisions, with the aim of reducing the downstream costs of diagnostic testing and procedures where clinically appropriate and, consequently, lowering total Medicare expenditures.

Primary care practices in CPC+ face some systemic barriers to generating savings or attaining cost neutrality while improving quality, the two criteria for expansion of the model. Several of these barriers may explain the lack of larger impacts in the first three years. First, one factor that might limit the observed CPC+ impact is the proliferation of other models that might also improve patient outcomes. We found that comparison practices increased their participation in SSP relative to CPC+ practices. SSP may lower expenditures slightly,⁴⁶ and while this does not bias the impact estimates, it could negatively affect the ability of CPC+ practices to show favorable effects relative to the comparison group. Second, 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 Medicare expenditures and achieve budget neutrality or savings. 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. Third, as practices make improvements in primary care delivery, expenditures could increase due to costs of expanded screening and treating previously undiagnosed conditions.

It is still too early to draw conclusions about the likely longer-term effects of CPC+ on Medicare expenditures, service use, quality, and patient experience. Findings from the first three years of CPC+ show only small favorable effects of CPC+ but increased total expenditures. Given other literature and the CPC+ model's theory of change, we did not expect to see favorable effects on expenditures or sizable effects on other outcomes in the first three program years. Most of the increase in Medicare expenditures (\$17 and \$26 PBPM for Track 1 and Track 2 CPC+ practices, respectively) over the first three years was due to increased spending on primary care via the enhanced payments that CPC+ practices received. It is possible that these investments in primary care, which increased CPC+ practices' Medicare spending on primary care by 53 and 105 percent in Track 1 and Track 2, respectively, relative to comparison practices, will lead to reductions in total cost of care and improvements in other outcomes over a longer time horizon. For patient experience, it may take more time for patients to recognize differences in the care they receive—especially given that beneficiaries included in the impact analysis had an average of 2.5 primary care visits per year at their assigned primary care practice—and patients may not readily perceive some changes.

We will continue to assess the impacts of CPC+ and develop insights for future initiatives. The final two evaluation reports will track model progress and whether the small favorable effects of CPC+ on Medicare FFS beneficiaries grow over the next two years, as participating practices continue to implement CPC+ and as practice changes affect patients' experience of care, health, service use, and cost. We will examine different factors that may shed light on our findings and we will continuously assess enhancements to our analytic approach. First, we will continue to monitor CPC+ and comparison practices' participation in other initiatives to understand the role these alternative initiatives play in shaping our impact estimates throughout the model. Second, we will take into account how disruptions caused by the coronavirus disease 2019 (COVID-19) pandemic might not only affect patients' use of health care services, but also

⁴⁶ Evidence from the first three years of SSP suggests that participation in SSP decreases expenditures on average by \$10 PBPM (McWilliams et al. 2018).

impede practices from successfully implementing the model and prevent them from fully achieving the CPC+ functions and intended outcomes. We will also consider potential changes to the impact analysis to minimize the bias in our impact estimates from disruptions to patient health and care from COVID-19. Third, 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 expected pathways may be reducing ED visits. Parallel to these efforts, we will also interview “exemplar” practices that had convincing evidence of meaningful reductions in hospitalizations to understand which actions and characteristics of the practices could explain their improved outcomes.

Table 5.3. Summary table of impacts (in percentages) on expenditures and service use measures for Medicare FFS beneficiaries over the first three program years, by track and SSP participation status

	Track 1				Track 2			
	CPC+ mean for PY 1 through PY 3, overall	Percentage impacts, overall	Percentage impacts, SSP	Percentage impacts, non-SSP	CPC+ mean for PY 1 through PY 3, overall	Percentage impacts, overall	Percentage impacts, SSP	Percentage impacts, non-SSP
Monthly Medicare Part A and B expenditures (PBPM)								
Excluding enhanced payments ^a	\$948	0.3%	-0.3%	1.0%**	\$945	0.2%	-0.4%	0.6%
Including CPC+ CMFs ^b	\$960	1.7%***	1.0%**	2.4%***	\$969	2.8%***	2.1%***	3.3%***
Including CPC+ CMFs, PBIPs, and shared savings payments to SSP ACOs ^b	\$965	1.7%***	1.1%**	2.5%**	\$973	2.8%***	1.9%***	3.5%***
Monthly Medicare expenditures by service category (PBPM)^c								
Inpatient expenditures for:	\$323	0.0%	-0.7%	0.9%	\$328	-0.1%	-0.9%	0.6%
Acute inpatient care ^d	\$286	-0.7%	-1.4%*	0.3%	\$291	-0.5%	-1.5%	0.3%
Inpatient rehabilitation facilities	\$23	5.2%***	2.7%	8.1%***	\$22	5.2%***	3.6%	6.4%**
Outpatient expenditures for:	\$197	0.6%	0.1%	1.1%	\$198	-0.1%	0.0%	-0.2%
Outpatient ED visits, including observation stays ^e	\$28	0.0%	0.6%	-0.7%	\$28	-0.7%	-1.7%	0.0%
Expenditures for physician and nonphysician Part B noninstitutional services in any setting for ^f :	\$274	0.4%	0.0%	1.0%*	\$265	0.0%	-1.1%*	0.9%*
Ambulatory visits with primary care practitioners	\$25	-0.7%	-0.8%	-0.6%	\$26	2.9%***	3.4%***	2.5%***
Ambulatory visits with primary care practitioners at assigned practice ^g	\$15	0.1%	-0.3%	0.6%	\$17	7.5%***	9.1%***	6.2%***
Ambulatory visits with specialists	\$25	0.4%	0.0%	0.9%**	\$24	-0.6%*	-1.3%***	0.1%
Skilled nursing home expenditures	\$64	-0.2%	-1.5%	1.4%	\$63	0.3%	1.5%	-0.8%
Home health expenditures	\$39	-2.5%***	-2.7%***	-2.3%**	\$40	-2.0%**	-1.4%	-2.5%**
Hospice expenditures	\$27	6.7%***	8.8%***	4.5%*	\$28	7.7%***	7.6%***	7.8%***
Durable medical equipment expenditures	\$23	-1.1%	-2.8%*	0.7%	\$22	1.6%	0.1%	2.7%*

Table 5.3. (continued)

	Track 1			Track 2				
	CPC+ mean for PY 1 through PY 3, overall	Percentage impacts, overall	Percentage impacts, SSP	Percentage impacts, non-SSP	CPC+ mean for PY 1 through PY 3, 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)	286	-0.7%	-1.2%**	-0.1%	289	-0.9%*	-0.4%	-1.4%**
Total ED visits, including observation stays ^h	702	-1.6%***	-1.7%***	-1.4%**	701	-1.6%***	-1.4%**	-1.7%***
Outpatient ED visits, including observation stays	485	-1.5%***	-1.5%**	-1.4%**	484	-1.5%***	-1.7%**	-1.3%**
Primary care substitutable outpatient ED visits ⁱ	184	-1.9%***	-2.2%***	-1.6%*	183	-2.5%***	-3.3%***	-1.9%**
Potentially primary care preventable outpatient ED visits ⁱ	127	-1.4%**	-0.9%	-1.9%**	128	-2.0%***	-2.5%***	-1.5%*
Total UCC visits	135	1.3%	2.4%	0.0%	124	-0.2%	2.5%	-2.3%
Primary care substitutable UCC visits	81	1.6%	3.4%*	-0.6%	74	-0.2%	3.2%	-2.9%
Ambulatory primary care visits (including to FQHCs, RHCs, and CAHs) ^j	4,339	-0.6%	-0.3%	-0.8%	4,391	-1.1%**	-0.7%	-1.4%**
Ambulatory specialty care visits ^l	4,425	0.3%	0.1%	0.6%	4,304	-0.3%	-1.1%**	0.4%
Other service use								
Percentage of index discharges that had a 30-day all-cause unplanned readmission ^k	15.8%	0.1pp	0.2pp	0.0pp	15.8%	0.0pp	0.1pp	-0.2pp
Percentage of beneficiaries receiving hospice services	2.9%	0.1pp***	0.1pp***	0.0pp	3.0%	0.1pp***	0.1pp	0.1pp***
Days of hospice use for beneficiaries receiving hospice services in the measurement year ^l	86	3.6%**	3.3%	3.8%*	86	3.7%**	5.1%**	2.9%

Source: Mathematica's analysis of Medicare claims data from January 2013 through December 2019.

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 3 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 negative 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 1.3 million and 1.6 million CPC+ beneficiaries, and (4)

Table 5.3. (continued)

approximately 4.5 and 3.8 million comparison beneficiaries. The counts of beneficiary-year observations are close to 3 times larger than the number of beneficiaries. For the 30-day readmissions measure, the analysis includes approximately (1) 936,000 and 1.1 million index discharges for CPC+ practices, and (2) 3.1 million and 2.6 million index discharges for comparison practices. The sample for days of hospice use includes approximately (1) 89,000 and 109,000 CPC+ beneficiaries, and (2) 278,000 and 239,000 comparison beneficiaries. The sample for days of hospice counts of beneficiary-year observations is about 1.2 times larger than the counts 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 most service use measures, for the comparison group, the effective sample size is 38 to 50 percent of the size of the actual comparison group; the effective sample size for the CPC+ group is about 95 to 96 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, we use only matching weights and the effective sample size for the number of index discharges shown in the table is the same as the actual size of the CPC+ group and about 39 to 52 percent of the actual sample size for the comparison group. For the analysis of days of hospice use, the effective sample size for the CPC+ group is about 80 percent of the actual sample size, and for the comparison group, the effective sample size is about 32 to 41 percent of the actual comparison group.

^a Expenditures for Part A and Part B services in PY 3 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 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.

^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.

^k Since this is measured at the discharge level, we also controlled for discharge-level risk factors.

^l Calculated only for beneficiaries who had at least one day of hospice use during the measurement year.

*/**/** 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.

Table 5.4. Summary table of impacts (in percentage points) on claims-based quality-of-care measures for Medicare FFS beneficiaries over the first three program years, by track and SSP participation status

	Track 1				Track 2			
	CPC+ mean for PY 1 through PY 3, 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 3, 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	91.3%	0.2	0.4**	-0.1	92.8%	0.3**	0.1	0.5**
Received eye exam	65.4%	0.9***	0.3	1.5***	67.1%	0.9***	1.1***	0.7**
Received attention for nephropathy	82.2%	0.8***	0.5	1.1***	83.8%	0.5*	-0.1	0.9***
Diabetes Composite Measure 1 (received all three tests above: HbA1c test, eye exam, attention for nephropathy)	53.3%	1.0***	0.6	1.5***	56.2%	1.1***	1.2**	1.0**
Diabetes Composite Measure 2 (received none of the three tests above)	2.3%	-0.2**	-0.1	-0.2**	1.9%	-0.2***	0.0	-0.3***
Planned care and population health measures for female beneficiaries ages 52–74 (annualized)^b								
Received breast cancer screening	74.3%	0.7***	0.1	1.4***	75.4%	0.8***	0.3	1.2***
Continuity-of-care measures^c								
Percentage of primary care ambulatory visits at assigned practice	65.7%	0.5	0.1	0.9*	66.5%	1.0***	1.0*	0.9**
Percentage of visits with the usual provider of care	46.3%	-0.1	0.0	-0.2**	46.0%	-0.1	-0.1	-0.1
Reversed Bice-Boxerman Continuity-of-Care index ^d	0.79	0.0%	-0.1%	0.1%	0.80	0.1%*	0.2%	0.1%
Comprehensiveness-of-care measures^e								
Involvement in patient conditions	67.9%	0.6**	0.5	0.7*	66.7%	0.0	-0.3	0.2
New problem management ^d	1.00	0.1%	0.2%	0.0%	1.00	-0.3%	-0.3%	-0.2%

Source: Mathematica's analysis of Medicare claims data from January 2013 through December 2019.

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 3 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 PY 1 through 3 (separately and combined) 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 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.

Table 5.4. (continued)

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 216,000 and 261,000 CPC+ beneficiaries, and 731,000 and 606,000 comparison beneficiaries. For the breast cancer screening measure for female beneficiaries ages 52–74, the analysis includes approximately 351,000 and 423,000 CPC+ beneficiaries, and 1.2 million and 976,000 comparison beneficiaries. For the percentage of primary care ambulatory visits at the assigned practice, the analysis includes approximately 1.1 million and 1.3 million CPC+ beneficiaries, and 3.7 million and 3.1 million comparison beneficiaries. For the percentage of visits with the usual provider of care, the analysis includes approximately 1.1 million and 1.4 million CPC+ beneficiaries, and 3.8 million and 3.2 million comparison beneficiaries. For the reversed Bice-Boxerman index, the analysis includes approximately 1.0 million and 1.2 million CPC+ beneficiaries, and 3.4 million and 2.9 million comparison beneficiaries. For the comprehensiveness-of-care measures, the analysis includes approximately 4,000 and 6,000 CPC+ practitioners, and 16,000 and 14,000 comparison practitioners. For these measures, the counts of beneficiary year observations are about 2.3 to 2.8 times larger than the number of beneficiaries. The counts of practitioner year observations are about 2.7 times larger than the counts of practitioners.

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).

- ^a The mean for each outcome is the weighted average of the means for PY 1 through PY 3, 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 four domains according to the Comprehensive Primary Care Functions under which they appear in the 2018 Implementation Guide (CMMI 2018).
- ^c 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.
- ^d 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 1 (each visit made to a different practitioner). Higher rBBI scores indicate more fragmented care. For rBBI and the new problem management score, we show the percentage impact and not the impact estimate in percentage points, because the measure is not calculated in percentage units.
- ^e For the comprehensiveness-of-care measures, which are estimated at the practitioner (NPI) level, we controlled for practitioner's age, gender, and specialty, in addition to practice fixed effects. We estimated CPC+'s impact on these two measures for the first two program years only because the new problem management measure requires a 12-month look-forward period and creating the 2019 outcome would have required us to use the incomplete 2020 claims data. To keep the analysis symmetric for the comprehensiveness-of-care domain, we also constructed and analyzed the involvement in patient conditions measure for two intervention years only.

*/**/** Estimated impact significantly different from zero at the 0.10/0.05/0.01 level, two-tailed test.

FFS = fee-for-service; NPI = National Provider Identifier; PY = Program Year; SSP = Medicare Shared Savings Program.

REFERENCES

- Anglin, G., D. Peikes, D. Petersen, A. O'Malley, K. Geonnotti, A. Ghosh, P. Singh, et al. "Evaluation of the Comprehensive Primary Care Plus Initiative: Second Annual Report." Princeton, NJ: Mathematica, 2020.
- Anglin, G., D. Peikes, M. Harrington, A. Ghosh, K. Geonnotti, A. O'Malley, S. Dale, et al. "Evaluation of the Comprehensive Primary Care Plus Initiative: First Annual Report, Supplemental Volume." Princeton, NJ: Mathematica, 2019.
- Aysola, J., M.M. Schapira, H. Huo, and R.M. Werner. "Organizational Processes and Patient Experiences in the Patient-Centered Medical Home." *Medical Care*, vol. 56, no. 6, 2018, pp. 497–504. doi:10.1097/mlr.0000000000000910.
- Burton, R.A., N.M. Lallemand, R.A. Peters, and S. Zuckerman. "Characteristics of Patient-Centered Medical Home Initiatives that Generated Savings for Medicare: A Qualitative Multi-Case Analysis." *Journal of General Internal Medicine*, vol. 33, no. 7, 2018, pp. 1028–1034. doi: 10.1007/s11606-018-4309-x.
- Centers for Medicare & Medicaid Innovation (CMMI). "2018 CPC+ Implementation Guide: Guiding Principles and Reporting." CMMI, Centers for Medicare & Medicaid Services, January 30, 2018.
- Centers for Medicare & Medicaid Innovation (CMMI), Centers for Medicare & Medicaid Services. "Guiding Principles and Reporting." February 21, 2019.
- Crabtree, B.F., P.A. Nutting, W.L. Miller, R.R. McDaniel, K.C. Stange, C.R. Jaén, and E. Stewart. "Primary Care Practice Transformation Is Hard Work: Insights from a 15-Year Developmental Program of Research." *Medical Care*, vol. 49, 2011, pp. S28–S35.
- Cuellar, A., L.A. Helmchen, G. Gimm, J. Want, S. Burla, B.J. Kells, I. Kicinger, and L.M. Nichols. "The CareFirst Patient-Centered Medical Home Program: Cost and Utilization Effects in its First Three Years." *Journal of General Internal Medicine*, vol. 31, no. 11, 2016, pp. 1382–1388.
- Dale, S.B., A. Ghosh, D.N. Peikes, T.J. Day, F.B. Yoon, E.F. Taylor, K. Swankoski, et al. "Two-Year Costs and Quality in the Comprehensive Primary Care Initiative." *New England Journal of Medicine*, vol. 374, 2016, pp. 2345–2356. doi: 10.1056/NEJMsa1414953.
- Dorr, D.A., T.A. Anastas, K. Ramsey, J. Wagner, B. Sachdeva, L. Michaels, and L.J. Fagnan. "Effect of a Pragmatic, Cluster-Randomized Controlled Trial on Patient Experience with Care: The Transforming Outcomes for Patients through Medical Home Evaluation and reDesign (TOPMED) Study." *Medical Care*, vol. 54, no. 8, 2016, pp. 745–751.
- Farley, J.F., A. Kumar, B.Y. Urick, and M.E. Domino. "Patient-Centered Medical Homes and Preventive Service Use." *The American Journal of Managed Care*, vol. 25, no. 5, 2019, pp. e153–e159.

- Ghosh, A., S. Orzol, S. Dale, J. Laird, N. Fu, P. Singh, M.-Y. Kim, et al. “Evaluation of the Comprehensive Primary Care Plus Initiative: Second Annual Report, Appendices to the Supplemental Volume.” Princeton, NJ: Mathematica, 2020.
- Heyworth, L., A. Bitton, S.R. Lipsitz, T. Schilling, G.D. Schiff, D.W. Bates, and S.R. Simon. “Patient-Centered Medical Home Transformation with Payment Reform: Patient Experience Outcomes.” *American Journal of Managed Care*, vol. 20, no. 1, 2014, pp. 26–33.
- Jaén, C.R., R.L. Ferrer, W.L. Miller, R.F. Palmer, R. Wood, M. Davila, E.E. Stewart, et al. “Patient Outcomes at 26 Months in the Patient-Centered Medical Home National Demonstration Project.” *Annals of Family Medicine*, vol. 8, suppl. 1, 2010, pp. S57–S67. doi:10.1370/afm.1121.
- Kahn, K.L., J.W. Timbie, M.W. Friedberg, P. Mendel, L. Hiatt, E.K. Chen, A.M. Kress, et al. “Evaluation of CMS’s Federally Qualified Health Center (FQHC) Advanced Primary Care Practice (APCP) Demonstration: Final Report.” Santa Monica, CA: Rand Corporation, September 2016. Available at <https://downloads.cms.gov/files/cmimi/fqhc-finalevalrpt.pdf>.
- Kern, L.M., R.V. Dhopeswarkar, A. Edwards, and R. Kaushal. “Patient Experience Over Time in Patient-Centered Medical Homes.” *American Journal of Managed Care*, vol. 19, no. 5, 2013, pp. 403–410.
- Knowles, M. *Self-Directed Learning: A Guide for Learners and Teachers*. Chicago: Follett Publishing Company, 1975.
- Knowles, M., and Associates. *Andragogy in Action: Applying Modern Principles of Adult Learning*. San Francisco: Jossey-Bass, 1984.
- Maeng, D.D., D.E. Davis, J. Tomcavage, T.R. Graf, and K.M. Procopio. “Improving Patient Experience by Transforming Primary Care: Evidence from Geisinger’s Patient-Centered Medical Homes.” *Population Health Management*, vol. 16, no. 3, 2013, pp. 157–163. doi:10.1089/pop.2012.0048.
- McNellis, R.J., J.L. Genevro, and D.S. Meyers. “Lessons Learned from the Study of Primary Care Transformation.” *Annals of Family Medicine*, vol. 11, suppl. 1, 2013, pp. S1–S5.
- McWilliams, J.M., L.A. Hatfield, B.E. Landon, P. Hamed, and M.E. Chernew. “Medicare Spending After 3 Years of the Medicare Shared Savings Program.” *New England Journal of Medicine*, vol. 379, no. 12, 2018, pp. 1139–1149.
- Nichols, D., S. Haber, M. Romaine, J.M. Weiner, M. Leung, K. Smith, N. West, et al. “Evaluation of the Multi-Payer Advanced Primary Care Practice (MAPCP) Demonstration Final Report.” Research Triangle Park, NC: RTI International, June 2017. Available at <https://downloads.cms.gov/files/cmimi/mapcp-finalevalrpt.pdf>.

- Nutting, P.A., W.L. Miller, B.F. Crabtree, C.R. Jaén, E.E. Stewart, and K.C. Stange. “Initial Lessons from the First National Demonstration Project on Practice Transformation to a Patient-Centered Medical Home.” *Annals of Family Medicine*, vol. 7, 2009, pp. 254–260. doi:10.1370/afm.1002
- Office of Disease Prevention and Health Promotion (ODPHP). “Healthy People 2020: Access to Health Services.” n.d. Available at <https://www.healthypeople.gov/2020/topics-objectives/topic/Access-to-Health-Services>.
- Office of the Inspector General (OIG). “Medicare Shared Savings Program Accountable Care Organizations Have Shown Potential for Reducing Spending and Improving Quality.” OEI-02-15-00450. Washington, DC: Department of Health and Human Services, August 2017.
- Orzol, S., A. Ghosh, N. Fu, J. Laird, S. Dale, L. Timmins, K. Swankoski, et al. “Evaluation of the Comprehensive Primary Care Plus Initiative: Appendices to the Third Annual Report.” Princeton, NJ: Mathematica, 2021.
- Orzol, S., R. Keith, et al. “The Impact of a Health Information Technology-Focused Patient-Centered Neighborhood Program Among Medicare Beneficiaries in Primary Care Practices.” *Medical Care*, vol. 56, 2018, pp. 299–307.
- Peikes, D., G. Anglin, S. Dale, E.F. Taylor, A. O’Malley, A. Ghosh, and contributing authors. “Evaluation of the Comprehensive Primary Care Initiative: Fourth Annual Report.” Prepared for the U.S. Department of Health and Human Services, Centers for Medicare & Medicaid Services. Princeton, NJ: Mathematica Policy Research, May 2018a.
- Peikes, D., G. Anglin, S. Dale, E.F. Taylor, A. O’Malley, R. Brown, N. Duda, et al. “Independent Evaluation of Comprehensive Primary Care Plus (CPC+): Draft Design Report.” Princeton, NJ: Mathematica Policy Research, April 2018b.
- Peikes, D., G. Anglin, A. O’Malley, M. Harrington, D. Petersen, S. Hoag, A. Ghosh, et al. “Evaluation of the Comprehensive Primary Care Plus Initiative: First Annual Report.” Princeton, NJ: Mathematica, 2019a.
- Peikes, D., G. Anglin, A. O’Malley, M. Harrington, D. Petersen, S. Hoag, A. Ghosh, et al. “Evaluation of the Comprehensive Primary Care Plus Initiative: First Annual Report, Appendices to the Supplemental Volume.” Princeton, NJ: Mathematica, 2019b.
- Peikes, D., E.F. Taylor, A.S. O’Malley, and E.C. Rich. “The Changing Landscape of Primary Care: Effects of the ACA and Other Efforts Over the Past Decade: A Description of Primary Care Delivery System Reform Models Developed and Tested Over the Past Decade by the Center for Medicare and Medicaid Innovation, Which Was Created by the Affordable Care Act.” *Health Affairs*, vol. 39, no. 3, 2020, pp. 421–428.

- Petersen, D., A. O'Malley, A. Ghosh, K. Geonnotti, P. Singh, H. Tu, S. Dale, et al. "Evaluation of the Comprehensive Primary Care Plus Initiative: Second Annual Report, Supplemental Volume." Princeton, NJ: Mathematica, 2020.
- Reddy, A., A. Canamucio, and R.M. Werner. "Impact of the Patient-Centered Medical Home on Veterans' Experience of Care." *American Journal of Managed Care*, vol. 21, no. 6, 2015, pp. 413–421.
- Reid, R.J., K. Coleman, E.A. Johnson, P.A. Fishman, C. Hsu, M.P. Soman, C.E. Trescott, et al. "The Group Health Medical Home at Year Two: Cost Savings, Higher Patient Satisfaction, and Less Burnout for Providers." *Health Affairs (Millwood)*, vol. 29, no. 5, 2010, pp. 835–843. doi:10.1377/hlthaff.2010.0158.
- Sarinopolous, I., D.L. Bechel-Marriott, J.M. Malouin, S. Zhai, J.C. Forney, and C.L. Tanner. "Patient Experience with the Patient-Centered Medical Home in Michigan's Statewide Multi-Payer Demonstration: A Cross-Sectional Study." *Journal of General Internal Medicine*, vol. 32, no. 11, 2017, pp. 1202–1209.
- Shi, Q., T.J. Yan, P. Lee, P. Murphree, X. Yuan, H. Shao, W.H. Bestermann, et al. "Evaluation of the Quality Blue Primary Care Program on Health Outcomes." *American Journal of Managed Care*, vol. 23, no. 12, 2017, pp. e402–e408.
- Song, Z., S. Rose, D.G. Safran, B.E. Landon, M.P. Day, and M.E. Chernew. "Changes in Health Care Spending and Quality 4 Years into Global Payment." *New England Journal of Medicine*, vol. 371, no. 18, 2014, pp. 1704–1714.
- Swankoski, K.E., D.N. Peikes, N. Morrison, J.J. Holland, N. Duda, N.A. Clusen, T.J. Day, and R.S. Brown. "Patient Experience During a Large Primary Care Practice Transformation Initiative." *American Journal of Managed Care*, vol. 24, no. 12, 2018, pp. 607–613.
- Swietek, K.E., M.E. Domino, C. Beadles, A.R. Ellis, J.F. Farley, L.R. Grove, C. Jackson, et al. "Do Medical Homes Improve Quality of Care for Persons with Multiple Chronic Conditions?" *Health Services Research*, vol. 53, no. 6, 2018, pp. 4667–4681.
- Yoon, J., A. Chow, and L.V. Rubenstein. "Impact of Medical Home Implementation Through Evidence-Based Quality Improvement on Utilization and Costs." *Medical Care*, vol. 54, no. 2, 2016, pp. 118–125.

This page has been left blank for double-sided copying.



Mathematica

Princeton, NJ • Ann Arbor, MI • Cambridge, MA
Chicago, IL • Oakland, CA • Seattle, WA
Tucson, AZ • Woodlawn, MD • Washington, DC

EDI Global, a Mathematica Company

Bukoba, Tanzania • High Wycombe, United Kingdom