MATHEMATICA Policy Research

REPORT

Evaluation of the Comprehensive Primary Care Initiative: Appendix to the Second Annual Report

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APPENDIX A:

COMPARISONS OF CPC AND OTHER CMS INITIATIVES

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This appendix compares the Comprehensive Primary Care (CPC) initiative with two initiatives of the Centers for Medicare and Medicaid Services (CMS): the Medicare Shared Savings Program and the Chronic Care Management (CCM) fee.

Medicare Shared Savings Program

Under the Medicare Shared Savings Program, Medicare fee-for-service (FFS) providers join together to form an Accountable Care Organization (ACO) and are eligible to share in savings with CMS if their ACO reduces costs for their attributed Medicare population. CMS uses similar shared savings methodologies for the Medicare Shared Savings Program and CPC programs. CMS allows practices to participate in only one Medicare FFS program with a shared savings component; thus practices must choose between the two programs. Differences between the programs are highlighted in Table A.1.

Table A.1. CPC and Medicare Shared Savings Program characteristics

Characteristic	CPC	Medicare Shared Savings Program
Multipayer approach	Yes	No
Upfront financial investment	PBPM payment	None
Practices subject to downside risk (i.e., share in losses)	No	Yes
Reporting requirements	Substantial: Milestones and eCQMs	None
Learning activities	Yes, focused on primary care transformation	Yes, focused on helping health care organizations (larger entities than primary care practices) determine their readiness to become an ACO, identify goals, and establish an action plan
Data feedback	Practices receive quarterly reports and data files on Medicare FFS cost, utilization, and quality	ACOs receive quarterly reports on Medicare FFS cost and service utilization and monthly claims data files by beneficiary

Source: Review of program descriptions. See the CMS website for a description of Medicare Shared Savings Program.

ACO = accountable care organization; eCQM = electronic clinical quality measure; FFS = fee-for-service; PBPM = per beneficiary per month.

Chronic Care Management (CCM) fee

The Chronic Care Management (CCM) fee allows practices to bill Medicare FFS a monthly fee for non-face-to-face care coordination services provided to Medicare beneficiaries with multiple chronic conditions. CPC practices are not eligible to bill for these services for CPC-attributed beneficiaries, though they can bill Medicare for nonattributed beneficiaries. Differences between the two programs are highlighted in Table A.2.

Table A.2. CPC and CCM characteristics

Characteristics	CPC	CCM fee
End date	December 2016	None
Multipayer approach	Yes	No
Patients for whom PBPM payments are made	All attributed Medicare FFS beneficiaries	To bill the CCM fee for a given patient, practices must obtain consent from the patient at least annually to serve as the chronic care provider, maintain an electronic care plan for the patient, and spend at least 20 minutes per month performing non-visit-based care coordination activities for the patient (including transitions to and from the hospital and with specialists or other providers).
Average upfront Medicare payment	$15 PBPM for all attributed beneficiaries (varies based on HCC risk score)	$40 PBPM for eligible beneficiaries (varies based on geography)
Practice requirements to receive payments	Quarterly reporting on CPC Milestones and eCQMs	Monthly billing
Patient coinsurance	None	Generally 20 percent of CCM fee
Practices eligible to share in savings	Yes	No
Learning activities and data feedback	Yes	No

Source: Review of program descriptions. See the CMS website for a description of the CCM fee.

eCQM = electronic clinical quality measure; FFS = fee-for-service; HCC = hierarchical conditions categories; PBPM = per beneficiary per month.

APPENDIX B:

CPC QUALITY PERFORMANCE MEASURES

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This appendix describes the quality performance measures used for CPC, including claims-based and patient experience of care measures as well as electronic clinical quality measures (eCQMs).

CMS uses a combination of claims-based measures, patient experience measures, and eCQMs to determine if practices are eligible to share in any Medicare FFS savings achieved for CPC. Specifically, CMS uses CPC practices' performance on claims-based measures and patient experience of care measures to calculate quality scores for CPC practices for PY2014, PY2015, and PY2016 (Table B.1). In addition to meeting a quality threshold for performance on these claims-based and patient experience measures, practices are required to report eCQMs to CMS to qualify for shared savings. Whereas practices only had to report eCQMs in PY2014 (and were not judged on their performance for these measures), CMS may consider performance on eCQMs in quality score calculations for shared savings in PY2015 and PY2016.

Claims-based and patient experience of care measures

CMS measures performance on claims-based measures for Medicare FFS at the regional level. Performance on patient experience measures, however, are measured at the practice level. For the claims-based measures, practices receive an increasing number of points if regional performance surpasses the 25th, 50th, or 75th percentiles on benchmarks developed from national claims data for Medicare FFS beneficiaries.[1] CMS uses the Agency for Healthcare Research and Quality's national CAHPS database to benchmark the patient experience measures. Practices receive an increasing number of points if their performance surpasses two standard deviations below the mean, the mean, or two standard deviations above the mean.

Table B.1. PY2014 CPC claims-based and patient experience measures and benchmarks

NQF #	Clinical quality measure title	Benchmarks		
Claims-based quality measures		**25th percentile**	**50th percentile**	**75th percentile**
1789	All cause all condition readmission	16.75	16.24	15.82
0277	Ambulatory care sensitive condition admissions: Congestive heart failure	1.33	0.88	0.47
0275	Ambulatory care sensitive condition admissions: Chronic obstructive pulmonary disease	1.37	0.84	0.44
Patient experience of care measures		**2 SD below mean**	**Mean**	**2 SD above mean**
0005	Getting timely care, appointments, and information (scale: 1 [never] to 4 [always])	2.89	3.35	3.81
0005	How well providers communicate (1 [never] to 4 [always])	3.47	3.73	3.99
0005	Patient rating of provider care (1 [worst provider] to 10 [best provider])	7.99	8.9	9.82
0005	Attention to care from other providers (1 [never] to 4 [always])	3.00	3.47	3.95

[1] CPC uses the same data used to calculate benchmarks for the Medicare Shared Savings Program.

NQF #	Clinical quality measure title	Benchmarks		
0005	Providers support patient in taking care of own health (0 [no] to 1 [yes])	0.23	0.47	0.71
0005	Shared decision making[a] (1 [never] to 4 [always])	NA	NA	NA

Source: CPC Shared Savings Methodology. (Available at https://innovation.cms.gov/Files/x/Comprehensive-Primary-Care-Initiative-Shared-Savings-Methodology-PDF.pdf)

[a] A large percentage of practices lacked sufficient data to reliably calculate composite scores for shared decision making, so it was not used to calculate quality scores for PY2014.

Electronic clinical quality measures (eCQMs)

To participate in PY2014 shared savings, practices had to report on 9 out of 11 eCQMs for CPC (Table B.2). These measures are a subset of the 64 eCQMs required by the CMS Medicare and Medicaid EHR Incentive Programs, commonly referred to as the "meaningful use" measures. The selected measures focus on primary care and cover three domains: clinical process and effectiveness, population and public health, and patient safety.

Table B.2. CPC eCQMs for PY2014

NQF #	Clinical quality measure title	Domain
0018	Controlling high blood pressure	Clinical process/effectiveness
0028	Preventive care and screening: Tobacco use: Screening and cessation intervention	Population/public health
0031	Breast cancer screening	Clinical process/effectiveness
0034	Colorectal cancer screening	Clinical process/effectiveness
0041	Preventive care and screening: Influenza Immunization	Population/public health
0059	Diabetes: Hemoglobin A1c poor control	Clinical process/effectiveness
0064	Diabetes: Low density lipoprotein (LDL) management	Clinical process/effectiveness
0075	Ischemic vascular disease (IVD): Complete lipid panel and LDL control	Clinical process/effectiveness
0083	Heart failure (HF): Beta-blocker therapy for left ventricular systolic dysfunction (LVSD)	Clinical Process/effectiveness
0101	Falls: Screening for future fall risk	Patient safety
0418	Preventive care and screening: Screening for clinical depression and follow-up plan	Population/ Public health

Source: CPC Shared Savings Methodology and information provided by CMS.

For PY2014, CMS required that practices meet these requirements for eCQMs reporting:

- Use the Office of the National Coordinator (ONC) 2014 Edition of certified electronic health record technology
- Report for all patients (not just Medicare patients) who had at least one visit at the CPC practice site location during the measurement year and who met the initial patient population inclusion criteria for the measure
- Report at the practice site level rather than the individual provider level or the larger group level, if a CPC practice site belongs to a larger organization

CMS required practice site level reporting for CPC because the initiative aims to transform entire practices to provide high-quality, team-based care. This requirement differs from requirements for other CMS reporting programs, including the EHR Incentive Program and the Physician Quality Reporting System (PQRS), which generally require reporting at the eligible professional level (that is, the individual provider). EHRs do not need to offer the functionality of reporting at the practice site level to be certified by ONC. CPC practices worked with their EHR vendors and other IT support entities to meet this and other requirements of CPC reporting.

CPC practices can either report the eCQMs electronically to CMS or attest to results through a CPC web-based application. The PY2014 reporting period was January 1 to May 31, 2015.[2] Of the 482 practices that submitted eCQM results for PY2014, 470 successfully met the CPC eCQM reporting requirements.[3] Reasons reported by practices for not being able to meet the PY2014 reporting requirements included (1) not being able to obtain 9 of 11 of the eCQMs; (2) not being able to report measures at the practice level; (3) not having the correct version of the eCQM specifications; and (4) not using 2014 certified EHR technology.

[2] Because electronic reporting was submitted through the Physician and Other Health Care Professionals Quality Reporting Portal, all practice sites that elected to report their results electronically had to do so by March 20, 2015, per the deadlines established by the PQRS program. However, CPC provided its practices with the option to attest to their eCQM results until May 31, 2015, thereby allowing practices more time to obtain upgrades to a 2014 ONC-certified EHR technology.

[3] Of the 482 practices that reported eCQM data, 479 practices were still participating in CPC as of December 31, 2014; 3 practices had withdrawn but still reported eCQMs.

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APPENDIX C:

DATA AGGREGATION PROGRESS IN OKLAHOMA AND COLORADO

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This appendix describes the progress made on data aggregation in 2014 in Oklahoma and Colorado—the two CPC regions in which the most significant progress occurred. Note that the Ohio/Kentucky region made significant progress on data aggregation during 2015; its approach will be described in future reports.

A. Oklahoma's progress on data aggregation

Status of data aggregation. In early 2014, payers in Oklahoma selected MyHealth to serve as the data aggregation vendor for the region.[4] MyHealth developed a dashboard that reports practice-level cost and uses metrics including total cost of care; payments by service; and the number of ED visits, admissions, and readmissions across participating payers. MyHealth produces the reports from practice-level data submitted from payers as well as hospital admission, discharge, and transfer data submitted directly from hospitals. Oklahoma practices agreed to share their data included in the dashboard with other CPC practices to promote data transparency and encourage cross-practice learning. Practices can use the dashboard to build customized reports that, for example, compare their performance to other practices in their health system or to practices of a similar size. MyHealth made the dashboard available to practices and provided them training on how to use it in early 2015.

Governance and financing structure. Oklahoma payers participating in data aggregation pay MyHealth on a PMPM basis; thus payers' share of data aggregation costs is proportional to their size. All payers have access to data for their covered patients as well as for the region as a whole.

Next steps to improve data aggregation. MyHealth is working with payers to obtain patient-level claims data so practices will be able to identify the specific patients with hospital admissions for targeted chronic conditions (asthma, chronic obstructive pulmonary disease, and congestive heart failure). In early 2015, MyHealth was working to merge data from various files and working with payers to validate submitted data. While payers hope these data will be useful to practices, they noted that their usefulness will be limited until Medicare FFS data are included.

Facilitators of data aggregation. Oklahoma is unique among CPC regions in that payers decided how they wanted to approach data aggregation prior to the start of CPC. The data aggregator, MyHealth, also serves as the convener of CPC payer meetings, and has a separate board, on which the two private payers participating in CPC sit. MyHealth also develops and operates the region's HIE, with support from ONC's Beacon Community Program (from which it started receiving funding in 2010). Accordingly, unlike other regions, Oklahoma payers reached consensus quickly and have not spent a lot of time negotiating the cost of the effort in CPC payer meetings.

[4] CMS is required to work through its own procurement channels to participate in data aggregation with the selected vendor. As of December 2014, CMS was still exploring options for contracting with MyHealth.

B. Colorado's progress on data aggregation

Status of data aggregation. As of December 2014, seven of the nine CPC payers in Colorado had signed contracts with Rise Health, the vendor selected for data aggregation.[5] These payers are working with the vendor to launch a portal that provides practices with practice- and patient-level data on a wide range of claims-based quality, cost, and service utilization measures. While still under development at the end of PY2014, test versions of the portal allow practices to view their own data in a variety of ways (for example, by payer; or by patient health condition, risk level, or age) and to drill down in the data to create actionable lists of patients who need certain services. Many payers will continue to supplement these reports with their own reports and patient-level files.

Governance and financing structure. Payers started the planning process by forming a subcommittee on data aggregation soon after CPC began and by reaching out to physicians to ask their preferences for aggregated reports. Payers also decided to pay for additional meeting facilitation from the CPC multistakeholder facilitator (in addition to CMS payments under CPC) so they could work out details on cost sharing and vendor selection. The payers decided to split aggregation costs based on the proportion of each payer's attributed members to all payers' attributed members across CPC practices in Colorado. For ongoing governance, payers have agreed to each have one representative attend governance meetings and pay the CPC multistakeholder faculty to facilitate these meetings, which are separate from the CPC multistakeholder meetings.

Next steps to improve data aggregation. The payers and vendor plan to launch the portal in late PY2015. While payers are generally satisfied with the portal, a couple of Colorado payers commented that the actionability of the data could be improved. For example, the portal does not currently integrate clinical data (for example, data from EHRs, lab, and pharmacy data) with claims data. Nor does it provide any information on the costs of a given specialist, which could help primary care clinicians direct patients to more efficient specialists. In addition, given the time lag in claims data, the aggregated data does not include ED or hospital admission census reports.

Facilitators to data aggregation. Payers in Colorado used CPC as a launching point to develop an approach to aggregation that payers plan to sustain after the end of the CPC initiative, and that perhaps will become the basis for a statewide initiative supported by the state's SIM grant. Payers indicated that tying the CPC data aggregation work to broader statewide efforts was critical to gaining broad participation. Several other contextual factors likely facilitated data aggregation in Colorado, including: the presence of numerous insurers in the market, with most participating in CPC; a history of multipayer initiatives; an accessible all payer-claims database; and strong leadership. Another important factor was participating payers' commitment to an effective planning process and governance structure. This foundation was sufficiently strong to withstand the decision of two CPC private payers to withdraw from the data aggregation effort.

[5] CMS is required to work through its own procurement channels to participate in data aggregation with the selected vendor. As of December 2014, CMS was still exploring options for contracting with Rise Health.

APPENDIX D:

PRACTICE AND CLINICIAN SURVEY RESULTS

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This appendix presents findings from the first two rounds of the CPC practice survey. The first round was administered to only CPC practices and was fielded October through December 2012; the second round was administered to CPC practices and to a set of matched comparison practices, and was fielded April through July 2014 (18 to 21 months after CPC began).

Table D.1 lists the questions, grouped by domain, included in the modified PCMH-A module included in the 2014 practice survey.

Tables D.2–D.6 present the 2012 and 2014 survey results for CPC practices, looking at the changes over time.

- Tables D.2a–D.2b present the mean responses to individual survey questions as well as for the composite scores calculated for each domain for CPC practices, CPC-wide and by region.
- Table D.3 lists survey questions ranked by average size of improvement from 2012 to 2014 among CPC practices.
- Tables D.4a–D.4b present average changes in CPC practices' modified PCMH-A domain scores over time by key practice characteristics.
- Tables D.5a–D.5b present the effect of baseline practice characteristics on mean changes in the modified PCMH-A scores for CPC practices.
- Tables D.6a–D.6b present average changes in the proportion of CPC practices self-reporting the highest level of functioning in the composite areas from 2012 to 2014, CPC-wide and by region.

The next set of tables, Tables D.7–D.9 compare the 2014 survey results of CPC practices to those of the comparison practices.

- Tables D.7a–D.7b present regression-adjusted mean responses to individual questions and domain aggregates for CPC and comparison practices and statistically tests differences between the two groups.
- Tables D.8a–D.8b present the regression-adjusted proportions of CPC and comparison practices self-reporting the highest level of functioning and statistically tests differences between the two groups.
- Tables D.9a–D.9b present the distribution of CPC and comparison practices with various practice characteristics, financial structures, and participation in other initiatives for CPC as collected in the 2014 practice survey.

Table D.10 presents CPC practices' assessment of learning activities and assistance provided by regional learning faculty.

The last set of tables in this appendix (Table D.11 parts A–E) present findings from the Clinician and Staff survey, fielded September 2013 through February 2014 (11 to 16 months after CPC began), for both CPC and comparison practices.

Table D.1 Questions and domains in the 2014 CPC practice survey's modified PCMH-A module

Question	
Continuity of care	
A2-1	Patient assignment to provider panels
Low	Not assigned to panels
High	Assigned to panels; panel assignments routinely used for scheduling and monitored to balance supply and demand
A2-2	Patients encouraged to see paneled provider and practice team
Low	Only at patient's request
High	By practice team and it is a priority in scheduling appointments; and patients usually see their own provider/practice team
Access to care	
A2-3	Appointment systems
Low	Limited to single office visit type
High	Flexible and can accommodate customized visit lengths, same day visits, scheduled follow-up, and multiple provider visits
A2-4[a]	Communicating with the practice team through email, text messaging, or accessing a patient portal
Low	Not regularly available to practice patients
High	Generally available; patients are regularly asked about their communication preferences
A2-5[b]	Scheduled phone visits or group visits (with multiple patients) with the physician, PA, NP, or nurse
Low	Not regularly available to practice patients
High	Generally available; patients are regularly asked about their preferences for phone or group visits
A2-6	Patient after-hours access (24 hours, 7 days a week) to a physician, PA/NP, or nurse
Low	Not available or limited to an answering machine
High	Available via email or phone directly with the practice team or a provider who has real-time access to the patient's electronic medical record
Planned care for chronic conditions and preventive care	
A2-7	Registries on individual patients
Low	Not available to practice teams for pre-visit planning or patient outreach
High	Available and routinely used across comprehensive set of diseases and risk states
A2-8	Comprehensive, evidence-based guidelines on prevention or chronic illness treatment
Low	Not readily available
High	Guide creation of individual-level patient reports to use during visits
A2-9	Visits
Low	Largely focus on patient's acute problems
High	Organized to address both acute and planned care needs; use tailored guideline-based information in team huddles to ensure outstanding patient needs met at each encounter
A2-10[a]	Reminders to providers
Low	Not available
High	Include general notification of existence of chronic illness and specific information about guideline adherence at the time of individual patient encounters
A2-11	Non-physician practice team members
Low	Play limited role in providing clinical care
High	Perform key clinical service roles matching abilities and credentials
A2-12	Medication reconciliation
Low	Not done
High	Regularly done for all patients; documented in patient's medical record

Question	
A2-13[a,b]	Notification of patients of their laboratory and radiology results
Low	Not generally done
High	Consistently done for abnormal and normal results
Risk-stratified care management	
A2-16	Standard method or tool(s) to stratify patients by risk level
Low	Not available
High	Available, consistently used, and integrated into all aspects of care delivery
A2-17	Clinical care management services for high-risk patients
Low	Not available
High	Systematically provided by care managers who are practice team members
A2-18	Registry or panel-level data
Low	Not available to assess or manage care for practice populations
High	Regularly available to assess and manage care for practice populations across a comprehensive set of diseases and risk states
Patient and caregiver engagement	
A2-19	Assessing patient and family values and preferences
Low	Not done
High	Systematically done and incorporated in planning and organizing care
A2-20	Involving patients in decision-making and care
Low	Not a priority
High	Systematically supported by practice teams trained in decision making techniques
A2-21[a]	Patient comprehension of verbal and written materials
Low	Not assessed
High	Assessed; accomplished by translation services or multi-lingual staff, and training staff in health literacy and communication techniques assuring that patients know what to do to manage conditions at home
A2-22	Self-management support
Low	Limited to the distribution of information (e.g., pamphlets, booklets)
High	Provided by practice team members trained in patient empowerment and problem-solving methodologies
A2-23	Test results and care plans
Low	Not communicated to patients
High	Systematically communicated to patients in ways that are convenient to patients
A2-24	Feedback to practice from patient and family caregiver council
Low	Not collected
High	Consistently used to guide practice improvements and measure system performance and practice-level care interactions
A2-25[b]	Shared decision making aids used to help patients and providers jointly decide on treatment options
Low	Not provided to patients
High	Consistently provided to patients for two or more clinical conditions; provision is tracked with run charts or other measures
Coordination of care across the medical neighborhood	
A2-14	Tracking of patient referrals to specialists
Low	Not generally done
High	Consistently done for all patients
A2-15	Care plans
Low	Not routinely developed or recorded
High	Developed collaboratively with patients and families; include self-management and clinical goals; are routinely recorded and used to guide subsequent care

Question	
A2-26[a]	Referral relationships with medical and surgical specialists
Low	Not formalized with referral protocols or practice agreements
High	Formalized with referral protocols or practice agreements with most or all medical and surgical specialist groups
A2-27	Behavioral health services
Low	Difficult to obtain reliably
High	Readily available from behavioral health specialists who are on site members of the care team or work in an organization with which practice has a referral protocol or agreement
A2-28	Patients in need of specialty care, hospital care, or supportive community-based resources
Low	Cannot reliably obtain needed referrals to partners with whom practice has a relationship
High	Obtain needed referrals to partners with whom practice has a relationship; relevant information is communicated in advance; timely follow-up after the visit
A2-29	Practice follow-up with patients seen in ER or hospital
Low	Generally does not occur because information is not available to primary care team
High	Done routinely because practice has arrangements in place with ER and hospital to track patients and ensure follow-up is completed within a few days
A2-30	Linking patients to supportive community-based resources
Low	Not done systematically
High	Done through active coordination between health system, community service agencies, and patients; accomplished by designated staff person
A2-31	Transmission of patient information when patients referred to other providers
Low	Not done consistently
High	Consistently done and always contains a complete set of clinical information
A2-32	Receipt of information about patients from hospitals and ERs in community
Low	Does not occur consistently
High	Consistently occurs within 24 hours after event
A2-33[b]	Timely receipt of information about patients after they visit specialists in the community
Low	Does not occur consistently for patients
High	Occurs for all patients
A2-34	Practice knows total cost to payers of medical care
Low	For no patients
High	For all patients
Continuous improvement driven by data	
A2-35	Quality improvement activities
Low	Not organized or supported consistently
High	Based on proven improvement strategy; used continuously in meeting organizational goals
A2-36	Quality improvement (QI) activities
Low	Conducted by centralized committee or department
High	Conducted by practice teams supported by QI infrastructure with meaningful involvement of patients and families
A2-37	Performance measures
Low	Not available for practice
High	Comprehensive and available for practice and individual providers, and fed back to individual providers
A2-38	Reports of patient care experiences and care processes or outcomes
Low	Not routinely available to practice teams
High	Routinely provided as feedback to practice teams; transparently reported externally to patients, other teams, and external agencies

Question	
A2-39[a]	Staff, resources, and time for QI activities
Low	Not readily available in the practice
High	Fully available in the practice
A2-40	Practice hiring and training processes
Low	Focus only on narrowly defined functions and requirements of each position
High	Support and sustain improvements in care through training and incentives focused on rewarding patient-centered care
A2-41	Responsibility for conducting QI activities
Low	Not assigned to any specific group
High	Shared by all staff

Source: 2014 CPC practice survey administered from April to July 2014, fielded by Mathematica.

[a] The wording of the question and/or response categories changed between the 2012 and 2014 versions of the survey.

[b] Four questions were not used to calculate composite scores: A5, A25, A33 were only asked in the second survey round, and A13 was not statistically related to any function of primary care delivery.

PCMH-A = Patient-Centered Medical Home Assessment; PA = physician assistant; NP = nurse practitioner; ER = emergency room; QI = quality improvement.

Table D.2a. Practice survey results: Non-regression adjusted means for the 2012 and 2014 surveys of CPC practices (CPC-wide, Arkansas, Colorado, and New Jersey)

2014 Question[a]		CPC-wide			Arkansas			Colorado			New Jersey		
		CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference
Modified PCMH-A Scales (1 = lowest functioning, 12 = highest functioning)													
A1-2	Continuity of care	10.2	9.6	0.6	10.7	10.3	0.5	10.0	9.1	0.9	9.9	9.5	0.4
A3, 4, 6	Access to care	9.6	7.0	2.6	9.6	6.6	3.0	9.2	7.1	2.0	9.4	7.1	2.3
A7-12	Planned care for chronic conditions and preventive care	9.1	7.6	1.5	9.1	7.9	1.2	9.2	7.9	1.3	9.3	7.5	1.8
A16-18	Risk-stratified care management	9.7	4.6	5.1	10.1	4.5	5.6	9.6	4.8	4.8	9.5	4.6	4.9
A19-24	Patient and caregiver engagement	7.9	6.6	1.3	7.5	6.8	0.8	8.3	6.5	1.8	7.7	6.4	1.3
A14-15, 26-32, 34	Coordination of care across the medical neighborhood	8.1	6.7	1.4	7.9	6.9	1.1	8.4	6.7	1.7	7.9	6.5	1.4
A35-41	Continuous improvement driven by data	8.0	5.7	2.3	8.0	5.5	2.5	8.2	6.1	2.0	7.9	4.8	3.1
	Overall modified PCMH-A score	8.8	6.5	2.3	8.7	6.5	2.3	8.8	6.6	2.2	8.6	6.2	2.4
Continuity of care (1 = lowest functioning, 12 = highest functioning)													
A1	Patients are assigned to specific provider panels and panel assignments are routinely used for scheduling purposes and are continuously monitored to balance supply and demand	10.1	9.3	0.8	10.8	9.9	0.9	9.7	8.8	0.9	9.8	9.0	0.8

2014 Question[a]		CPC-wide			Arkansas			Colorado			New Jersey		
		CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference
A2	Patients encouraged to see paneled provider and practice team by the practice team and it is a priority in appointment scheduling, and patients usually see their own provider or practice team	10.4	9.9	0.4	10.7	10.6	0.1	10.2	9.3	0.9	10.0	9.9	0.1
Access to care (1 = lowest functioning, 12 = highest functioning)													
A3	Appointment systems are flexible and can accommodate customized visit lengths, same-day visits, scheduled follow-up, and multiple provider visits	10.5	10.3	0.3	10.4	10.1	0.3	10.5	10.4	0.1	10.7	10.5	0.1
A4	Communicating with the practice team through email, text messaging, or accessing a patient portal is generally available, and patients are regularly asked about their communication preferences for email, text messaging, or use of a patient portal	8.8	4.3	4.5	8.9	4.3	4.6	7.6	4.5	3.1	8.0	4.3	3.7
A5[a]	Scheduled phone visits or group visits (with multiple patients) with the physician, PA, NP, or nurse are generally available	4.0	N/A	N/A	4.2	N/A	N/A	3.2	N/A	N/A	3.2	N/A	N/A

2014 Question[a]		CPC-wide			Arkansas			Colorado			New Jersey		
		CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference
A6	Patient after-hours access to a physician, PA/NP, or nurse is available via the patient's choice of email or phone directly with the practice team or a provider who has real-time access to the patient's electronic medical record	10.0	8.2	1.7	9.8	6.9	2.9	10.3	8.2	2.1	10.2	8.2	2.1
Planned care for chronic conditions and preventive care (1 = lowest functioning, 12 = highest functioning)													
A7	Registries on individual patients are available to practice teams and routinely used for pre-visit planning and patient outreach, across a comprehensive set of diseases and risk states	8.4	5.2	3.2	7.8	5.4	2.4	8.9	5.8	3.1	8.3	4.8	3.5
A8	Comprehensive, evidence-based guidelines on prevention or on chronic illness treatment guide the creation of individual-level patient reports for care teams to use at the time of visits	8.9	7.7	1.3	8.9	7.9	1.0	8.5	8.1	0.4	9.0	7.8	1.2
A9	Visits are organized to address both acute and planned care needs. Tailored guideline-based information is used in team huddles to ensure all outstanding patient needs are met at each encounter	9.0	7.8	1.2	8.9	7.8	1.1	9.0	8.0	1.0	9.2	7.9	1.3

2014 Question[a]		CPC-wide			Arkansas			Colorado			New Jersey		
		CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference
A10	Reminders to providers include general notification of the existence of a chronic illness and specific information for the team about guideline adherence at the time of individual patient encounters	9.0	7.5	1.4	8.7	7.8	0.9	8.5	7.6	1.0	9.3	7.3	2.0
A11	Non-physician practice team members perform key clinical service roles that match their abilities and credentials	9.7	8.3	1.3	10.0	8.9	1.2	10.3	8.5	1.8	9.6	7.6	2.0
A12	Medication reconciliation is regularly done for all patients and documented in the patient's medical record	10.7	10.2	0.5	10.7	10.2	0.4	10.8	10.3	0.4	11.0	10.6	0.4
A13[a]	Notification of patients of their laboratory and radiology results is consistently done for abnormal as well as normal results	10.7	10.5	0.2	10.5	10.2	0.3	10.9	10.9	0.0	10.8	10.6	0.2
Risk-stratified care management (1 = lowest functioning, 12 = highest functioning)													
A16	Standard method or tool(s) to stratify patients by risk level is available, consistently used to stratify all patients, and is integrated into all aspects of care delivery	9.7	3.8	6.0	10.3	3.8	6.5	9.2	3.6	5.6	9.9	3.9	6.0
A17	Clinical care management services for high-risk patients are systematically provided by care managers functioning as members of the practice team	10.5	4.8	5.8	10.8	4.1	6.7	10.6	4.8	5.8	10.2	4.8	5.4

2014 Question[a]		CPC-wide			Arkansas			Colorado			New Jersey		
		CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference
A18	Registry or panel-level data are regularly available to assess and manage care for practice populations, across a comprehensive set of diseases and risk states	8.7	5.5	3.2	9.1	5.6	3.5	8.8	6.1	2.7	8.3	5.3	3.0
Patient and caregiver engagement (1 = lowest functioning, 12 = highest functioning)													
A19	Assessing patient and family values and preferences is systematically done and incorporated in planning and organizing care	8.2	6.6	1.6	7.9	7.1	0.8	8.2	5.9	2.3	7.8	6.7	1.1
A20	Involving patients in decision-making and care is systematically supported by practice teams trained in decision-making techniques	8.1	6.9	1.2	8.0	7.0	1.1	8.5	7.2	1.3	8.2	6.6	1.6
A21	Patient comprehension of verbal and written materials is assessed and accomplished by translation services or multi-lingual staff, and training staff in health literacy and communication techniques (such as closing the loop) assuring that patients know what to do to manage conditions at home	7.7	6.3	1.4	7.1	6.4	0.7	7.4	6.2	1.3	7.6	6.4	1.2
A22	Self-management support is provided by members of the practice team trained in patient empowerment and problem-solving methodologies	7.8	5.9	1.9	7.6	5.8	1.8	8.0	5.6	2.3	7.2	5.6	1.7

2014 Question[a]		CPC-wide			Arkansas			Colorado			New Jersey		
		CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference
A23	Test results and care plans are systematically communicated to patients in a variety of ways that are convenient to patients	9.4	8.8	0.7	8.6	9.0	-0.3	9.6	8.9	0.6	9.2	8.5	0.7
A24	Feedback to practice from patient and family caregiver council is consistently used to guide practice improvements and measure system performance as well as care interactions at the practice level	6.2	5.4	0.8	5.8	5.5	0.3	8.2	4.7	3.5	6.0	4.5	1.5
A25[a]	Shared decision-making aids used to help patients and providers jointly decide on treatment options are consistently provided to patients for two or more clinical conditions and provision is tracked with run charts or other measures	8.2	N/A	N/A	8.1	N/A	N/A	9.7	N/A	N/A	8.6	N/A	N/A
Coordination of care across the medical neighborhood (1 = lowest functioning, 12 = highest functioning)													
A14	Tracking of patient referrals to specialists is consistently done for all patients	8.8	7.8	1.0	9.0	8.4	0.6	9.1	7.9	1.2	8.3	7.1	1.2
A15	Care plans are developed collaboratively, include self-management and clinical management goals, are routinely recorded, and guide care at every subsequent point of service	8.5	6.5	2.0	8.1	6.2	1.8	8.2	6.4	1.8	8.3	6.8	1.5

2014 Question[a]		CPC-wide			Arkansas			Colorado			New Jersey		
		CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference
A26	Referral relationships with medical and surgical specialists are formalized with referral protocols or practice agreements with most or all medical and surgical specialist groups	5.9	7.2	-1.2	4.4	7.8	-3.4	6.4	7.0	-0.6	5.6	6.7	-1.0
A27	Behavioral health services are readily available from behavioral health specialists who are onsite members of the care team or who work in an organization with which the practice has a referral protocol or agreement	6.7	5.8	0.9	6.4	5.9	0.5	8.2	5.8	2.3	7.1	5.6	1.4
A28	Patients in need of specialty care, hospital care, or supportive community-based resources obtain needed referrals to partners with whom the practice has a relationship, relevant information is communicated in advance, and timely follow-up after the visit occurs	9.2	8.5	0.8	9.5	9.0	0.4	9.7	8.1	1.6	9.3	8.3	1.1
A29	Practice follow-up with patients seen in ER or hospital is done routinely because the primary care practice has arrangements in place with the ER and hospital to both track these patients and ensure that follow-up is completed within a few days	9.9	7.2	2.8	10.2	7.0	3.3	10.1	7.0	3.1	10.0	7.8	2.2

2014 Question[a]		CPC-wide			Arkansas			Colorado			New Jersey		
		CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference
A30	Linking patients to supportive community-based resources is accomplished through active coordination between the health system, community service agencies, and patients and accomplished by a designated staff person	8.2	5.9	2.3	8.6	5.9	2.7	8.3	5.8	2.5	7.6	5.7	2.0
A31	Transmission of patient information when patients referred to other providers is consistently done and always contains a complete set of clinical information (e.g., medication list, problem list, allergy list, advance directives)	9.6	8.7	1.0	10.3	9.3	1.0	9.9	8.7	1.2	8.7	7.7	1.0
A32	Receipt of information about patients from hospitals and ERs in community consistently occurs in less than 24 hours after the event	8.6	6.8	1.7	8.3	6.3	2.0	8.8	7.9	0.9	8.3	6.5	1.8
A33[a]	Timely receipt of information about patients after they visit specialists in community occurs for all patients	7.6	N/A	N/A	7.3	N/A	N/A	7.5	N/A	N/A	7.7	N/A	N/A
A34	Practice knows total cost to payers of medical care for all patients	5.0	2.8	2.2	4.5	3.0	1.5	5.7	2.9	2.9	5.1	2.8	2.3

2014 Question[a]		CPC-wide			Arkansas			Colorado			New Jersey		
		CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference
Continuous improvement driven by data (1 = lowest functioning, 12 = highest functioning)													
A35	Quality improvement activities are based on a proven improvement strategy and used continuously in meeting organizational goals	8.7	6.7	2.0	8.9	6.5	2.4	9.1	7.2	2.0	8.6	5.7	2.9
A36	QI activities are conducted by practice teams supported by a QI infrastructure with meaningful involvement of patients and their families	7.3	4.9	2.4	7.2	4.4	2.8	8.1	5.2	2.9	6.8	4.0	2.8
A37	Performance measures are comprehensive–including clinical, operational, and patient experience measures –and available for this practice site and individual providers, and fed back to individual providers	9.2	6.8	2.4	9.1	6.2	2.9	9.2	7.7	1.5	9.4	5.4	4.0
A38	Reports of patient care experiences and care processes or outcomes are routinely provided as feedback to practice teams, and transparently reported externally to patients, other teams, and external agencies	7.7	4.4	3.3	7.2	3.7	3.5	6.9	4.1	2.8	7.6	3.3	4.4
A39	Staff, resources, and time for QI activities are all fully available in the practice	7.2	5.4	1.9	7.5	5.4	2.0	7.5	5.8	1.7	7.3	4.8	2.5

2014 Question[a]		CPC-wide			Arkansas			Colorado			New Jersey		
		CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference
A40	Practice hiring and training processes support and sustain improvements in care through training and incentives focused on rewarding patient-centered care	7.4	6.0	1.4	7.6	6.7	0.9	7.3	6.3	1.0	7.4	5.6	1.8
A41	Responsibility for conducting QI activities is shared by all staff, from leadership to team members, and is made explicit through protected time to meet and specific resources to engage in QI	8.2	5.7	2.5	8.5	5.8	2.7	8.6	6.6	2.0	7.9	4.7	3.2

Sources: Mathematica analysis of the 2012 CPC practice survey administered from October through December 2012 and the 2014 CPC practice survey administered from April through July 2014, fielded by Mathematica.

Notes: The sample is restricted to the 483 CPC practices that participated in both survey rounds.

Question numbers pertain to the 2014 practice survey.

The question labels shown in this table are the most positive responses. Respondents were asked to rank the practice using a scale of 1–12 that was divided into four boxes, and each box had a different description of their approach to the activity. The most positive response, consisting of values 10–12 (the top box), represents the highest level of functioning. In this table, we report the mean.

Composite scores were calculated using a weighted average of each practice's response to all questions in a given area. We calculated a factor loading for each question in a domain based on the correlation between the individual question and the domain it measures. This yields a weighted average of the raw scores of the questions comprising a given factor, where the weights reflect the reliability of each question estimated by factor analysis. If a practice skipped a question, we upweighted the factor loadings (weights) of the non-missing responses in the domain so that the sum of the weights equals 1, whether or not one or more responses were missing. After we created composite scores for each domain, we calculated a reliability-weighted summary measure, "overall modified PCMH-A score," composed of a weighted average of the composite scores for each of the seven domains.

[a] Only questions asked in both survey rounds were included in composite measures. There were three questions asked only in the 2014 survey and were therefore not included in the composite measures: A5, A25, and A33. In addition, A13 was not included in a composite measure because it is not statistically related to any function of primary care delivery.

Modified PCMH-A = Patient-Centered Medical Home Assessment modified for the CPC evaluation; ER = emergency room; NP = nurse practitioner; PA = physician assistant; QI = quality improvement.

Table D.2b. Practice survey results: Non-regression adjusted means for the 2012 and 2014 surveys of CPC practices (New York, Ohio/Kentucky, Oklahoma, Oregon)

2014 Question[a]		New York			Ohio/Kentucky			Oklahoma			Oregon		
		CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference
Modified PCMH-A Scales (1 = lowest functioning, 12 = highest functioning)													
A1-2	Continuity of care	10.3	9.9	0.4	10.1	9.9	0.2	10.1	9.5	0.6	10.5	9.3	1.2
A3, 4, 6	Access to care	9.4	7.2	2.2	10.4	7.5	2.9	9.3	5.9	3.4	9.9	7.6	2.3
A7-12	Planned care for chronic conditions and preventive care	8.4	7.4	0.9	9.7	8.0	1.7	9.4	6.8	2.5	9.2	7.9	1.3
A16-18	Risk-stratified care management	9.1	4.5	4.6	10.1	4.8	5.2	10.2	3.5	6.7	9.4	5.6	3.8
A19-24	Patient and caregiver engagement	7.7	6.6	1.1	8.3	7.2	1.1	8.0	6.0	2.0	7.8	6.8	1.0
A14-15, 26-32, 34	Coordination of care across the medical neighborhood	7.6	6.8	0.8	8.1	6.9	1.2	8.2	6.2	2.0	8.3	6.9	1.4
A35-41	Continuous improvement driven by data	7.0	5.6	1.4	8.7	6.6	2.1	8.0	4.7	3.4	8.1	6.4	1.7
	Overall modified PCMH-A score	8.2	6.5	1.8	9.2	6.9	2.3	8.9	5.7	3.2	8.8	6.9	1.9
Continuity of care (1 = lowest functioning, 12 = highest functioning)													
A1	Patients are assigned to specific provider panels and panel assignments are routinely used for scheduling purposes and are continuously monitored to balance supply and demand	10.0	9.7	0.3	9.8	9.4	0.4	10.0	8.8	1.1	10.5	9.2	1.3
A2	Patients encouraged to see paneled provider and practice team by the practice team and it is a priority in appointment scheduling, and patients usually see their own provider or practice team	10.6	10.0	0.6	10.3	10.3	0.0	10.3	10.2	0.1	10.5	9.3	1.2

2014 Question[a]		New York			Ohio/Kentucky			Oklahoma			Oregon		
		CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference
Access to care (1 = lowest functioning, 12 = highest functioning)													
A3	Appointment systems are flexible and can accommodate customized visit lengths, same-day visits, scheduled follow-up, and multiple provider visits	10.7	10.8	0.0	10.7	10.4	0.3	10.3	9.3	1.1	10.4	10.2	0.1
A4	Communicating with the practice team through email, text messaging, or accessing a patient portal is generally available, and patients are regularly asked about their communication preferences for email, text messaging, or use of a patient portal	8.6	3.9	4.7	10.5	4.9	5.5	8.4	2.7	5.7	9.5	5.2	4.3
A5[a]	Scheduled phone visits or group visits (with multiple patients) with the physician, PA, NP, or nurse are generally available	4.0	N/A	N/A	5.1	N/A	N/A	4.2	N/A	N/A	4.3	N/A	N/A
A6	Patient after-hours access to a physician, PA/NP, or nurse is available via the patient's choice of email or phone directly with the practice team or a provider who has real-time access to the patient's electronic medical record	9.5	8.8	0.7	10.2	8.8	1.5	9.7	7.7	2.0	9.9	8.8	1.1

2014 Question[a]		New York			Ohio/Kentucky			Oklahoma			Oregon		
		CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference
Planned care for chronic conditions and preventive care (1 = lowest functioning, 12 = highest functioning)													
A7	Registries on individual patients are available to practice teams and routinely used for pre-visit planning and patient outreach, across a comprehensive set of diseases and risk states	7.6	5.6	2.0	9.2	4.0	5.1	8.8	5.0	3.8	8.4	6.0	2.4
A8	Comprehensive, evidence-based guidelines on prevention or on chronic illness treatment guide the creation of individual-level patient reports for care teams to use at the time of visits	8.4	7.2	1.2	9.3	7.9	1.3	9.4	6.7	2.7	9.2	7.9	1.3
A9	Visits are organized to address both acute and planned care needs. Tailored guideline-based information is used in team huddles to ensure all outstanding patient needs are met at each encounter	8.4	7.3	1.0	9.4	8.7	0.7	9.2	7.0	2.2	8.7	7.8	1.0
A10	Reminders to providers include general notification of the existence of a chronic illness and specific information for the team about guideline adherence at the time of individual patient encounters	8.2	7.2	1.0	10.3	8.2	2.1	8.7	6.6	2.2	8.9	8.1	0.8
A11	Non-physician practice team members perform key clinical service roles that match their abilities and credentials	8.2	8.3	-0.1	9.8	9.2	0.6	9.8	7.2	2.6	10.2	8.6	1.6

2014 Question[a]		New York			Ohio/Kentucky			Oklahoma			Oregon		
		CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference
A12	Medication reconciliation is regularly done for all patients and documented in the patient's medical record	10.3	10.1	0.2	10.7	10.4	0.3	11.0	9.9	1.1	10.2	9.8	0.4
A13[a]	Notification of patients of their laboratory and radiology results is consistently done for abnormal as well as normal results	10.7	10.3	0.3	11.1	10.6	0.5	10.6	10.5	0.2	10.3	10.3	0.0
Risk-stratified care management (1 = lowest functioning, 12 = highest functioning)													
A16	Standard method or tool(s) to stratify patients by risk level is available, consistently used to stratify all patients, and is integrated into all aspects of care delivery	9.9	4.1	5.8	9.7	4.1	5.6	10.4	3.1	7.3	8.8	3.6	5.1
A17	Clinical care management services for high-risk patients are systematically provided by care managers functioning as members of the practice team	10.1	4.4	5.7	10.9	5.3	5.5	10.8	3.1	7.7	10.4	6.7	3.7
A18	Registry or panel-level data are regularly available to assess and manage care for practice populations, across a comprehensive set of diseases and risk states	6.8	5.0	1.9	9.6	5.1	4.5	9.3	4.6	4.8	9.1	6.8	2.3
Patient and caregiver engagement (1 = lowest functioning, 12 = highest functioning)													
A19	Assessing patient and family values and preferences is systematically done and incorporated in planning and organizing care	8.0	6.8	1.1	8.7	6.6	2.0	8.7	6.0	2.7	7.8	6.9	0.9

2014 Question[a]		New York			Ohio/Kentucky			Oklahoma			Oregon		
		CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference
A20	Involving patients in decision-making and care is systematically supported by practice teams trained in decision-making techniques	7.5	7.0	0.5	8.6	7.5	1.1	8.2	6.6	1.6	7.9	6.5	1.3
A21	Patient comprehension of verbal and written materials is assessed and accomplished by translation services or multi-lingual staff, and training staff in health literacy and communication techniques (such as closing the loop) assuring that patients know what to do to manage conditions at home	7.5	6.1	1.4	8.0	6.5	1.5	7.8	5.0	2.8	8.2	7.6	0.6
A22	Self-management support is provided by members of the practice team trained in patient empowerment and problem-solving methodologies	7.4	6.0	1.4	8.6	6.3	2.4	8.0	5.2	2.9	7.7	6.5	1.1
A23	Test results and care plans are systematically communicated to patients in a variety of ways that are convenient to patients	9.2	8.4	0.8	10.2	9.4	0.9	9.5	8.3	1.2	9.5	8.7	0.8
A24	Feedback to practice from patient and family caregiver council is consistently used to guide practice improvements and measure system performance as well as care interactions at the practice level	6.7	5.5	1.2	5.4	7.5	-2.0	5.4	5.0	0.4	5.3	4.7	0.7

2014 Question[a]		New York			Ohio/Kentucky			Oklahoma			Oregon		
		CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference
A25[a]	Shared decision-making aids used to help patients and providers jointly decide on treatment options are consistently provided to patients for two or more clinical conditions and provision is tracked with run charts or other measures	8.1	N/A	N/A	7.1	N/A	N/A	7.6	N/A	N/A	7.8	N/A	N/A
Coordination of care across the medical neighborhood (1 = lowest functioning, 12 = highest functioning)													
A14	Tracking of patient referrals to specialists is consistently done for all patients	8.9	7.8	1.1	8.5	7.7	0.8	8.9	7.9	1.0	8.8	7.9	0.8
A15	Care plans are developed collaboratively, include self-management and clinical management goals, are routinely recorded, and guide care at every subsequent point of service	8.4	6.0	2.4	9.0	7.3	1.7	9.3	6.3	2.9	8.2	6.1	2.2
A26	Referral relationships with medical and surgical specialists are formalized with referral protocols or practice agreements with most or all medical and surgical specialist groups	5.8	7.0	-1.2	6.4	7.0	-0.6	6.5	7.1	-0.6	6.0	7.5	-1.5
A27	Behavioral health services are readily available from behavioral health specialists who are onsite members of the care team or who work in an organization with which the practice has a referral protocol or agreement	5.6	5.8	-0.1	5.4	5.5	-0.1	6.0	5.6	0.4	8.5	6.3	2.2

2014 Question[a]		New York			Ohio/Kentucky			Oklahoma			Oregon		
		CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference
A28	Patients in need of specialty care, hospital care, or supportive community-based resources obtain needed referrals to partners with whom the practice has a relationship, relevant information is communicated in advance, and timely follow-up after the visit occurs	8.4	8.7	-0.3	9.2	8.6	0.6	9.2	7.8	1.5	9.3	8.7	0.6
A29	Practice follow-up with patients seen in ER or hospital is done routinely because the primary care practice has arrangements in place with the ER and hospital to both track these patients and ensure that follow-up is completed within a few days	9.6	7.5	2.2	10.1	7.2	2.9	9.6	6.3	3.4	9.8	7.4	2.4
A30	Linking patients to supportive community-based resources is accomplished through active coordination between the health system, community service agencies, and patients and accomplished by a designated staff person	7.5	6.2	1.3	9.2	6.3	3.0	8.2	5.1	3.1	7.9	6.3	1.6

2014 Question[a]		New York			Ohio/Kentucky			Oklahoma			Oregon		
		CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference
A31	Transmission of patient information when patients referred to other providers is consistently done and always contains a complete set of clinical information (e.g., medication list, problem list, allergy list, advance directives)	9.2	8.9	0.3	8.8	8.6	0.2	10.2	8.4	1.9	10.4	9.2	1.2
A32	Receipt of information about patients from hospitals and ERs in community consistently occurs in less than 24 hours after the event	8.1	7.1	1.0	9.3	7.8	1.5	8.1	5.4	2.7	9.0	6.4	2.6
A33[a]	Timely receipt of information about patients after they visit specialists in community occurs for all patients	7.6	N/A	N/A	7.7	N/A	N/A	7.5	N/A	N/A	8.1	N/A	N/A
A34	Practice knows total cost to payers of medical care for all patients	4.3	3.0	1.3	4.9	2.8	2.1	5.4	2.3	3.1	4.9	2.9	2.0
Continuous improvement driven by data (1 = lowest functioning, 12 = highest functioning)													
A35	Quality improvement activities are based on a proven improvement strategy and used continuously in meeting organizational goals	7.8	6.5	1.3	9.3	8.2	1.2	8.6	5.8	2.8	8.9	7.2	1.8
A36	QI activities are conducted by practice teams supported by a QI infrastructure with meaningful involvement of patients and their families	6.4	4.5	1.9	7.4	5.6	1.8	7.5	4.4	3.0	8.0	5.8	2.3

2014 Question[a]		New York			Ohio/Kentucky			Oklahoma			Oregon		
		CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference
A37	Performance measures are comprehensive–including clinical, operational, and patient experience measures – and available for this practice site and individual providers, and fed back to individual providers	7.6	6.3	1.3	10.4	8.1	2.3	9.5	5.5	4.1	9.5	8.5	1.0
A38	Reports of patient care experiences and care processes or outcomes are routinely provided as feedback to practice teams, and transparently reported externally to patients, other teams, and external agencies	7.0	4.6	2.4	9.7	5.8	3.9	7.5	3.5	4.0	7.6	5.7	1.9
A39	Staff, resources, and time for QI activities are all fully available in the practice	6.5	5.6	0.9	7.2	6.1	1.1	7.8	4.3	3.5	6.9	5.4	1.5
A40	Practice hiring and training processes support and sustain improvements in care through training and incentives focused on rewarding patient-centered care	6.6	7.0	-0.4	8.4	5.7	2.7	7.1	4.6	2.5	7.5	6.0	1.5
A41	Responsibility for conducting QI activities is shared by all staff, from leadership to team members, and is made explicit through protected time to meet and specific resources to engage in QI	7.3	5.2	2.1	8.8	6.8	2.1	8.2	4.5	3.7	8.1	6.5	1.6

Sources: Mathematica analysis of the 2012 CPC practice survey administered from October through December 2012 and the 2014 CPC practice survey administered from April through July 2014, fielded by Mathematica.

Notes: The sample is restricted to the 483 CPC practices that participated in both survey rounds.

Question numbers pertain to the 2014 practice survey.

The question labels shown in this table are the most positive responses. Respondents were asked to rank the practice using a scale of 1–12 that was divided into four boxes, and each box had a different description of their approach to the activity. The most positive response, consisting of values 10–12 (the top box), represents the highest level of functioning. In this table, we report the mean.

Composite scores were calculated using a weighted average of each practice's response to all questions in a given area. We calculated a factor loading for each question in a domain based on the correlation between the individual question and the domain it measures. This yields a weighted average of the raw scores of the questions comprising a given factor, where the weights reflect the reliability of each question estimated by factor analysis. If a practice skipped a question, we upweighted the factor loadings (weights) of the non-missing responses in the domain so that the sum of the weights equals 1, whether or not one or more responses were missing. After we created composite scores for each domain, we calculated a reliability-weighted summary measure, "overall modified PCMH-A score," composed of a weighted average of the composite scores for each of the seven domains.

[a] Only questions asked in both survey rounds were included in composite measures. There were three questions asked only in the 2014 survey and were therefore not included in the composite measures: A5, A25, and A33. In addition, A13 was not included in a composite measure because it is not statistically related to any function of primary care delivery.

Modified PCMH-A = Patient-Centered Medical Home Assessment modified for the CPC evaluation; ER = emergency room; NP = nurse practitioner; PA = physician assistant; QI = quality improvement.

Table D.3. Items on the practice survey that improved from 2012 to 2014 among CPC practices, ranked by size of improvement

Average improvement between PY2012 and PY2014		Items	Domains
4 or more points	A4	Communicating with the practice team through email, text messaging, or accessing a patient portal is generally available, and patients are regularly asked about their communication preferences for email, text messaging, or use of a patient portal.	Access to care
	A16	Standard method or tool(s) to stratify patients by risk level is available, is consistently used to stratify all patients, and is integrated into all aspects of care delivery.	Risk-stratified care management
	A17	Clinical care management services for high-risk patients are systematically provided by care managers functioning as members of the practice team.	Risk-stratified care management
3-4 points	A7	Registries on individual patients are available to practice teams and routinely used for previsit planning and patient outreach across a comprehensive set of diseases and risk states.	Planned care for chronic conditions and preventive care
	A18	Registry or panel-level data are regularly available to assess and manage care for practice populations across a comprehensive set of diseases and risk states.	Risk-stratified care management
	A38	Reports of patient care experiences and care processes or outcomes are routinely provided as feedback to practice teams and transparently reported externally to patients, other teams, and external agencies.	Continuous improvement driven by data
2-3 points	A15	Care plans are developed collaboratively, include self-management and clinical management goals, are routinely recorded, and guide care at every subsequent point of service.	Coordination of care across the medical neighborhood
	A29	Practice follow-up with patients seen in ER or hospital is done routinely because the primary care practice has arrangements in place with the ER and hospital to both track these patients and ensure that followup is completed within a few days.	Coordination of care across the medical neighborhood
	A30	Linking patients to supportive community-based resources is accomplished through active coordination between the health system, community service agencies, and patients and accomplished by a designated staff person.	Coordination of care across the medical neighborhood
	A34	Practice knows total cost to payers of medical care for all patients.	Coordination of care across the medical neighborhood
	A35	Quality improvement activities are based on a proven improvement strategy and used continuously in meeting organizational goals.	Continuous improvement driven by data

Average improvement between PY2012 and PY2014	Items		Domains
	A36	QI activities are conducted by practice teams supported by a QI infrastructure with meaningful involvement of patients and their families.	Continuous improvement driven by data
	A37	Performance measures are comprehensive—including clinical, operational, and patient experience measures—and available for this practice site and individual providers and fed back to individual providers.	Continuous improvement driven by data
	A41	Responsibility for conducting QI activities is shared by all staff, from leadership to team members, and is made explicit through protected time to meet and specific resources to engage in QI.	Continuous improvement driven by data
1-2 points	A6	Patient after-hours access to a physician, PA/NP, or nurse is available via the patient's choice of email or phone directly with the practice team or a provider who has real-time access to the patient's electronic medical record.	Access to care
	A8	Comprehensive, evidence-based guidelines on prevention or chronic illness treatment guide the creation of individual-level patient reports for care teams to use at the time of visits.	Planned care for chronic conditions and preventive care
	A9	Visits are organized to address both acute and planned care needs. Tailored guideline-based information is used in team huddles to ensure all outstanding patient needs are met at each encounter.	Planned care for chronic conditions and preventive care
	A10	Reminders to providers include general notification of the existence of a chronic illness and specific information for the team about guideline adherence at the time of individual patient encounters.	Planned care for chronic conditions and preventive care
	A11	Nonphysician practice team members perform key clinical service roles that match their abilities and credentials.	Planned care for chronic conditions and preventive care
	A19	Assessing patient and family values and preferences is systematically done and incorporated in planning and organizing care.	Patient and caregiver engagement
	A20	Involving patients in decision-making and care is systematically supported by practice teams trained in decision-making techniques.	Patient and caregiver engagement
	A21	Patient comprehension of verbal and written materials is assessed and accomplished by translation services or multilingual staff, and training staff in health literacy and communication techniques (such as closing the loop) takes place, assuring that patients know what to do to manage conditions at home.	Patient and caregiver engagement
	A22	Self-management support is provided by members of the practice team trained in patient empowerment and problem-solving methodologies.	Patient and caregiver engagement

Average improvement between PY2012 and PY2014		Items	Domains
	A32	Receipt of information about patients from hospitals and ERs in community consistently occurs in less than 24 hours after the event.	Coordination of care across the medical neighborhood
	A39	Staff, resources, and time for QI activities are all fully available in the practice.	Continuous improvement driven by data
	A40	Practice hiring and training processes support and sustain improvements in care through training and incentives focused on rewarding patient-centered care.	Continuous improvement driven by data
Less than 1 point	A1	Patients are assigned to specific provider panels, and panel assignments are routinely used for scheduling purposes and are continuously monitored to balance supply and demand.	Continuity of care
	A2	Patients are encouraged to see paneled provider and practice team by the practice team, and it is a priority in appointment scheduling, and patients usually see their own provider or practice team.	Continuity of care
	A3	Appointment systems are flexible and can accommodate customized visit lengths, same-day visits, scheduled follow-up, and multiple provider visits.	Access to care
	A12	Medication reconciliation is regularly done for all patients and documented in the patient's medical record.	Planned care for chronic conditions and preventive care
	A13	Notification of patients of their laboratory and radiology results is consistently done for abnormal as well as normal results.	N/A
	A23	Test results and care plans are systematically communicated to patients in a variety of ways that are convenient to patients.	Patient and caregiver engagement
	A24	Feedback to practice from patient and family caregiver council is consistently used to guide practice improvements and measure system performance as well as care interactions at the practice level.	Patient and caregiver engagement
	A14	Tracking of patient referrals to specialists is consistently done for all patients.	Coordination of care across the medical neighborhood
	A27	Behavioral health services are readily available from behavioral health specialists who are onsite members of the care team or who work in an organization with which the practice has a referral protocol or agreement.	Coordination of care across the medical neighborhood

Average improvement between PY2012 and PY2014		Items	Domains
	A28	Patients in need of specialty care, hospital care, or supportive community-based resources obtain needed referrals to partners with whom the practice has a relationship, relevant information is communicated in advance, and timely follow-up after the visit occurs.	Coordination of care across the medical neighborhood
	A31	Transmission of patient information when patients referred to other providers is consistently done and always contains a complete set of clinical information (for example, medication list, problem list, allergy list, advance directives).	Coordination of care across the medical neighborhood

Notes: These questions are from the modified version of the PCMH-A module of the CPC practice survey fielded in 2014. This table does not test the statistical significance of changes over time.

ER = emergency room; NP = nurse practitioner; PA = physician assistant; QI = quality improvement; N/A = not applicable.

Table D.4a. Non-regression adjusted changes in CPC practices' primary care functions as measured through modified PCMH-A scores over time, by key practice characteristics

	Overall modified PCMH-A score				Continuity of care				Access to care				Planned care for chronic conditions and preventive care			
	2012	2014	Difference	N	2012	2014	Difference	N	2012	2014	Difference	N	2012	2014	Difference	N
CPC-wide mean	6.5	8.8	2.3	483	9.6	10.2	0.6	482	7.0	9.6	2.6	483	7.6	9.1	1.5	482
Practice characteristics																
Practice size in 2012																
1-2 clinicians	6.4	8.7	2.3	150	10.8	10.7	-0.2	149	7.1	9.4	2.3	150	7.4	9.1	1.7	149
3-4	6.6	8.8	2.2	161	9.1	10.0	0.9	161	7.1	9.8	2.7	161	7.9	9.2	1.3	161
5-10	6.4	8.9	2.4	139	9.2	10.1	0.9	139	6.9	9.6	2.7	139	7.6	9.3	1.6	139
11 or more	6.5	8.5	2.0	33	8.6	9.9	1.3	33	7.0	9.5	2.5	33	7.6	8.9	1.3	33
Ownership in 2012																
Private physician or clinician owned	6.5	8.9	2.3	260	9.8	10.4	0.6	259	7.3	9.8	2.5	260	7.8	9.3	1.5	259
Hospital/system owned/Academic Med Ctr.	6.3	8.6	2.3	181	9.3	10.0	0.7	181	6.5	9.4	2.9	181	7.4	8.9	1.5	181
Insurance company, health plans or HMO	6.9	10.3	3.4	3	9.9	10.7	0.8	3	7.0	10.5	3.5	3	6.7	10.4	3.7	3
Other	6.7	8.6	1.9	57	9.8	10.5	0.7	57	7.4	9.5	2.1	57	7.8	9.2	1.4	57
CPC funding per clinician in 2013 (Practice-level median)																
Bottom tertile	6.7	8.8	2.2	160	9.2	10.0	0.8	160	7.1	9.4	2.3	160	7.8	9.2	1.4	160
Middle tertile	6.2	8.6	2.4	164	9.7	10.3	0.6	164	6.8	9.6	2.8	164	7.4	9.0	1.6	164
Top tertile	6.6	8.8	2.3	159	10.1	10.4	0.4	158	7.2	9.8	2.6	159	7.7	9.2	1.5	158
Autonomy to implement practice-level change in 2014																
Staff hiring																
High autonomy	6.8	9.0	2.1	156	9.5	10.3	0.8	156	7.2	9.9	2.6	156	7.9	9.4	1.5	156
No-moderate	6.2	8.5	2.3	170	9.5	10.0	0.5	170	6.7	9.1	2.5	170	7.2	8.7	1.5	170

	Overall modified PCMH-A score				Continuity of care				Access to care				Planned care for chronic conditions and preventive care			
	2012	2014	Difference	N	2012	2014	Difference	N	2012	2014	Difference	N	2012	2014	Difference	N
Organization priorities, such as picking quality improvement goals																
High autonomy	6.7	9.0	2.3	110	9.3	10.1	0.9	110	7.3	9.5	2.2	110	7.8	9.4	1.6	110
No-moderate	6.4	8.7	2.2	217	9.6	10.1	0.5	217	6.8	9.5	2.8	217	7.4	8.9	1.5	217
Clinical work processes																
High autonomy	6.7	8.9	2.2	219	9.6	10.2	0.5	219	7.0	9.7	2.7	219	7.8	9.2	1.4	219
No-moderate	6.2	8.5	2.3	108	9.3	10.1	0.8	108	6.8	9.1	2.3	108	7.1	8.7	1.6	108
Planning for and completion of CPC milestones																
High autonomy	6.5	9.0	2.6	141	9.5	10.3	0.8	141	7.1	9.6	2.5	141	7.5	9.3	1.8	141
No-moderate	6.6	8.5	1.9	189	9.5	10.0	0.5	189	6.8	9.4	2.6	189	7.6	8.8	1.2	189
Practice learning and assistance in 2014: Who does the regional learning faculty directly communicate with?																
Staff in this practice site and/or a combination of practice site and group-level staff	6.5	8.8	2.3	424	9.6	10.3	0.6	424	7.1	9.5	2.5	424	7.7	9.2	1.5	424
Staff in our larger health care system or medical group	6.2	8.4	2.2	56	9.6	9.9	0.4	56	6.9	10.0	3.1	56	7.4	8.7	1.3	56
None of the staff in this practice site or in our larger health care system or medical group	11.8	7.3	-4.5	1	12.0	12.0	0.0	1	12.0	12.0	0.0	1	11.8	8.3	-3.5	1
Clinician compensation in 2014																
Among clinician owners:																
Salary	6.7	8.8	2.2	194	9.9	10.3	0.5	194	7.5	9.8	2.4	194	7.9	9.3	1.4	194
Productivity incentives	6.7	8.6	1.9	172	9.7	10.3	0.6	172	7.4	9.8	2.4	172	7.9	9.1	1.2	172
Quality incentives	6.4	9.0	2.5	84	9.6	10.4	0.8	84	7.0	9.8	2.7	84	7.6	9.4	1.8	84

	Overall modified PCMH-A score				Continuity of care				Access to care				Planned care for chronic conditions and preventive care			
	2012	2014	Difference	N	2012	2014	Difference	N	2012	2014	Difference	N	2012	2014	Difference	N
Among clinician non-owners:																
Salary	6.4	8.7	2.3	367	9.5	10.1	0.6	367	7.0	9.6	2.6	367	7.7	9.1	1.5	367
Productivity incentives	6.5	8.7	2.2	269	9.5	10.1	0.5	269	7.1	9.7	2.6	269	7.6	9.0	1.4	269
Quality incentive	6.7	8.8	2.1	177	9.7	10.1	0.4	177	6.9	9.6	2.7	177	7.9	9.1	1.2	177
Participation in PCMH, EHR, and HIE initiatives																
PCMH recognition in 2012																
Yes	7.2	8.8	1.6	204	9.6	10.0	0.5	204	7.6	9.9	2.4	204	8.2	9.2	1.0	204
No	6.0	8.7	2.7	279	9.7	10.4	0.7	278	6.7	9.4	2.7	279	7.2	9.1	1.9	278
Use of data reports from EHR to guide quality improvement in 2014																
Yes	6.5	8.8	2.3	468	9.6	10.2	0.6	468	7.1	9.6	2.6	468	7.7	9.2	1.5	468
No	5.9	7.6	1.7	14	10.1	10.5	0.4	14	6.4	8.4	2.0	14	7.2	8.0	0.8	14
Data sharing with hospitals in 2014																
Part of health system and shares data with hospital within system only	5.9	8.4	2.5	69	9.5	10.3	0.8	69	6.2	9.0	2.8	69	6.9	8.5	1.6	69
Part of health system and shares data with hospitals both within and outside system	6.7	9.0	2.3	168	9.4	10.1	0.7	168	7.0	9.8	2.8	168	7.7	9.4	1.7	168
Not system owned and shares data with local hospitals	6.3	8.9	2.6	115	9.7	10.4	0.7	115	7.2	10.0	2.9	115	7.7	9.4	1.7	115
Not system owned and cannot share data with local hospitals	6.6	8.6	2.0	37	10.1	11.0	0.8	37	7.4	9.1	1.7	37	7.9	9.3	1.3	37
Initial application score																
CMS score of the practice																
Bottom tertile	6.0	8.6	2.5	165	9.4	10.2	0.9	164	6.7	9.1	2.3	165	7.2	9.0	1.8	164
Middle tertile	6.3	8.8	2.5	174	9.9	10.3	0.4	174	6.9	9.7	2.8	174	7.5	9.1	1.6	174
Top tertile	7.2	8.9	1.7	144	9.6	10.2	0.6	144	7.6	10.1	2.5	144	8.3	9.4	1.1	144

	Overall modified PCMH-A score				Continuity of care				Access to care				Planned care for chronic conditions and preventive care			
	2012	2014	Difference	N	2012	2014	Difference	N	2012	2014	Difference	N	2012	2014	Difference	N
Baseline modified PCMH-A score																
PCMH-A score at baseline (2012)																
Bottom tertile	4.9	8.6	3.7	158	9.1	10.1	1.0	157	6.2	9.3	3.1	158	6.1	9.0	3.0	157
Middle tertile	6.4	8.6	2.3	165	9.6	10.2	0.6	165	6.9	9.6	2.7	165	7.6	8.9	1.2	165
Top tertile	8.2	9.0	0.9	160	10.1	10.3	0.2	160	8.0	10.0	1.9	160	9.2	9.6	0.4	160
Staffing changes																
Changes in staff made by 2014 as a result of the CPC initiative																
Hired or contracted staff to fill new roles, or hired new staff to fill existing roles	6.5	8.7	2.2	424	9.6	10.2	0.6	424	7.0	9.6	2.5	424	7.7	9.1	1.4	424
Moved existing staff into new roles or functions	6.6	8.8	2.2	298	9.5	10.3	0.8	298	7.2	9.6	2.4	298	7.8	9.3	1.5	298
Moved clinicians from other practice sites to this practice site	6.8	8.7	2.0	22	9.4	10.2	0.8	22	7.6	9.1	1.6	22	7.8	8.9	1.1	22
Moved non-clinician staff from other practice sites to this practice site	6.4	8.3	1.9	20	8.4	10.1	1.7	20	6.3	7.7	1.5	20	7.8	8.7	0.9	20
No change or eliminated staff	4.1	8.9	4.7	3	11.0	10.7	-0.3	3	6.6	10.7	4.1	3	5.3	9.6	4.3	3
CPC feedback reports - How often someone in practice reviews in 2014																
Medicare FFS reports																
Always-most of the time	6.5	8.9	2.4	342	9.6	10.4	0.7	342	7.1	9.7	2.6	342	7.7	9.3	1.6	342
Sometimes or less often	6.5	8.4	1.9	130	9.6	9.9	0.4	130	6.9	9.3	2.4	130	7.5	8.8	1.2	130
Patient-level data files from Medicare FFS																
Always-most of the time	6.7	8.9	2.3	215	9.7	10.4	0.7	215	7.0	9.8	2.8	215	8.0	9.3	1.4	215
Sometimes or less often	6.4	8.6	2.2	252	9.6	10.1	0.5	252	7.1	9.5	2.4	252	7.4	8.9	1.5	252

	Overall modified PCMH-A score				Continuity of care				Access to care				Planned care for chronic conditions and preventive care			
	2012	2014	Difference	N	2012	2014	Difference	N	2012	2014	Difference	N	2012	2014	Difference	N
Assessment of CPC																
How much has participation in the CPC initiative improved the quality of care that this practice currently provides to its patients?																
A lot	6.6	8.9	2.3	216	9.7	10.2	0.6	216	7.2	9.6	2.4	216	7.6	9.2	1.6	216
Somewhat	6.4	8.7	2.3	227	9.5	10.2	0.7	227	6.8	9.6	2.8	227	7.7	9.2	1.5	227
Not very much	6.4	8.2	1.8	33	9.7	10.4	0.7	33	7.3	9.7	2.4	33	7.7	8.7	1.0	33
Not at all	6.3	8.5	2.1	5	11.2	10.7	-0.5	5	7.3	9.4	2.2	5	8.2	9.4	1.2	5

Sources: Mathematica analysis of the 2012 CPC practice survey administered from October through December 2012 and the 2014 CPC practice survey administered from April through July 2014, fielded by Mathematica.

Notes: The sample is restricted to the 483 CPC practices that participated in both survey rounds.

Composite scores were calculated using a weighted average of each practice's response to all questions in a given area. We calculated a factor loading for each question in a domain based on the correlation between the individual question and the domain it measures. This yields a weighted average of the raw scores of the questions encompassing a given factor, where the weights reflect the reliability of each question estimated by factor analysis. If a practice skipped a question, we upweighted the factor loadings (weights) of the non-missing responses in the domain so that the sum of the weights equals 1, whether or not one or more responses were missing. After we created composite scores for each domain, we calculated a reliability-weighted summary measure, "overall modified PCMH-A score," composed of a weighted average of the composite scores for each of the seven domains.

Only questions asked in both survey rounds were included in composite measures. There were three questions asked only in the 2014 survey and were therefore not included in the composite measures: A5, A25, and A33. In addition, A13 was not included in a composite measure because it is not statistically related to any function of primary care delivery.

Modified PCMH-A = Patient-Centered Medical Home Assessment modified for the CPC evaluation; HMO = health maintenance organization; EHR = electronic health record; HIE = health information exchange; FFS = fee-for-service.

Table D.4b. Non-regression adjusted changes in CPC practices' primary care functions as measured through modified PCMH-A scores over time, by key practice characteristics

	Risk-stratified care management				Patient and caregiver engagement				Coordination of care across the medical neighborhood				Continuous improvement driven by data			
	2012	2014	Difference	N	2012	2014	Difference	N	2012	2014	Difference	N	2012	2014	Difference	N
CPC-wide mean	4.6	9.7	5.1	483	6.6	7.9	1.3	483	6.7	8.1	1.4	483	5.7	8.0	2.3	483
Practice characteristics																
Practice size in 2012																
1-2 clinicians	4.4	9.7	5.3	150	6.6	8.0	1.4	150	6.6	7.9	1.2	150	5.3	7.6	2.3	150
3-4	4.7	9.6	5.0	161	6.8	8.0	1.2	161	6.8	8.1	1.3	161	5.9	8.2	2.2	161
5-10	4.7	9.8	5.2	139	6.4	7.9	1.5	139	6.7	8.3	1.6	139	5.8	8.3	2.4	139
11 or more	5.2	9.4	4.2	33	6.4	7.3	0.9	33	6.4	7.8	1.4	33	5.9	7.7	1.8	33
Ownership in 2012																
Private physician or clinician owned	4.6	9.8	5.1	260	6.6	8.0	1.5	260	6.9	8.1	1.2	260	5.5	8.0	2.5	260
Hospital/system owned/Academic Med Ctr.	4.4	9.5	5.1	181	6.6	7.7	1.1	181	6.3	8.0	1.7	181	6.0	8.1	2.1	181
Insurance company, health plans or HMO	5.3	9.9	4.6	3	7.8	10.1	2.4	3	7.3	9.4	2.1	3	6.4	11.2	4.7	3
Other	5.1	9.7	4.5	57	6.7	7.7	1.0	57	6.9	7.7	0.8	57	5.8	7.7	1.9	57
CPC funding per clinician in 2013 (Practice-level median)																
Bottom tertile	4.9	9.7	4.7	160	6.7	8.1	1.4	160	6.8	8.3	1.5	160	6.1	8.1	2.1	160
Middle tertile	4.3	9.6	5.4	164	6.4	7.6	1.3	164	6.6	7.9	1.4	164	5.4	7.7	2.3	164
Top tertile	4.7	9.8	5.1	159	6.8	7.9	1.2	159	6.7	7.9	1.3	159	5.7	8.2	2.5	159
Autonomy to implement practice-level change in 2014																
Staff hiring																
High autonomy	5.0	9.7	4.7	156	7.1	8.1	1.0	156	6.9	8.1	1.2	156	6.4	8.5	2.1	156
No-moderate	4.3	9.6	5.4	170	6.4	7.7	1.3	170	6.6	8.1	1.5	170	5.6	7.8	2.2	170

	Risk-stratified care management				Patient and caregiver engagement				Coordination of care across the medical neighborhood				Continuous improvement driven by data			
	2012	2014	Difference	N	2012	2014	Difference	N	2012	2014	Difference	N	2012	2014	Difference	N
Organization priorities, such as picking quality improvement goals																
High autonomy	4.9	9.8	5.0	110	7.0	8.3	1.3	110	7.1	8.3	1.3	110	6.0	8.4	2.5	110
No-moderate	4.4	9.6	5.2	217	6.7	7.8	1.1	217	6.6	8.0	1.5	217	6.0	8.0	2.0	217
Clinical work processes																
High autonomy	4.8	9.8	5.0	219	7.0	7.9	0.9	219	6.8	8.1	1.3	219	6.1	8.2	2.2	219
No-moderate	4.2	9.4	5.2	108	6.3	8.0	1.7	108	6.5	8.1	1.5	108	5.8	7.8	2.1	108
Planning for and completion of CPC milestones																
High autonomy	4.5	9.9	5.5	141	6.6	8.3	1.7	141	6.8	8.4	1.6	141	5.7	8.5	2.8	141
No-moderate	4.7	9.5	4.8	189	6.9	7.6	0.8	189	6.7	7.9	1.2	189	6.2	7.8	1.6	189
Practice learning and assistance in 2014: Who does the regional learning faculty directly communicate with?																
Staff in this practice site and/or a combination of practice site and group-level staff	4.7	9.8	5.1	424	6.6	8.0	1.3	424	6.7	8.1	1.4	424	5.8	8.1	2.3	424
Staff in our larger health care system or medical group	4.3	8.9	4.7	56	6.4	7.5	1.1	56	6.4	7.6	1.2	56	5.3	7.5	2.2	56
None of the staff in this practice site or in our larger health care system or medical group	12.0	8.9	-3.1	1	12.0	4.7	-7.3	1	11.5	3.5	-8.0	1	11.2	6.2	-5.0	1
Clinician compensation in 2014																
Among clinician owners:																
Salary	5.1	9.8	4.8	194	6.7	8.0	1.3	194	6.9	8.0	1.1	194	5.4	7.9	2.5	194
Productivity incentives	5.0	9.6	4.6	172	6.8	7.7	0.9	172	6.9	7.9	1.0	172	5.9	7.6	1.8	172
Quality incentives	4.5	9.7	5.2	84	6.5	8.2	1.7	84	6.8	8.2	1.4	84	5.7	8.2	2.5	84

	Risk-stratified care management				Patient and caregiver engagement				Coordination of care across the medical neighborhood				Continuous improvement driven by data			
	2012	2014	Difference	N	2012	2014	Difference	N	2012	2014	Difference	N	2012	2014	Difference	N
Among clinician non-owners:																
Salary	4.6	9.6	5.1	367	6.5	7.8	1.3	367	6.6	8.0	1.4	367	5.7	8.0	2.3	367
Productivity incentives	4.5	9.8	5.2	269	6.7	7.8	1.1	269	6.6	8.0	1.4	269	6.0	8.1	2.1	269
Quality incentive	4.8	9.7	4.9	177	6.9	7.7	0.8	177	6.8	8.1	1.2	177	6.2	8.4	2.1	177
Participation in PCMH, EHR, and HIE initiatives																
PCMH recognition in 2012																
Yes	5.7	9.6	3.9	204	7.3	7.9	0.6	204	7.1	8.0	1.0	204	6.6	8.1	1.5	204
No	3.8	9.8	6.0	279	6.2	7.9	1.8	279	6.4	8.1	1.7	279	5.0	7.9	2.9	279
Use of data reports from EHR to guide quality improvement in 2014																
Yes	4.6	9.7	5.1	468	6.7	7.9	1.3	468	6.7	8.1	1.4	468	5.7	8.1	2.3	468
No	4.3	8.4	4.1	14	5.7	6.9	1.2	14	6.5	7.7	1.2	14	4.7	5.7	1.0	14
Data sharing with hospitals in 2014																
Part of health system and shares data with hospital within system only	3.4	9.6	6.2	69	6.3	7.5	1.2	69	6.6	8.0	1.4	69	5.3	8.0	2.6	69
Part of health system and shares data with hospitals both within and outside system	4.8	9.8	4.9	168	6.9	8.3	1.4	168	6.7	8.3	1.6	168	6.3	8.4	2.1	168
Not system owned and shares data with local hospitals	4.6	9.9	5.3	115	6.3	8.0	1.7	115	6.5	8.1	1.6	115	5.1	8.0	2.9	115
Not system owned and cannot share data with local hospitals	4.8	9.8	5.0	37	6.6	8.0	1.4	37	7.1	7.7	0.6	37	5.1	7.4	2.3	37
Initial application score																
CMS score of the practice																
Bottom tertile	3.9	9.6	5.7	165	6.2	7.8	1.6	165	6.4	7.9	1.5	165	5.1	7.7	2.6	165
Middle tertile	4.4	9.8	5.4	174	6.4	8.0	1.6	174	6.7	8.2	1.6	174	5.4	8.0	2.6	174
Top tertile	5.7	9.6	4.0	144	7.3	7.9	0.5	144	7.1	8.0	1.0	144	6.7	8.3	1.6	144

	Risk-stratified care management				Patient and caregiver engagement				Coordination of care across the medical neighborhood				Continuous improvement driven by data			
	2012	2014	Difference	N	2012	2014	Difference	N	2012	2014	Difference	N	2012	2014	Difference	N
Baseline modified PCMH-A score																
PCMH-A score at baseline (2012)																
Bottom tertile	2.3	9.5	7.2	158	5.0	7.9	3.0	158	5.4	8.0	2.5	158	3.7	7.8	4.1	158
Middle tertile	4.6	9.7	5.1	165	6.5	7.8	1.3	165	6.6	8.0	1.4	165	5.5	7.8	2.3	165
Top tertile	7.0	9.9	3.0	160	8.4	8.0	-0.4	160	8.0	8.2	0.2	160	8.0	8.5	0.5	160
Staffing changes																
Changes in staff made by 2014 as a result of the CPC initiative																
Hired or contracted staff to fill new roles, or hired new staff to fill existing roles	4.7	9.7	5.0	424	6.7	7.8	1.1	424	6.69	7.95	1.26	424	5.79	7.96	2.17	424
Moved existing staff into new roles or functions	4.8	9.7	4.9	298	6.7	8.0	1.3	298	6.83	8.14	1.31	298	5.77	8.09	2.32	298
Moved clinicians from other practice sites to this practice site	5.4	9.7	4.3	22	6.8	8.1	1.4	22	6.79	8.19	1.4	22	6.06	8.16	2.1	22
Moved non-clinician staff from other practice sites to this practice site	4.2	9.4	5.2	20	6.6	7.6	1.0	20	7.0	8.43	1.44	20	6.33	7.6	1.27	20
No change or eliminated staff	2.0	9.5	7.5	3	3.4	7.3	3.9	3	3.62	8.07	4.46	3	2.81	7.92	5.11	3
CPC feedback reports - How often someone in practice reviews in 2014																
Medicare FFS reports																
Always-most of the time	4.5	9.7	5.2	342	6.6	8.0	1.4	342	6.77	8.14	1.37	342	5.7	8.18	2.48	342
Sometimes or less often	5.1	9.5	4.4	130	6.7	7.5	0.8	130	6.45	7.69	1.23	130	5.78	7.33	1.56	130
Patient-level data files from Medicare FFS																
Always-most of the time	4.8	9.7	4.9	215	6.7	8.2	1.5	215	6.93	8.2	1.27	215	5.89	8.19	2.31	215
Sometimes or less often	4.5	9.6	5.1	252	6.6	7.6	1.0	252	6.48	7.88	1.4	252	5.61	7.76	2.16	252

	Risk-stratified care management				Patient and caregiver engagement				Coordination of care across the medical neighborhood				Continuous improvement driven by data			
	2012	2014	Difference	N	2012	2014	Difference	N	2012	2014	Difference	N	2012	2014	Difference	N
Assessment of CPC																
How much has participation in the CPC initiative improved the quality of care that this practice currently provides to its patients?																
A lot	4.6	9.9	5.3	216	6.8	8.1	1.3	216	6.78	8.19	1.41	216	5.84	8.17	2.33	216
Somewhat	4.7	9.5	4.8	227	6.6	7.9	1.3	227	6.61	8.02	1.4	227	5.64	7.98	2.33	227
Not very much	4.5	9.6	5.2	33	6.2	7.1	0.9	33	6.6	7.23	0.62	33	5.58	6.9	1.32	33
Not at all	3.8	9.7	5.9	5	6.8	7.5	0.7	5	6.2	7.7	1.5	5	4.82	6.69	1.87	5

Sources: Mathematica analysis of the 2012 CPC practice survey administered from October through December 2012 and the 2014 CPC practice survey administered from April through July 2014, fielded by Mathematica.

Notes: The sample is restricted to the 483 CPC practices that participated in both survey rounds.

Composite scores were calculated using a weighted average of each practice's response to all questions in a given area. We calculated a factor loading for each question in a domain based on the correlation between the individual question and the domain it measures. This yields a weighted average of the raw scores of the questions encompassing a given factor, where the weights reflect the reliability of each question estimated by factor analysis. If a practice skipped a question, we upweighted the factor loadings (weights) of the non-missing responses in the domain so that the sum of the weights equals 1, whether or not one or more responses were missing. After we created composite scores for each domain, we calculated a reliability-weighted summary measure, "overall modified PCMH-A score," composed of a weighted average of the composite scores for each of the seven domains.

Only questions asked in both survey rounds were included in composite measures. There were three questions asked only in the 2014 survey and were therefore not included in the composite measures: A5, A25, and A33. In addition, A13 was not included in a composite measure because it is not statistically related to any function of primary care delivery.

Modified PCMH-A = Patient-Centered Medical Home Assessment modified for the CPC evaluation; HMO = health maintenance organization; EHR = electronic health record; HIE = health information exchange; FFS = fee-for-service.

Table D.5a. Effect of baseline practice characteristics on changes in modified PCMH-A scores over time, 2012 to 2014, overall and by selected domains

	Overall modified PCMH-A score			Continuity of care at CPC practices			Access to care at CPC practices			Planned care for chronic conditions and preventive care at CPC practices		
	Predictive margin	Coefficient	*p*-value	Predictive margin	Coefficient	*p*-value	Predictive margin	Coefficient	*p*-value	Predictive margin	Coefficient	*p*-value
Mean difference 2014-2012	2.27			0.60			2.56			1.50		
Practice size												
1 clinician	2.32			-0.51			2.95			1.99		
2-3	2.12	-0.20	0.417	0.55	1.07	0.000	2.31	-0.64	0.034	1.22	-0.77	0.005
4-5	2.37	0.05	0.842	0.98	1.49	0.000	2.64	-0.31	0.336	1.33	-0.66	0.029
6+	2.34	0.02	0.930	0.99	1.51	0.000	2.56	-0.39	0.277	1.68	-0.31	0.310
Whether practice has medical home recognition												
No	2.55			0.71			2.72			1.76		
Yes	1.87	-0.68	0.000	0.45	-0.27	0.168	2.35	-0.37	0.070	1.13	-0.63	0.001
Whether any physician in the practice met CMS' criteria for meaningful use of EHRs												
No	2.12			0.89			1.83			1.53		
Yes	2.32	0.20	0.345	0.53	-0.36	0.187	2.76	0.92	0.000	1.50	-0.03	0.916
Whether owned by a medical group/health system												
No	1.94			0.69			2.08			1.15		
Yes	2.54	0.60	0.000	0.54	-0.15	0.530	2.95	0.87	0.000	1.78	0.63	0.001
Medicare Advantage penetration rate												
Continuous 0-1		-0.01	0.370		-0.02	0.182		0.03	0.031		-0.01	0.631
Percentage urban												
Continuous 0-1		0.00	0.444		0.00	0.816		0.00	0.662		-0.01	0.162
Whether practice is in a medically underserved area (MUA)												
No	2.21			0.59			2.54			1.46		
Yes	2.76	0.55	0.042	0.72	0.12	0.717	2.78	0.24	0.413	1.90	0.44	0.127
Median household income of the area												
Continuous >0		0.00	0.607		0.00	0.950		0.00	0.577		0.00	0.180

	Overall modified PCMH-A score			Continuity of care at CPC practices			Access to care at CPC practices			Planned care for chronic conditions and preventive care at CPC practices		
	Predictive margin	Coefficient	*p*-value	Predictive margin	Coefficient	*p*-value	Predictive margin	Coefficient	*p*-value	Predictive margin	Coefficient	*p*-value
Mean difference 2014-2012	2.27			0.60			2.56			1.50		
Region												
AR												
CO	2.53	0.30	0.382	1.22	0.73	0.155	1.19	-1.63	0.000	1.83	0.38	0.344
NJ	2.71	0.50	0.236	0.83	0.26	0.640	1.89	-0.79	0.109	2.19	0.79	0.085
NY	2.21	-0.08	0.830	0.82	0.25	0.577	1.68	-1.05	0.006	1.56	0.07	0.860
OH/KY	2.80	0.62	0.082	0.73	0.14	0.747	2.06	-0.61	0.141	2.54	1.23	0.003
OK	3.44	1.34	0.000	0.91	0.36	0.364	2.75	0.21	0.607	2.95	1.67	0.000
OR	2.49	0.25	0.579	1.74	1.32	0.074	1.06	-1.75	0.002	2.08	0.67	0.204

Sources: Mathematica analysis of the 2012 CPC practice survey administered from October through December 2012 and the 2014 CPC practice survey administered from April through July 2014, fielded by Mathematica.

Notes: The sample is restricted to the 483 CPC practices that participated in both survey rounds.

To determine the influence of practice characteristics on the improvement in the overall modified PCMH-A score and the seven domains of care, we regressed baseline practice characteristics (practice size, medical home recognition, whether meaningful EHR user, and whether the practice was owned by a medical group or health system), and characteristics of the practices' county or census tract (whether in a medically underserved area, Medicare advantage penetration rate, percentage urban, and median household income) on the change in composite and overall modified PCMH-A scores from 2012 to 2014, as calculated in Appendix Tables D.2a-D.2b.

Modified PCMH-A = Patient-Centered Medical Home Assessment modified for the CPC evaluation; EHR = electronic health record.

Table D.5b. Effect of baseline practice characteristics on changes in modified PCMH-A scores over time, 2012 to 2014, for remaining domains

	Risk-stratified care management at CPC practices			Patient and caregiver engagement at CPC practices			Coordination of care across the medical neighborhood at CPC practices			Continuous improvement driven by data at CPC practices		
	Predictive margin	Coefficient	*p*-value	Predictive margin	Coefficient	*p*-value	Predictive margin	Coefficient	*p*-value	Predictive margin	Coefficient	*p*-value
Mean difference 2014-2012	5.10			1.30			1.40			2.30		
Practice size												
1 clinician	4.85			1.18			1.17			2.42		
2-3	5.03	0.18	0.640	1.13	-0.04	0.894	1.29	0.11	0.687	2.13	-0.29	0.411
4-5	5.51	0.67	0.110	1.30	0.12	0.745	1.39	0.22	0.455	2.40	-0.02	0.956
6+	4.83	-0.02	0.972	1.49	0.31	0.400	1.55	0.37	0.222	2.26	-0.16	0.663
Whether practice has medical home recognition												
No	5.51			1.59			1.62			2.53		
Yes	4.41	-1.10	0.000	0.83	-0.76	0.002	0.99	-0.63	0.000	1.92	-0.61	0.014
Whether any physician in the practice met CMS' criteria for meaningful use of EHRs												
No	4.82			1.50			1.04			2.14		
Yes	5.13	0.31	0.348	1.22	-0.28	0.364	1.45	0.41	0.076	2.32	0.19	0.558
Whether owned by a medical group/health system												
No	4.62			1.10			1.20			1.78		
Yes	5.41	0.79	0.007	1.42	0.32	0.182	1.50	0.30	0.102	2.68	0.90	0.000
Medicare Advantage penetration rate												
Continuous 0-1		-0.04	0.020		0.00	0.872		0.00	0.901		-0.03	0.036
Percentage urban												
Continuous 0-1		-0.01	0.465		-0.01	0.157		0.00	0.998		0.00	0.700
Whether practice is in a medically underserved area (MUA)												
No	5.00			1.20			1.30			2.20		
Yes	5.53	0.53	0.205	1.90	0.69	0.040	1.92	0.62	0.061	2.92	0.72	0.134
Median household income of the area												
Continuous >0		0.00	0.944		0.00	0.446		0.00	0.093		0.00	0.721

	Risk-stratified care management at CPC practices			Patient and caregiver engagement at CPC practices			Coordination of care across the medical neighborhood at CPC practices			Continuous improvement driven by data at CPC practices		
	Predictive margin	Coefficient	*p*-value	Predictive margin	Coefficient	*p*-value	Predictive margin	Coefficient	*p*-value	Predictive margin	Coefficient	*p*-value
Mean difference 2014-2012	5.10			1.30			1.40			2.30		
Region												
AR												
CO	5.08	0.02	0.975	2.79	1.78	0.000	1.83	0.55	0.160	2.30	0.03	0.960
NJ	4.95	-0.14	0.840	2.77	1.74	0.002	1.54	0.20	0.696	2.94	0.77	0.245
NY	4.93	-0.16	0.776	2.22	1.10	0.018	1.14	-0.27	0.528	1.78	-0.59	0.259
OH/KY	5.70	0.76	0.200	2.40	1.33	0.007	1.70	0.40	0.306	2.54	0.31	0.557
OK	6.63	1.81	0.001	2.77	1.72	0.001	2.41	1.21	0.004	3.40	1.29	0.027
OR	5.18	0.13	0.861	2.03	0.87	0.146	1.82	0.53	0.300	2.59	0.36	0.567

Sources: Mathematica analysis of the 2012 CPC practice survey administered from October through December 2012 and the 2014 CPC practice survey administered from April through July 2014, fielded by Mathematica.

Notes: The sample is restricted to the 483 CPC practices that participated in both survey rounds.

To determine the influence of practice characteristics on the improvement in the overall modified PCMH-A score and the seven domains of care, we regressed baseline practice characteristics (practice size, medical home recognition, whether meaningful EHR user, and whether the practice was owned by a medical group or health system), and characteristics of the practices' county or census tract (whether in a medically underserved area, Medicare advantage penetration rate, percentage urban, and median household income) on the change in composite and overall modified PCMH-A scores from 2012 to 2014, as calculated in Appendix Tables D.2a-D.2b.

Modified PCMH-A = Patient-Centered Medical Home Assessment modified for the CPC evaluation; EHR = electronic health record.

Table D.6a. Non-regression adjusted proportions of practices self-reporting the highest level functioning in the 2012 and 2014 surveys of CPC practices (CPC-wide, Arkansas, Colorado, and New Jersey)

2014 Question[a]		CPC-wide			Arkansas			Colorado			New Jersey		
		CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference
Modified PCMH-A scales[b]													
A1-2	Continuity of care	51.8	39.3	12.4	61.9	58.7	3.2	38.4	31.5	6.8	51.5	38.2	13.2
A3, 4, 6	Access to care	37.3	3.7	33.5	34.9	3.2	31.7	31.5	4.1	27.4	27.9	2.9	25.0
A7-12	Planned care for chronic conditions and preventive care	12.6	2.9	9.7	11.1	4.8	6.3	11.0	4.1	6.8	8.8	0.0	8.8
A16-18	Risk-stratified care management	28.2	1.2	26.9	42.9	1.6	41.3	19.2	1.4	17.8	19.1	1.5	17.6
A19-24	Patient and caregiver engagement	3.9	1.2	2.7	4.8	0.0	4.8	4.1	1.4	2.7	2.9	0.0	2.9
A14-15, 26-32, 34	Coordination of care across the medical neighborhood	1.4	0.2	1.2	1.6	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
A35-41	Continuous improvement driven by data	4.3	1.2	3.1	3.2	0.0	3.2	2.7	1.4	1.4	2.9	0.0	2.9
	Overall modified PCMH-A score	0.6	0.0	0.6	1.6	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0
Continuity of care													
A1	Patients are assigned to specific provider panels and panel assignments are routinely used for scheduling purposes and are continuously monitored to balance supply and demand	59.7	42.7	16.9	76.2	58.7	17.5	49.3	35.6	13.7	59.7	39.7	20.0
A2	Patients encouraged to see paneled provider and practice team by the practice team and it is a priority in appointment scheduling, and patients usually see their own provider or practice team	74.6	66.3	8.3	79.4	76.2	3.2	73.6	52.1	21.6	62.7	64.7	-2.0

2014 Question[a]		CPC-wide			Arkansas			Colorado			New Jersey		
		CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference
Access to care													
A3	Appointment systems are flexible and can accommodate customized visit lengths, same-day visits, scheduled follow-up, and multiple provider visits	79.9	71.4	8.4	74.2	66.7	7.5	84.7	75.3	9.4	80.6	76.5	4.1
A4	Communicating with the practice team through email, text messaging, or accessing a patient portal is generally available, and patients are regularly asked about their communication preferences for email, text messaging, or use of a patient portal	62.1	7.3	54.8	62.9	3.2	59.7	45.2	12.3	32.9	49.3	7.4	41.9
A5[a]	Scheduled phone visits or group visits (with multiple patients) with the physician, PA, NP, or nurse are generally available	8.4	N/A	N/A	6.5	N/A	N/A	0.0	N/A	N/A	1.5	N/A	N/A
A6	Patient after-hours access to a physician, PA/NP, or nurse is available via the patient's choice of email or phone directly with the practice team or a provider who has real-time access to the patient's electronic medical record	62.0	25.1	36.9	65.1	17.5	47.6	65.8	21.9	43.8	65.7	30.9	34.8
Planned care for chronic conditions and preventive care													
A7	Registries on individual patients are available to practice teams and routinely used for pre-visit planning and patient outreach, across a comprehensive set of diseases and risk states	40.3	8.3	32.0	31.7	7.9	23.8	49.3	9.7	39.6	35.8	8.8	27.0
A8	Comprehensive, evidence-based guidelines on prevention or on chronic illness treatment guide the creation of individual-level patient reports for care teams to use at the time of visits	35.5	17.6	17.8	28.6	19.0	9.5	27.4	16.7	10.7	32.8	20.6	12.2

2014 Question[a]		CPC-wide			Arkansas			Colorado			New Jersey		
		CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference
A9	Visits are organized to address both acute and planned care needs. Tailored guideline-based information is used in team huddles to ensure all outstanding patient needs are met at each encounter	42.7	23.8	18.9	42.9	28.6	14.3	49.3	26.0	23.3	52.2	27.9	24.3
A10	Reminders to providers include general notification of the existence of a chronic illness and specific information for the team about guideline adherence at the time of individual patient encounters	47.1	31.5	15.6	46.0	39.7	6.3	31.9	28.8	3.2	44.8	30.9	13.9
A11	Non-physician practice team members perform key clinical service roles that match their abilities and credentials	67.4	42.7	24.7	69.8	50.8	19.0	80.8	52.1	28.8	59.7	29.4	30.3
A12	Medication reconciliation is regularly done for all patients and documented in the patient's medical record	80.1	73.7	6.4	82.5	74.6	7.9	82.2	75.3	6.9	94.0	76.5	17.6
A13[a]	Notification of patients of their laboratory and radiology results is consistently done for abnormal as well as normal results	80.0	74.9	5.1	71.4	66.7	4.8	97.3	90.4	6.8	80.6	79.4	1.2
Risk-stratified care management													
A16	Standard method or tool(s) to stratify patients by risk level is available, consistently used to stratify all patients, and is integrated into all aspects of care delivery	59.7	5.2	54.6	76.2	6.3	69.8	43.7	1.4	42.3	66.7	7.4	59.3
A17	Clinical care management services for high-risk patients are systematically provided by care managers functioning as members of the practice team	88.5	19.3	69.2	90.3	8.1	82.3	95.8	23.3	72.5	79.4	16.2	63.2

2014 Question[a]		CPC-wide			Arkansas			Colorado			New Jersey		
		CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference
A18	Registry or panel-level data are regularly available to assess and manage care for practice populations, across a comprehensive set of diseases and risk states	41.1	9.3	31.7	52.4	17.5	34.9	45.2	11.0	34.2	25.4	8.8	16.5
Patient and caregiver engagement													
A19	Assessing patient and family values and preferences is systematically done and incorporated in planning and organizing care	28.2	14.7	13.5	23.8	20.6	3.2	32.9	11.0	21.9	25.0	17.6	7.4
A20	Involving patients in decision-making and care is systematically supported by practice teams trained in decision-making techniques	27.2	15.1	12.1	20.6	14.3	6.3	37.0	19.2	17.8	26.9	7.4	19.5
A21	Patient comprehension of verbal and written materials is assessed and accomplished by translation services or multi-lingual staff, and training staff in health literacy and communication techniques (such as closing the loop) assuring that patients know what to do to manage conditions at home	22.8	10.6	12.2	16.1	14.3	1.8	25.0	5.5	19.5	19.4	5.9	13.5
A22	Self-management support is provided by members of the practice team trained in patient empowerment and problem-solving methodologies	22.7	10.1	12.6	17.5	7.9	9.5	26.0	8.2	17.8	13.6	4.4	9.2
A23	Test results and care plans are systematically communicated to patients in a variety of ways that are convenient to patients	57.5	39.6	17.9	46.0	41.3	4.8	57.5	35.6	21.9	54.5	25.0	29.5

2014 Question[a]		CPC-wide			Arkansas			Colorado			New Jersey		
		CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference
A24	Feedback to practice from patient and family caregiver council is consistently used to guide practice improvements and measure system performance as well as care interactions at the practice level	25.9	16.0	9.9	31.7	19.4	12.4	36.1	13.9	22.2	25.8	5.9	19.9
A25[a]	Shared decision-making aids used to help patients and providers jointly decide on treatment options are consistently provided to patients for two or more clinical conditions and provision is tracked with run charts or other measures	42.1	N/A	N/A	31.7	N/A	N/A	79.5	N/A	N/A	49.3	N/A	N/A
Coordination of care across the medical neighborhood													
A14	Tracking of patient referrals to specialists is consistently done for all patients	47.0	33.0	14.0	50.8	46.0	4.8	54.8	30.1	24.7	29.9	23.5	6.3
A15	Care plans are developed collaboratively, include self-management and clinical management goals, are routinely recorded, and guide care at every subsequent point of service	40.2	16.0	24.2	27.0	17.5	9.5	32.9	17.8	15.1	36.8	17.6	19.1
A26	Referral relationships with medical and surgical specialists are formalized with referral protocols or practice agreements with most or all medical and surgical specialist groups	19.1	16.7	2.4	14.3	25.4	-11.1	15.1	19.2	-4.1	14.9	16.2	-1.3
A27	Behavioral health services are readily available from behavioral health specialists who are onsite members of the care team or who work in an organization with which the practice has a referral protocol or agreement	20.6	6.9	13.7	7.9	1.6	6.4	40.3	13.7	26.6	19.4	3.0	16.4

2014 Question[a]		CPC-wide			Arkansas			Colorado			New Jersey		
		CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference
A28	Patients in need of specialty care, hospital care, or supportive community-based resources obtain needed referrals to partners with whom the practice has a relationship, relevant information is communicated in advance, and timely follow-up after the visit occurs	48.1	34.8	13.3	63.5	49.2	14.3	59.7	28.8	31.0	49.3	30.9	18.4
A29	Practice follow-up with patients seen in ER or hospital is done routinely because the primary care practice has arrangements in place with the ER and hospital to both track these patients and ensure that follow-up is completed within a few days	64.1	25.5	38.6	75.8	23.8	52.0	61.6	20.5	41.1	64.7	36.8	27.9
A30	Linking patients to supportive community-based resources is accomplished through active coordination between the health system, community service agencies, and patients and accomplished by a designated staff person	30.3	7.1	23.2	42.9	6.3	36.5	39.7	6.8	32.9	25.8	1.5	24.3
A31	Transmission of patient information when patients referred to other providers is consistently done and always contains a complete set of clinical information (e.g., medication list, problem list, allergy list, advance directives)	61.0	36.6	24.4	82.5	46.0	36.5	74.0	46.6	27.4	40.3	20.6	19.7
A32	Receipt of information about patients from hospitals and ERs in community consistently occurs in less than 24 hours after the event	34.8	13.5	21.3	27.0	6.3	20.6	30.6	21.9	8.6	35.8	11.8	24.1
A33[a]	Timely receipt of information about patients after they visit specialists in community occurs for all patients	10.6	N/A	N/A	9.5	N/A	N/A	4.1	N/A	N/A	7.5	N/A	N/A

2014 Question[a]		CPC-wide			Arkansas			Colorado			New Jersey		
		CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference
A34	Practice knows total cost to payers of medical care for all patients	5.2	2.1	3.1	3.2	3.2	0.0	2.8	1.4	1.4	3.0	0.0	3.0
Continuous improvement driven by data													
A35	Quality improvement activities are based on a proven improvement strategy and used continuously in meeting organizational goals	46.8	23.2	23.5	50.8	19.0	31.7	48.6	30.1	18.5	51.5	14.9	36.5
A36	QI activities are conducted by practice teams supported by a QI infrastructure with meaningful involvement of patients and their families	19.1	5.6	13.5	17.7	3.4	14.3	25.0	7.1	17.9	10.4	5.7	4.8
A37	Performance measures are comprehensive–including clinical, operational, and patient experience measures–and available for this practice site and individual providers, and fed back to individual providers	65.3	36.4	28.8	62.9	22.2	40.7	64.4	49.3	15.1	65.7	16.2	49.5
A38	Reports of patient care experiences and care processes or outcomes are routinely provided as feedback to practice teams, and transparently reported externally to patients, other teams, and external agencies	33.1	11.2	21.9	22.2	3.2	19.0	25.0	4.1	20.9	28.4	0.0	28.4
A39	Staff, resources, and time for QI activities are all fully available in the practice	17.5	5.0	12.5	19.0	3.2	15.9	19.4	6.8	12.6	24.2	5.9	18.4
A40	Practice hiring and training processes support and sustain improvements in care through training and incentives focused on rewarding patient-centered care	21.3	10.6	10.8	19.0	19.0	0.0	20.8	9.6	11.2	21.2	11.8	9.4

2014 Question[a]		CPC-wide			Arkansas			Colorado			New Jersey		
		CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference
A41	Responsibility for conducting QI activities is shared by all staff, from leadership to team members, and is made explicit through protected time to meet and specific resources to engage in QI	36.6	15.1	21.4	33.3	19.0	14.3	46.6	11.0	35.6	37.3	13.4	23.9

Sources: Mathematica analysis of the 2012 CPC practice survey administered from October through December 2012 and the 2014 CPC practice survey administered from April through July 2014, fielded by Mathematica.

Notes: The sample is restricted to the 483 CPC practices that participated in both survey rounds.

[a] Question numbers pertain to the 2014 practice survey. Only questions asked in both survey rounds were included in composite measures. There were three questions asked only in the 2014 survey and are therefore not included in the composite measures: A5, A25, and A33. In addition, A13 was not included in a composite measure because it is not statistically related to any function of primary care delivery.

[b] A practice self-reports functioning at the highest level by responding in the most positive response category (response values 10–12). For a practice's overall modified PCMH-A score to be considered highest functioning, a practice must report the highest functioning in all domains. That is, the practice must have given the most positive response to each question in every domain. If a practice skipped a question in a domain, that practice was treated as not having the most positive composite score for that domain, even if the practice provided the most positive response to the other questions in that domain. There were four CPC practices that had at least one missing response that would have otherwise been included as a highest-functioning practice for the overall modified PCMH-A score.

Modified PCMH-A = Patient-Centered Medical Home Assessment modified for the CPC evaluation; ER = emergency room; NP = nurse practitioner; PA = physician assistant; QI = quality improvement.

Table D.6b. Non-regression adjusted proportions of practices self-reporting the highest level of functioning in the 2012 and 2014 surveys of CPC practices (New York, Ohio/Kentucky, Oklahoma, Oregon)

2014 Question[a]		New York			Ohio/Kentucky			Oklahoma			Oregon		
		CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference
Modified PCMH-A scales[b]													
A1-2	Continuity of care	53.4	49.3	4.1	38.7	30.7	8.0	48.4	35.9	12.5	73.1	32.8	40.3
A3, 4, 6	Access to care	32.9	2.7	30.1	49.3	9.3	40.0	45.3	0.0	45.3	38.8	3.0	35.8
A7-12	Planned care for chronic conditions and preventive care	9.6	8.2	1.4	12.0	0.0	12.0	25.0	3.1	21.9	11.9	0.0	11.9
A16-18	Risk-stratified care management	9.6	2.7	6.8	46.7	0.0	46.7	34.4	1.6	32.8	26.9	0.0	26.9
A19-24	Patient and caregiver engagement	5.5	5.5	0.0	1.3	0.0	1.3	6.3	1.6	4.7	3.0	0.0	3.0
A14-15, 26-32, 34	Coordination of care across the medical neighborhood	4.1	0.0	4.1	0.0	0.0	0.0	1.6	0.0	1.6	3.0	0.0	3.0
A35-41	Continuous improvement driven by data	6.8	6.8	0.0	6.7	0.0	6.7	3.1	0.0	3.1	4.5	0.0	4.5
	Overall modified PCMH-A score	2.7	0.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Continuity of care													
A1	Patients are assigned to specific provider panels and panel assignments are routinely used for scheduling purposes and are continuously monitored to balance supply and demand	54.2	53.4	0.7	48.0	34.7	13.3	54.7	37.5	17.2	79.1	40.9	38.2
A2	Patients encouraged to see paneled provider and practice team by the practice team and it is a priority in appointment scheduling, and patients usually see their own provider or practice team	82.2	69.9	12.3	68.9	77.3	-8.4	75.0	71.9	3.1	80.6	52.2	28.4
Access to care													
A3	Appointment systems are flexible and can accommodate customized visit lengths, same-day visits, scheduled follow-up, and multiple provider visits	77.8	80.8	-3.0	82.7	69.3	13.3	75.0	56.3	18.8	83.1	73.1	9.9
A4	Communicating with the practice team through email, text messaging, or accessing a patient portal is generally available, and patients are regularly asked about their communication preferences for email, text messaging, or use of a patient portal	60.3	5.7	54.6	86.5	12.0	74.5	59.4	1.6	57.8	70.1	7.5	62.7

2014 Question[a]		New York			Ohio/Kentucky			Oklahoma			Oregon		
		CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference
A5[a]	Scheduled phone visits or group visits (with multiple patients) with the physician, PA, NP, or nurse are generally available	9.9	N/A	N/A	18.7	N/A	N/A	17.2	N/A	N/A	4.5	N/A	N/A
A6	Patient after-hours access to a physician, PA/NP, or nurse is available via the patient's choice of email or phone directly with the practice team or a provider who has real-time access to the patient's electronic medical record	45.2	27.4	17.8	68.0	24.3	43.7	64.1	21.9	42.2	61.2	31.3	29.9
Planned care for chronic conditions and preventive care													
A7	Registries on individual patients are available to practice teams and routinely used for pre-visit planning and patient outreach, across a comprehensive set of diseases and risk states	27.4	13.7	13.7	38.7	9.3	29.3	54.7	4.8	49.9	45.5	3.0	42.5
A8	Comprehensive, evidence-based guidelines on prevention or on chronic illness treatment guide the creation of individual-level patient reports for care teams to use at the time of visits	28.8	11.0	17.8	38.7	30.7	8.0	54.7	6.3	48.4	38.8	17.9	20.9
A9	Visits are organized to address both acute and planned care needs. Tailored guideline-based information is used in team huddles to ensure all outstanding patient needs are met at each encounter	41.1	23.3	17.8	37.3	29.3	8.0	45.3	15.6	29.7	31.3	14.9	16.4
A10	Reminders to providers include general notification of the existence of a chronic illness and specific information for the team about guideline adherence at the time of individual patient encounters	35.6	20.8	14.8	80.0	37.3	42.7	46.9	14.1	32.8	42.4	49.2	-6.8
A11	Non-physician practice team members perform key clinical service roles that match their abilities and credentials	47.9	38.4	9.6	57.3	48.0	9.3	73.0	26.6	46.5	85.1	52.2	32.8
A12	Medication reconciliation is regularly done for all patients and documented in the patient's medical record	64.4	69.9	-5.5	73.3	81.3	-8.0	92.2	68.8	23.4	74.6	68.7	6.0
A13[a]	Notification of patients of their laboratory and radiology results is consistently done for abnormal as well as normal results	84.7	63.0	21.7	80.0	76.0	4.0	78.1	79.7	-1.6	65.7	68.7	-3.0

2014 Question[a]		New York			Ohio/Kentucky			Oklahoma			Oregon		
		CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference
Risk-stratified care management													
A16	Standard method or tool(s) to stratify patients by risk level is available, consistently used to stratify all patients, and is integrated into all aspects of care delivery	69.9	9.6	60.3	56.2	5.3	50.8	70.3	6.3	64.1	37.3	0.0	37.3
A17	Clinical care management services for high-risk patients are systematically provided by care managers functioning as members of the practice team	75.0	6.9	68.1	96.0	26.7	69.3	93.8	7.8	85.9	89.6	44.8	44.8
A18	Registry or panel-level data are regularly available to assess and manage care for practice populations, across a comprehensive set of diseases and risk states	16.4	5.6	10.9	56.0	10.7	45.3	40.6	7.8	32.8	52.2	4.5	47.8
Patient and caregiver engagement													
A19	Assessing patient and family values and preferences is systematically done and incorporated in planning and organizing care	20.5	16.4	4.1	31.1	17.3	13.7	48.4	9.4	39.1	16.4	10.4	6.0
A20	Involving patients in decision-making and care is systematically supported by practice teams trained in decision-making techniques	23.9	16.4	7.5	28.8	25.3	3.4	28.1	10.9	17.2	23.9	10.4	13.4
A21	Patient comprehension of verbal and written materials is assessed and accomplished by translation services or multi-lingual staff, and training staff in health literacy and communication techniques (such as closing the loop) assuring that patients know what to do to manage conditions at home	18.1	12.3	5.7	17.3	4.0	13.3	31.3	3.1	28.1	32.8	29.9	3.0
A22	Self-management support is provided by members of the practice team trained in patient empowerment and problem-solving methodologies	25.0	12.3	12.7	28.0	22.7	5.3	29.7	3.1	26.6	17.9	10.4	7.5
A23	Test results and care plans are systematically communicated to patients in a variety of ways that are convenient to patients	41.7	40.3	1.4	76.0	66.7	9.3	66.7	32.8	33.9	59.1	32.8	26.3

2014 Question[a]		New York			Ohio/Kentucky			Oklahoma			Oregon		
		CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference
A24	Feedback to practice from patient and family caregiver council is consistently used to guide practice improvements and measure system performance as well as care interactions at the practice level	19.2	12.5	6.7	27.4	38.7	-11.3	22.2	9.4	12.8	18.5	10.4	8.0
A25[a]	Shared decision-making aids used to help patients and providers jointly decide on treatment options are consistently provided to patients for two or more clinical conditions and provision is tracked with run charts or other measures	38.4	N/A	N/A	14.7	N/A	N/A	37.5	N/A	N/A	43.3	N/A	N/A
Coordination of care across the medical neighborhood													
A14	Tracking of patient referrals to specialists is consistently done for all patients	43.8	27.8	16.1	44.0	32.0	12.0	57.1	40.6	16.5	49.3	32.8	16.4
A15	Care plans are developed collaboratively, include self-management and clinical management goals, are routinely recorded, and guide care at every subsequent point of service	47.9	19.4	28.5	45.3	13.5	31.8	59.4	12.5	46.9	31.3	13.4	17.9
A26	Referral relationships with medical and surgical specialists are formalized with referral protocols or practice agreements with most or all medical and surgical specialist groups	16.4	24.7	-8.2	22.7	9.3	13.3	32.8	10.9	21.9	17.9	10.9	7.0
A27	Behavioral health services are readily available from behavioral health specialists who are onsite members of the care team or who work in an organization with which the practice has a referral protocol or agreement	9.6	4.1	5.5	6.7	4.0	2.7	10.9	7.9	3.0	49.3	13.4	35.8
A28	Patients in need of specialty care, hospital care, or supportive community-based resources obtain needed referrals to partners with whom the practice has a relationship, relevant information is communicated in advance, and timely follow-up after the visit occurs	34.2	39.7	-5.5	38.7	33.3	5.3	44.4	29.7	14.8	49.3	32.8	16.4

2014 Question[a]		New York			Ohio/Kentucky			Oklahoma			Oregon		
		CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference
A29	Practice follow-up with patients seen in ER or hospital is done routinely because the primary care practice has arrangements in place with the ER and hospital to both track these patients and ensure that follow-up is completed within a few days	58.9	28.8	30.1	62.7	21.3	41.3	57.8	14.1	43.8	68.7	32.8	35.8
A30	Linking patients to supportive community-based resources is accomplished through active coordination between the health system, community service agencies, and patients and accomplished by a designated staff person	21.1	13.7	7.4	39.2	13.5	25.7	29.7	4.7	25.0	12.3	1.5	10.8
A31	Transmission of patient information when patients referred to other providers is consistently done and always contains a complete set of clinical information (e.g., medication list, problem list, allergy list, advance directives)	42.5	50.7	-8.2	29.3	18.7	10.7	75.0	32.8	42.2	89.6	41.8	47.8
A32	Receipt of information about patients from hospitals and ERs in community consistently occurs in less than 24 hours after the event	20.5	12.3	8.2	39.2	21.3	17.9	35.9	4.7	31.3	55.2	13.4	41.8
A33[a]	Timely receipt of information about patients after they visit specialists in community occurs for all patients	11.1	N/A	N/A	9.3	N/A	N/A	18.8	N/A	N/A	14.9	N/A	N/A
A34	Practice knows total cost to payers of medical care for all patients	5.5	5.6	-0.1	5.3	1.3	4.0	9.4	1.6	7.8	7.5	1.5	6.0
Continuous improvement driven by data													
A35	Quality improvement activities are based on a proven improvement strategy and used continuously in meeting organizational goals	25.0	19.2	5.8	53.3	34.7	18.7	40.6	14.1	26.6	58.2	28.4	29.9
A36	QI activities are conducted by practice teams supported by a QI infrastructure with meaningful involvement of patients and their families	12.9	10.3	2.6	20.0	2.7	17.3	20.3	6.8	13.5	27.3	3.1	24.1

2014 Question[a]		New York			Ohio/Kentucky			Oklahoma			Oregon		
		CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference	CPC practices in 2014	CPC practices in 2012	Difference
A37	Performance measures are comprehensive–including clinical, operational, and patient experience measures–and available for this practice site and individual providers, and fed back to individual providers	34.2	28.8	5.5	82.7	54.7	28.0	71.9	23.4	48.4	76.1	56.7	19.4
A38	Reports of patient care experiences and care processes or outcomes are routinely provided as feedback to practice teams, and transparently reported externally to patients, other teams, and external agencies	26.4	13.7	12.7	73.3	27.0	46.3	26.6	4.7	21.9	25.4	23.9	1.5
A39	Staff, resources, and time for QI activities are all fully available in the practice	9.6	9.6	0.0	21.3	4.0	17.3	20.3	4.7	15.6	9.0	0.0	9.0
A40	Practice hiring and training processes support and sustain improvements in care through training and incentives focused on rewarding patient-centered care	9.6	13.7	-4.1	31.5	5.3	26.2	26.6	6.3	20.3	20.9	9.0	11.9
A41	Responsibility for conducting QI activities is shared by all staff, from leadership to team members, and is made explicit through protected time to meet and specific resources to engage in QI	19.2	13.7	5.5	41.3	14.7	26.7	42.9	14.1	28.8	35.8	20.9	14.9

Sources: Mathematica analysis of the 2012 CPC practice survey administered from October through December 2012 and the 2014 CPC practice survey administered from April through July 2014, fielded by Mathematica.

Notes: The sample is restricted to the 483 CPC practices that participated in both survey rounds.

[a] Question numbers pertain to the 2014 practice survey. Only questions asked in both survey rounds were included in composite measures. There were three questions asked only in the 2014 survey and are therefore not included in the composite measures: A5, A25, and A33. In addition, A13 was not included in a composite measure because it is not statistically related to any function of primary care delivery.

[b] A practice self-reports functioning at the highest level by responding in the most positive response category (response values 10–12). For a practice's overall modified PCMH-A score to be considered highest functioning, a practice must report the highest functioning in all domains. That is, the practice must have given the most positive response to each question in every domain. If a practice skipped a question in a domain, that practice was treated as not having the most positive composite score for that domain, even if the practice provided the most positive response to the other questions in that domain. There were four CPC practices that had at least one missing response that would have otherwise been included as a highest-functioning practice for the overall modified PCMH-A score.

Modified PCMH-A = Patient-Centered Medical Home Assessment modified for the CPC evaluation; ER = emergency room; NP = nurse practitioner; PA = physician assistant; QI = quality improvement.

Table D.7a. Regression-adjusted means for the 2014 survey of CPC and comparison practices (CPC-wide, Arkansas, Colorado, and New Jersey)

2014 Question[a]		CPC-wide				Arkansas				Colorado				New Jersey			
		CPC Practices in 2014	Comparison Practices in 2014	Difference	*p*-value	CPC Practices in 2014	Comparison Practices in 2014	Difference	*p*-value	CPC Practices in 2014	Comparison Practices in 2014	Difference	*p*-value	CPC Practices in 2014	Comparison Practices in 2014	Difference	*p*-value
Sample size		483	423			63	83			73	75			68	46		
Modified PCMH-A scales (1 = lowest functioning, 12 = highest functioning)																	
A1-2	Continuity of care	10.2	9.5	0.7	0.000	10.7	9.3	1.5	0.000	10.0	9.3	0.7	0.043	9.9	9.1	0.8	0.307
A3, 4, 6	Access to care	9.6	8.8	0.8	0.000	9.6	7.3	2.3	0.000	9.2	9.2	0.0	0.908	9.4	9.3	0.1	0.764
A7-12	Planned care for chronic conditions and preventive care	9.1	8.8	0.3	0.021	9.0	8.1	0.9	0.002	9.2	8.3	0.9	0.001	9.3	8.7	0.5	0.218
A16-18	Risk-stratified care management	9.7	7.1	2.6	0.000	10.1	6.0	4.1	0.000	9.6	6.7	2.9	0.000	9.5	7.2	2.3	0.000
A19-24	Patient and caregiver engagement	7.9	8.0	0.0	0.744	7.5	7.4	0.1	0.747	8.3	7.6	0.7	0.027	7.7	8.2	-0.5	0.335
A14-15, 26-32, 34	Coordination of care across the medical neighborhood	8.0	8.0	0.1	0.670	7.9	7.8	0.2	0.578	8.4	7.3	1.1	0.000	7.9	8.0	-0.1	0.807
A35-41	Continuous improvement driven by data	8.0	7.2	0.8	0.000	8.0	5.8	2.2	0.000	8.1	6.8	1.4	0.000	7.9	7.2	0.8	0.177
	Overall modified PCMH-A score	8.8	8.0	0.7	0.000	8.7	7.1	1.6	0.000	8.8	7.7	1.2	0.000	8.6	8.1	0.6	0.163
Continuity of care (1 = lowest functioning, 12 = highest functioning)																	
A1	Patients are assigned to specific provider panels and panel assignments are routinely used for scheduling purposes and are continuously monitored to balance supply and demand	10.1	9.2	0.9	0.000	10.8	8.7	2.1	0.000	9.7	8.9	0.8	0.025	9.8	8.7	1.1	0.152
A2	Patients encouraged to see paneled provider and practice team by the practice team and it is a priority in appointment scheduling, and patients usually see their own provider or practice team	10.4	10.1	0.3	0.072	10.7	9.9	0.8	0.064	10.2	9.7	0.5	0.203	10.0	10.4	-0.4	0.431

2014 Question[a]		CPC-wide				Arkansas				Colorado				New Jersey			
		CPC Practices in 2014	Comparison Practices in 2014	Difference	*p*-value	CPC Practices in 2014	Comparison Practices in 2014	Difference	*p*-value	CPC Practices in 2014	Comparison Practices in 2014	Difference	*p*-value	CPC Practices in 2014	Comparison Practices in 2014	Difference	*p*-value
Access to care (1 = lowest functioning, 12 = highest functioning)																	
A3	Appointment systems are flexible and can accommodate customized visit lengths, same-day visits, scheduled follow-up, and multiple provider visits	10.5	10.5	0.0	0.971	10.4	9.8	0.6	0.063	10.5	10.3	0.2	0.475	10.7	10.5	0.2	0.651
A4	Communicating with the practice team through email, text messaging, or accessing a patient portal is generally available, and patients are regularly asked about their communication preferences for email, text messaging, or use of a patient portal	8.8	8.0	0.8	0.003	8.9	5.9	3.0	0.000	7.6	9.3	-1.7	0.004	8.0	8.7	-0.8	0.392
A5[a]	Scheduled phone visits or group visits (with multiple patients) with the physician, PA, NP, or nurse are generally available	4.0	3.5	0.5	0.052	4.2	3.1	1.1	0.092	3.2	2.8	0.4	0.393	3.2	3.8	-0.6	0.422
A6	Patient after-hours access to a physician, PA/NP, or nurse is available via the patient's choice of email or phone directly with the practice team or a provider who has real-time access to the patient's electronic medical record	10.0	8.7	1.3	0.000	9.8	7.7	2.2	0.000	10.3	8.3	2.0	0.000	10.2	9.2	1.0	0.030

2014 Question[a]		CPC-wide				Arkansas				Colorado				New Jersey			
		CPC Practices in 2014	Comparison Practices in 2014	Difference	*p*-value	CPC Practices in 2014	Comparison Practices in 2014	Difference	*p*-value	CPC Practices in 2014	Comparison Practices in 2014	Difference	*p*-value	CPC Practices in 2014	Comparison Practices in 2014	Difference	*p*-value
Planned care for chronic conditions and preventive care (1 = lowest functioning, 12 = highest functioning)																	
A7	Registries on individual patients are available to practice teams and routinely used for pre-visit planning and patient outreach, across a comprehensive set of diseases and risk states	8.4	7.7	0.8	0.001	7.8	5.8	2.0	0.001	8.9	7.3	1.6	0.000	8.3	7.9	0.4	0.566
A8	Comprehensive, evidence-based guidelines on prevention or on chronic illness treatment guide the creation of individual-level patient reports for care teams to use at the time of visits	8.9	8.9	0.1	0.756	8.9	8.3	0.6	0.114	8.5	8.0	0.5	0.159	9.0	8.5	0.5	0.354
A9	Visits are organized to address both acute and planned care needs. Tailored guideline-based information is used in team huddles to ensure all outstanding patient needs are met at each encounter	9.0	8.8	0.2	0.235	8.9	8.2	0.7	0.099	9.0	7.9	1.1	0.003	9.2	9.1	0.0	0.975
A10	Reminders to providers include general notification of the existence of a chronic illness and specific information for the team about guideline adherence at the time of individual patient encounters	9.0	8.6	0.3	0.108	8.7	7.6	1.1	0.027	8.5	7.8	0.7	0.099	9.3	8.9	0.4	0.512
A11	Non-physician practice team members perform key clinical service roles that match their abilities and credentials	9.7	9.1	0.5	0.008	10.0	9.1	1.0	0.025	10.3	9.1	1.2	0.006	9.6	7.7	1.8	0.006

2014 Question[a]		CPC-wide				Arkansas				Colorado				New Jersey			
		CPC Practices in 2014	Comparison Practices in 2014	Difference	*p*-value	CPC Practices in 2014	Comparison Practices in 2014	Difference	*p*-value	CPC Practices in 2014	Comparison Practices in 2014	Difference	*p*-value	CPC Practices in 2014	Comparison Practices in 2014	Difference	*p*-value
A12	Medication reconciliation is regularly done for all patients and documented in the patient's medical record	10.7	10.7	0.0	0.971	10.7	10.7	0.0	0.900	10.8	10.7	0.1	0.764	11.0	10.8	0.1	0.725
A13[a]	Notification of patients of their laboratory and radiology results is consistently done for abnormal as well as normal results	10.7	11.0	-0.3	0.001	10.5	11.2	-0.7	0.005	10.9	11.4	-0.4	0.006	10.8	11.0	-0.2	0.522
Risk-stratified care management (1 = lowest functioning, 12 = highest functioning)																	
A16	Standard method or tool(s) to stratify patients by risk level is available, consistently used to stratify all patients, and is integrated into all aspects of care delivery	9.7	6.9	2.9	0.000	10.3	5.7	4.6	0.000	9.2	6.0	3.2	0.000	9.9	7.4	2.5	0.002
A17	Clinical care management services for high-risk patients are systematically provided by care managers functioning as members of the practice team	10.5	7.3	3.2	0.000	10.8	7.2	3.6	0.000	10.6	6.8	3.8	0.000	10.2	7.8	2.4	0.000
A18	Registry or panel-level data are regularly available to assess and manage care for practice populations, across a comprehensive set of diseases and risk states	8.7	7.0	1.6	0.000	9.1	5.8	3.2	0.000	8.8	7.2	1.7	0.000	8.3	6.8	1.5	0.055
Patient and caregiver engagement (1 = lowest functioning, 12 = highest functioning)																	
A19	Assessing patient and family values and preferences is systematically done and incorporated in planning and organizing care	8.1	8.2	-0.1	0.738	7.9	8.1	-0.2	0.534	8.2	8.0	0.2	0.591	7.8	9.0	-1.2	0.037

2014 Question[a]		CPC-wide				Arkansas				Colorado				New Jersey			
		CPC Practices in 2014	Comparison Practices in 2014	Difference	*p*-value	CPC Practices in 2014	Comparison Practices in 2014	Difference	*p*-value	CPC Practices in 2014	Comparison Practices in 2014	Difference	*p*-value	CPC Practices in 2014	Comparison Practices in 2014	Difference	*p*-value
A20	Involving patients in decision-making and care is systematically supported by practice teams trained in decision-making techniques	8.1	8.4	-0.3	0.099	8.0	7.8	0.2	0.716	8.5	8.1	0.4	0.303	8.2	8.6	-0.4	0.512
A21	Patient comprehension of verbal and written materials is assessed and accomplished by translation services or multi-lingual staff, and training staff in health literacy and communication techniques (such as closing the loop) assuring that patients know what to do to manage conditions at home	7.7	7.5	0.1	0.528	7.1	6.9	0.1	0.778	7.4	6.6	0.9	0.043	7.6	8.0	-0.4	0.501
A22	Self-management support is provided by members of the practice team trained in patient empowerment and problem-solving methodologies	7.8	7.0	0.8	0.000	7.6	6.6	1.0	0.028	7.9	6.8	1.2	0.002	7.2	7.3	0.0	0.944
A23	Test results and care plans are systematically communicated to patients in a variety of ways that are convenient to patients	9.4	10.0	-0.6	0.000	8.6	9.8	-1.2	0.004	9.5	9.7	-0.1	0.715	9.2	10.2	-1.0	0.020
A24	Feedback to practice from patient and family caregiver council is consistently used to guide practice improvements and measure system performance as well as care interactions at the practice level	6.1	6.8	-0.6	0.033	5.8	5.8	0.0	0.989	8.2	6.8	1.4	0.008	6.0	6.7	-0.7	0.382

2014 Question[a]		CPC-wide				Arkansas				Colorado				New Jersey			
		CPC Practices in 2014	Comparison Practices in 2014	Difference	*p*-value	CPC Practices in 2014	Comparison Practices in 2014	Difference	*p*-value	CPC Practices in 2014	Comparison Practices in 2014	Difference	*p*-value	CPC Practices in 2014	Comparison Practices in 2014	Difference	*p*-value
A25[a]	Shared decision-making aids used to help patients and providers jointly decide on treatment options are consistently provided to patients for two or more clinical conditions and provision is tracked with run charts or other measures	8.1	6.7	1.4	0.000	8.1	6.7	1.4	0.012	9.7	5.5	4.2	0.000	8.6	6.8	1.9	0.012
Coordination of care across the medical neighborhood (1 = lowest functioning, 12 = highest functioning)																	
A14	Tracking of patient referrals to specialists is consistently done for all patients	8.8	9.4	-0.6	0.002	9.0	9.5	-0.5	0.262	9.1	8.7	0.4	0.364	8.3	8.6	-0.3	0.590
A15	Care plans are developed collaboratively, include self-management and clinical management goals, are routinely recorded, and guide care at every subsequent point of service	8.5	8.2	0.3	0.155	8.0	8.2	-0.1	0.767	8.2	8.0	0.2	0.563	8.3	9.0	-0.6	0.262
A26	Referral relationships with medical and surgical specialists are formalized with referral protocols or practice agreements with most or all medical and surgical specialist groups	5.9	7.2	-1.3	0.000	4.4	5.8	-1.4	0.046	6.4	6.2	0.2	0.723	5.6	6.9	-1.3	0.098
A27	Behavioral health services are readily available from behavioral health specialists who are onsite members of the care team or who work in an organization with which the practice has a referral protocol or agreement	6.7	6.8	-0.1	0.587	6.4	6.8	-0.3	0.472	8.2	6.6	1.6	0.000	7.1	7.1	-0.1	0.904

2014 Question[a]		CPC-wide				Arkansas				Colorado				New Jersey			
		CPC Practices in 2014	Comparison Practices in 2014	Difference	*p*-value	CPC Practices in 2014	Comparison Practices in 2014	Difference	*p*-value	CPC Practices in 2014	Comparison Practices in 2014	Difference	*p*-value	CPC Practices in 2014	Comparison Practices in 2014	Difference	*p*-value
A28	Patients in need of specialty care, hospital care, or supportive community-based resources obtain needed referrals to partners with whom the practice has a relationship, relevant information is communicated in advance, and timely follow-up after the visit occurs	9.2	9.4	-0.2	0.273	9.5	9.6	-0.2	0.735	9.7	8.8	0.9	0.017	9.3	9.1	0.3	0.617
A29	Practice follow-up with patients seen in ER or hospital is done routinely because the primary care practice has arrangements in place with the ER and hospital to both track these patients and ensure that follow-up is completed within a few days	9.9	8.9	1.0	0.000	10.2	8.3	2.0	0.000	10.1	7.8	2.3	0.000	10.0	9.5	0.5	0.347
A30	Linking patients to supportive community-based resources is accomplished through active coordination between the health system, community service agencies, and patients and accomplished by a designated staff person	8.2	7.1	1.1	0.000	8.6	6.5	2.1	0.000	8.3	6.0	2.3	0.000	7.6	7.3	0.3	0.693

2014 Question[a]		CPC-wide				Arkansas				Colorado				New Jersey			
		CPC Practices in 2014	Comparison Practices in 2014	Difference	*p*-value	CPC Practices in 2014	Comparison Practices in 2014	Difference	*p*-value	CPC Practices in 2014	Comparison Practices in 2014	Difference	*p*-value	CPC Practices in 2014	Comparison Practices in 2014	Difference	*p*-value
A31	Transmission of patient information when patients referred to other providers is consistently done and always contains a complete set of clinical information (e.g., medication list, problem list, allergy list, advance directives)	9.6	9.9	-0.3	0.026	10.3	10.6	-0.3	0.436	9.9	9.3	0.6	0.048	8.7	9.9	-1.2	0.029
A32	Receipt of information about patients from hospitals and ERs in community consistently occurs in less than 24 hours after the event	8.6	8.3	0.3	0.160	8.3	7.8	0.5	0.305	8.8	7.6	1.2	0.004	8.3	8.6	-0.3	0.549
A33[a]	Timely receipt of information about patients after they visit specialists in community occurs for all patients	7.6	8.2	-0.5	0.001	7.3	7.5	-0.2	0.506	7.5	7.6	-0.1	0.858	7.7	8.8	-1.2	0.008
A34	Practice knows total cost to payers of medical care for all patients	5.0	5.1	-0.1	0.587	4.5	4.8	-0.3	0.544	5.7	4.8	0.9	0.022	5.1	4.9	0.2	0.807
Continuous improvement driven by data (1 = lowest functioning, 12 = highest functioning)																	
A35	Quality improvement activities are based on a proven improvement strategy and used continuously in meeting organizational goals	8.7	8.4	0.3	0.057	8.9	7.5	1.4	0.002	9.1	8.1	1.1	0.005	8.6	8.5	0.1	0.899
A36	QI activities are conducted by practice teams supported by a QI infrastructure with meaningful involvement of patients and their families	7.3	6.4	0.9	0.000	7.2	4.6	2.6	0.000	8.1	6.1	2.0	0.000	6.8	6.5	0.3	0.660

2014 Question[a]		CPC-wide				Arkansas				Colorado				New Jersey			
		CPC Practices in 2014	Comparison Practices in 2014	Difference	*p*-value	CPC Practices in 2014	Comparison Practices in 2014	Difference	*p*-value	CPC Practices in 2014	Comparison Practices in 2014	Difference	*p*-value	CPC Practices in 2014	Comparison Practices in 2014	Difference	*p*-value
A37	Performance measures are comprehensive–including clinical, operational, and patient experience measures–and available for this practice site and individual providers, and fed back to individual providers	9.2	8.3	0.9	0.000	9.1	7.1	2.0	0.001	9.2	7.9	1.3	0.006	9.4	8.3	1.1	0.110
A38	Reports of patient care experiences and care processes or outcomes are routinely provided as feedback to practice teams, and transparently reported externally to patients, other teams, and external agencies	7.7	6.0	1.6	0.000	7.2	4.4	2.8	0.000	6.9	5.7	1.2	0.023	7.6	5.7	1.9	0.008
A39	Staff, resources, and time for QI activities are all fully available in the practice	7.2	7.0	0.2	0.231	7.5	5.7	1.8	0.000	7.5	6.5	1.0	0.013	7.3	6.9	0.4	0.586
A40	Practice hiring and training processes support and sustain improvements in care through training and incentives focused on rewarding patient-centered care	7.4	7.6	-0.2	0.430	7.6	7.1	0.5	0.402	7.3	6.8	0.5	0.263	7.4	6.8	0.6	0.356
A41	Responsibility for conducting QI activities is shared by all staff, from leadership to team members, and is made explicit through protected time to meet and specific resources to engage in QI	8.2	7.1	1.1	0.000	8.5	5.6	2.9	0.000	8.6	6.4	2.2	0.000	7.9	7.2	0.7	0.341

Source: Mathematica analysis of the 2014 CPC practice survey administered from April through July 2014, fielded by Mathematica.

Notes: The question labels shown in this table are the most positive responses. Respondents were asked to rank the practice using a scale of 1–12 that was divided into four boxes, and each box had a different description of their approach to the activity. The most positive response, consisting of values 10–12 (the top box), represents the highest level of functioning. In this table, we report the mean.

Composite scores were calculated using a weighted average of each practice's response to all questions in a given area. We calculated a factor loading for each question in a domain based on the correlation between the individual question and the domain it measures. This yields a weighted average of the raw scores of the questions encompassing a given factor, where the weights reflect the reliability of each question estimated by factor analysis. If a practice skipped a question, we upweighted the factor loadings (weights) of the non-missing responses in the domain so that the sum of the weights equals 1, whether or not one or more responses were missing. After we created composite scores for each domain, we calculated a reliability-weighted summary measure, "overall modified PCMH-A score," composed of a weighted average of the composite scores for each of the seven domains.

Using the practice-level responses and composites, we calculated regression-adjusted means controlling for baseline practice characteristics (practice size, medical home recognition, whether meaningful EHR user, and whether the practice was owned by a medical group or health system), and characteristics of the practices' county or census tract (whether in a medically underserved area, Medicare advantage penetration rate, percentage urban, and median household income). We weighted estimates using practice-level nonresponse weights.

In 2014, comparison practices were asked, but not required, to complete the practice survey. Those that did not complete the 2014 practice survey were then asked to complete a short-form version of the survey that consisted of six critical response questions with one question from each of the six areas (A6, A15, A17, A19, A29, and A35). Although the responses of these practices to those six questions were included in question-level means, we did not generate composite scores for the practice and therefore the responses are not represented in the composite scores presented in this table.

[a] Only questions asked in both survey rounds were included in composite measures. There were three questions asked only in the 2014 survey and were therefore not included in the composite measures: A5, A25, and A33. In addition, A13 was not included in a composite measure because it is not statistically related to any function of primary care delivery.

Modified PCMH-A = Patient-Centered Medical Home Assessment modified for the CPC evaluation; ER = emergency room; NP = nurse practitioner; PA = physician assistant; QI = quality improvement.

Table D.7b. Regression-adjusted means for the 2014 survey of CPC and comparison practices (New York, Ohio/Kentucky, Oklahoma, Oregon)

2014 Question[a]		New York				Ohio/Kentucky				Oklahoma				Oregon			
		CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value
Sample size		73	44			75	72			64	48			67	55		
Modified PCMH-A scales (1 = lowest functioning, 12 = highest functioning)																	
A1-2	Continuity of care	10.3	9.2	1.1	0.245	10.1	10.1	-0.1	0.806	10.1	9.4	0.8	0.081	10.5	9.4	1.0	0.035
A3, 4, 6	Access to care	9.4	9.0	0.4	0.449	10.4	9.7	0.7	0.013	9.3	7.7	1.6	0.004	9.9	9.5	0.4	0.275
A7-12	Planned care for chronic conditions and preventive care	8.4	8.9	-0.6	0.269	9.7	9.6	0.1	0.707	9.3	8.3	1.1	0.025	9.2	9.3	-0.2	0.571
A16-18	Risk-stratified care management	9.1	7.0	2.1	0.013	10.0	7.6	2.5	0.000	10.2	6.7	3.5	0.000	9.4	7.3	2.2	0.000
A19-24	Patient and caregiver engagement	7.7	8.2	-0.5	0.373	8.3	8.5	-0.2	0.382	8.0	7.5	0.5	0.350	7.8	7.3	0.4	0.263
A14-15, 26-32, 34	Coordination of care across the medical neighborhood	7.6	8.5	-1.0	0.068	8.1	8.6	-0.5	0.063	8.2	7.8	0.4	0.339	8.3	8.2	0.1	0.801
A35-41	Continuous improvement driven by data	7.0	6.8	0.3	0.760	8.7	8.6	0.1	0.833	8.0	6.7	1.3	0.012	8.1	7.8	0.3	0.415
	Overall modified PCMH-A score	8.2	8.1	0.1	0.805	9.2	8.8	0.4	0.065	8.9	7.5	1.4	0.000	8.8	8.2	0.5	0.025
Continuity of care (1 = lowest functioning, 12 = highest functioning)																	
A1	Patients are assigned to specific provider panels and panel assignments are routinely used for scheduling purposes and are continuously monitored to balance supply and demand	10.0	8.4	1.6	0.068	9.8	9.9	-0.1	0.804	10.0	8.3	1.6	0.003	10.5	9.4	1.1	0.019
A2	Patients encouraged to see paneled provider and practice team by the practice team and it is a priority in appointment scheduling, and patients usually see their own provider or practice team	10.6	11.6	-0.9	0.040	10.3	10.5	-0.2	0.475	10.3	10.3	0.0	0.968	10.5	9.7	0.8	0.146

2014 Question[a]		New York				Ohio/Kentucky				Oklahoma				Oregon			
		CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value
Access to care (1 = lowest functioning, 12 = highest functioning)																	
A3	Appointment systems are flexible and can accommodate customized visit lengths, same-day visits, scheduled follow-up, and multiple provider visits	10.7	10.3	0.4	0.424	10.7	11.0	-0.3	0.208	10.3	9.6	0.7	0.152	10.4	11.0	-0.6	0.193
A4	Communicating with the practice team through email, text messaging, or accessing a patient portal is generally available, and patients are regularly asked about their communication preferences for email, text messaging, or use of a patient portal	8.6	8.3	0.3	0.732	10.5	9.0	1.4	0.010	8.4	6.7	1.7	0.066	9.5	8.9	0.6	0.317
A5[a]	Scheduled phone visits or group visits (with multiple patients) with the physician, PA, NP, or nurse are generally available	4.0	3.6	0.4	0.635	5.1	3.8	1.3	0.023	4.2	3.3	0.9	0.247	4.3	4.0	0.4	0.559
A6	Patient after-hours access to a physician, PA/NP, or nurse is available via the patient's choice of email or phone directly with the practice team or a provider who has real-time access to the patient's electronic medical record	9.5	9.3	0.2	0.764	10.2	9.5	0.7	0.063	9.7	7.2	2.5	0.000	9.9	9.1	0.8	0.027
Planned care for chronic conditions and preventive care (1 = lowest functioning, 12 = highest functioning)																	
A7	Registries on individual patients are available to practice teams and routinely used for pre-visit planning and patient outreach, across a comprehensive set of diseases and risk states	7.5	7.2	0.3	0.685	9.1	8.7	0.5	0.382	8.8	7.3	1.5	0.061	8.3	8.1	0.2	0.649
A8	Comprehensive, evidence-based guidelines on prevention or on chronic illness treatment guide the creation of individual-level patient reports for care teams to use at the time of visits	8.4	8.2	0.2	0.734	9.3	9.8	-0.6	0.070	9.4	8.4	0.9	0.070	9.1	9.5	-0.3	0.427

2014 Question[a]		New York				Ohio/Kentucky				Oklahoma				Oregon			
		CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value
A9	Visits are organized to address both acute and planned care needs. Tailored guideline-based information is used in team huddles to ensure all outstanding patient needs are met at each encounter	8.4	9.0	-0.7	0.286	9.4	9.8	-0.4	0.237	9.2	7.9	1.3	0.022	8.7	8.6	0.1	0.761
A10	Reminders to providers include general notification of the existence of a chronic illness and specific information for the team about guideline adherence at the time of individual patient encounters	8.2	9.1	-0.9	0.259	10.3	9.0	1.3	0.003	8.7	7.7	1.0	0.118	8.9	9.7	-0.8	0.099
A11	Non-physician practice team members perform key clinical service roles that match their abilities and credentials	8.2	9.5	-1.3	0.203	9.7	9.7	0.0	0.951	9.8	8.8	1.0	0.151	10.2	10.1	0.0	0.904
A12	Medication reconciliation is regularly done for all patients and documented in the patient's medical record	10.3	11.3	-1.0	0.005	10.7	10.8	-0.1	0.693	11.0	10.6	0.4	0.291	10.2	10.5	-0.3	0.415
A13[a]	Notification of patients of their laboratory and radiology results is consistently done for abnormal as well as normal results	10.7	10.4	0.2	0.523	11.1	11.3	-0.2	0.399	10.6	11.1	-0.4	0.151	10.3	10.6	-0.2	0.369
Risk-stratified care management (1 = lowest functioning, 12 = highest functioning)																	
A16	Standard method or tool(s) to stratify patients by risk level is available, consistently used to stratify all patients, and is integrated into all aspects of care delivery	9.9	7.0	2.8	0.004	9.7	7.8	1.9	0.000	10.4	6.7	3.7	0.000	8.7	6.6	2.2	0.001
A17	Clinical care management services for high-risk patients are systematically provided by care managers functioning as members of the practice team	10.1	7.3	2.9	0.000	10.9	7.2	3.6	0.000	10.8	6.9	4.0	0.000	10.4	7.8	2.6	0.000
A18	Registry or panel-level data are regularly available to assess and manage care for practice populations, across a comprehensive set of diseases and risk states	6.8	6.8	0.0	0.997	9.6	7.7	1.9	0.000	9.3	6.2	3.1	0.000	9.1	7.7	1.4	0.004

2014 Question[a]		New York				Ohio/Kentucky				Oklahoma				Oregon			
		CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value
Patient and caregiver engagement (1 = lowest functioning, 12 = highest functioning)																	
A19	Assessing patient and family values and preferences is systematically done and incorporated in planning and organizing care	7.9	8.8	-0.9	0.231	8.6	8.6	0.0	0.954	8.7	7.6	1.1	0.093	7.8	7.2	0.7	0.211
A20	Involving patients in decision-making and care is systematically supported by practice teams trained in decision-making techniques	7.5	8.7	-1.2	0.104	8.6	9.2	-0.6	0.102	8.2	7.8	0.4	0.472	7.9	8.0	-0.1	0.858
A21	Patient comprehension of verbal and written materials is assessed and accomplished by translation services or multi-lingual staff, and training staff in health literacy and communication techniques (such as closing the loop) assuring that patients know what to do to manage conditions at home	7.5	7.7	-0.1	0.876	8.0	7.9	0.1	0.823	7.8	7.2	0.6	0.255	8.2	7.8	0.5	0.361
A22	Self-management support is provided by members of the practice team trained in patient empowerment and problem-solving methodologies	7.4	8.3	-0.9	0.240	8.6	7.3	1.3	0.000	8.0	6.4	1.6	0.008	7.7	6.3	1.4	0.010
A23	Test results and care plans are systematically communicated to patients in a variety of ways that are convenient to patients	9.2	10.0	-0.8	0.078	10.2	10.7	-0.5	0.060	9.5	9.9	-0.3	0.468	9.5	9.2	0.3	0.411
A24	Feedback to practice from patient and family caregiver council is consistently used to guide practice improvements and measure system performance as well as care interactions at the practice level	6.7	6.0	0.7	0.429	5.4	7.7	-2.3	0.001	5.4	6.6	-1.2	0.209	5.3	5.6	-0.3	0.719
A25[a]	Shared decision-making aids used to help patients and providers jointly decide on treatment options are consistently provided to patients for two or more clinical conditions and provision is tracked with run charts or other measures	8.1	6.8	1.3	0.119	7.1	7.3	-0.3	0.544	7.6	6.4	1.2	0.036	7.8	6.9	0.8	0.184

2014 Question[a]		New York				Ohio/Kentucky				Oklahoma				Oregon			
		CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value
Coordination of care across the medical neighborhood (1 = lowest functioning, 12 = highest functioning)																	
A14	Tracking of patient referrals to specialists is consistently done for all patients	8.9	8.9	0.0	0.985	8.5	10.1	-1.6	0.000	8.9	8.9	0.0	0.962	8.7	9.9	-1.2	0.018
A15	Care plans are developed collaboratively, include self-management and clinical management goals, are routinely recorded, and guide care at every subsequent point of service	8.4	9.3	-0.9	0.246	9.0	8.2	0.7	0.119	9.3	7.5	1.8	0.006	8.2	7.8	0.4	0.429
A26	Referral relationships with medical and surgical specialists are formalized with referral protocols or practice agreements with most or all medical and surgical specialist groups	5.8	7.0	-1.2	0.260	6.4	8.7	-2.3	0.000	6.5	7.7	-1.2	0.157	6.0	7.1	-1.1	0.189
A27	Behavioral health services are readily available from behavioral health specialists who are onsite members of the care team or who work in an organization with which the practice has a referral protocol or agreement	5.6	7.6	-1.9	0.011	5.4	7.3	-1.9	0.000	6.0	7.1	-1.1	0.067	8.5	6.9	1.5	0.010
A28	Patients in need of specialty care, hospital care, or supportive community-based resources obtain needed referrals to partners with whom the practice has a relationship, relevant information is communicated in advance, and timely follow-up after the visit occurs	8.4	9.8	-1.4	0.019	9.2	9.9	-0.7	0.044	9.2	9.3	-0.1	0.900	9.3	9.2	0.1	0.834
A29	Practice follow-up with patients seen in ER or hospital is done routinely because the primary care practice has arrangements in place with the ER and hospital to both track these patients and ensure that follow-up is completed within a few days	9.6	9.7	0.0	0.961	10.1	9.2	1.0	0.012	9.6	8.3	1.4	0.004	9.8	9.2	0.6	0.183

2014 Question[a]		New York				Ohio/Kentucky				Oklahoma				Oregon			
		CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value
A30	Linking patients to supportive community-based resources is accomplished through active coordination between the health system, community service agencies, and patients and accomplished by a designated staff person	7.5	9.1	-1.6	0.027	9.2	8.1	1.2	0.003	8.2	6.8	1.4	0.032	7.9	7.7	0.3	0.572
A31	Transmission of patient information when patients referred to other providers is consistently done and always contains a complete set of clinical information (e.g., medication list, problem list, allergy list, advance directives)	9.2	10.8	-1.6	0.003	8.7	10.1	-1.4	0.000	10.2	10.3	-0.1	0.886	10.4	10.0	0.4	0.080
A32	Receipt of information about patients from hospitals and ERs in community consistently occurs in less than 24 hours after the event	8.1	9.2	-1.1	0.045	9.3	8.8	0.4	0.243	8.1	6.9	1.1	0.084	9.0	9.2	-0.2	0.666
A33[a]	Timely receipt of information about patients after they visit specialists in community occurs for all patients	7.6	9.2	-1.5	0.000	7.7	8.4	-0.7	0.011	7.5	7.6	-0.1	0.829	8.1	7.7	0.4	0.251
A34	Practice knows total cost to payers of medical care for all patients	4.3	4.5	-0.2	0.806	4.9	5.3	-0.4	0.478	5.4	5.1	0.3	0.664	4.9	5.2	-0.3	0.607
Continuous improvement driven by data (1 = lowest functioning, 12 = highest functioning)																	
A35	Quality improvement activities are based on a proven improvement strategy and used continuously in meeting organizational goals	7.8	7.8	0.0	0.954	9.3	9.1	0.2	0.597	8.6	7.6	0.9	0.059	8.9	9.2	-0.3	0.576
A36	QI activities are conducted by practice teams supported by a QI infrastructure with meaningful involvement of patients and their families	6.4	6.0	0.4	0.758	7.3	7.9	-0.5	0.308	7.5	6.3	1.2	0.106	8.0	7.1	0.9	0.093
A37	Performance measures are comprehensive–including clinical, operational, and patient experience measures–and available for this practice site and individual providers, and fed back to individual providers	7.6	7.9	-0.3	0.757	10.4	9.8	0.6	0.085	9.5	7.5	2.0	0.002	9.5	9.6	-0.1	0.858

2014 Question[a]		New York				Ohio/Kentucky				Oklahoma				Oregon			
		CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value
A38	Reports of patient care experiences and care processes or outcomes are routinely provided as feedback to practice teams, and transparently reported externally to patients, other teams, and external agencies	7.0	5.2	1.8	0.146	9.7	7.3	2.4	0.000	7.5	5.6	1.9	0.003	7.6	6.5	1.0	0.030
A39	Staff, resources, and time for QI activities are all fully available in the practice	6.5	6.2	0.3	0.700	7.1	8.5	-1.3	0.004	7.8	6.7	1.1	0.085	6.9	7.2	-0.3	0.492
A40	Practice hiring and training processes support and sustain improvements in care through training and incentives focused on rewarding patient-centered care	6.6	7.6	-1.0	0.246	8.4	9.3	-0.8	0.052	7.0	7.1	-0.1	0.922	7.5	7.1	0.4	0.423
A41	Responsibility for conducting QI activities is shared by all staff, from leadership to team members, and is made explicit through protected time to meet and specific resources to engage in QI	7.3	6.2	1.1	0.286	8.8	8.7	0.1	0.782	8.2	6.7	1.5	0.045	8.1	7.4	0.6	0.179

Source: Mathematica analysis of the 2014 CPC practice survey administered from April through July 2014, fielded by Mathematica.

Notes: The question labels shown in this table are the most positive responses. Respondents were asked to rank the practice using a scale of 1–12 that was divided into four boxes, and each box had a different description of their approach to the activity. The most positive response, consisting of values 10–12 (the top box), represents the highest level of functioning. In this table, we report the mean.

Composite scores were calculated using a weighted average of each practice's response to all questions in a given area. We calculated a factor loading for each question in a domain based on the correlation between the individual question and the domain it measures. This yields a weighted average of the raw scores of the questions encompassing a given factor, where the weights reflect the reliability of each question estimated by factor analysis. If a practice skipped a question, we upweighted the factor loadings (weights) of the non-missing responses in the domain so that the sum of the weights equals 1, whether or not one or more responses were missing. After we created composite scores for each domain, we calculated a reliability-weighted summary measure, "overall modified PCMH-A score," composed of a weighted average of the composite scores for each of the seven domains.

Using the practice-level responses and composites, we calculated regression-adjusted means controlling for baseline practice characteristics (practice size, medical home recognition, whether meaningful EHR user, and whether the practice was owned by a medical group or health system), and characteristics of the practices' county or census tract (whether in a medically underserved area, Medicare advantage penetration rate, percentage urban, and median household income). We weighted estimates using practice-level nonresponse weights.

In 2014, comparison practices were asked, but not required, to complete the practice survey. Those that did not complete the 2014 practice survey were then asked to complete a short-form version of the survey that consisted of six critical response questions with one question from each of the six areas (A6, A15, A17, A19, A29, and A35). Although the responses of these practices to those six questions were included in question-level means, we did not generate composite scores for the practice and therefore the responses are not represented in the composite scores presented in this table.

[a] Only questions asked in both survey rounds were included in composite measures. There were three questions asked only in the 2014 survey and were therefore not included in the composite measures: A5, A25, and A33. In addition, A13 was not included in a composite measure because it is not statistically related to any function of primary care delivery.

Modified PCMH-A = Patient-Centered Medical Home Assessment modified for the CPC evaluation; ER = emergency room; NP = nurse practitioner; PA = physician assistant; QI = quality improvement.

Table D.8a. Regression-adjusted proportions of practices self-reporting the highest level of functioning in the 2014 survey of CPC and comparison practices (CPC-wide, Arkansas, Colorado, and New Jersey)

2014 Question[a]		CPC-wide				Arkansas				Colorado				New Jersey			
		CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value
Sample size		483	423			63	83			73	75			68	46		
Modified PCMH-A scales[b]																	
A1-2	Continuity of care	51.8	45.7	6.1	0.096	61.9	44.9	17.0	0.058	38.4	37.3	1.0	0.900	51.5	39.0	12.4	0.241
A3, 4, 6	Access to care	37.3	21.4	15.9	0.000	34.9	7.0	28.0	0.000	31.5	24.6	6.9	0.412	29.2	25.6	3.6	0.753
A7-12	Planned care for chronic conditions and preventive care	12.6	11.8	0.8	0.755	11.1	10.4	0.7	0.905	19.5	4.3	15.2	0.022	9.2	9.1	0.1	0.976
A16-18	Risk-stratified care management	28.2	16.0	12.1	0.000	42.9	14.7	28.2	0.000	20.0	9.6	10.4	0.061	19.1	14.8	4.3	0.584
A19-24	Patient and caregiver engagement	3.9	7.1	-3.1	0.115	20.0	0.9	19.1	0.057	5.9	3.7	2.2	0.549	3.1	8.2	-5.1	0.325
A14-15, 26-32, 34	Coordination of care across the medical neighborhood	1.4	1.8	-0.3	0.752	14.3	13.8	0.5	0.979	0.0	0.0			0.0	6.5		
A35-41	Continuous improvement driven by data	4.3	5.1	-0.7	0.670	4.3	2.7	1.6	0.616	14.3	0.1	14.2	0.131	3.1	0.8	2.3	0.278
	Overall modified PCMH-A score	2.6	1.9	0.7	0.688	1.6	0.0			0.0	0.0			0.0	4.3		
Continuity of care																	
A1	Patients are assigned to specific provider panels and panel assignments are routinely used for scheduling purposes and are continuously monitored to balance supply and demand	59.7	52.6	7.1	0.054	76.2	50.4	25.8	0.009	49.3	47.4	2.0	0.821	59.7	37.0	22.7	0.023
A2	Patients encouraged to see paneled provider and practice team by the practice team and it is a priority in appointment scheduling, and patients usually see their own provider or practice team	74.6	70.3	4.3	0.187	79.4	61.7	17.7	0.050	71.2	66.0	5.3	0.521	62.7	70.6	-7.9	0.458

2014 Question[a]		CPC-wide				Arkansas				Colorado				New Jersey			
		CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value
Access to care																	
A3	Appointment systems are flexible and can accommodate customized visit lengths, same-day visits, scheduled follow-up, and multiple provider visits	79.9	76.2	3.6	0.198	74.2	56.6	17.6	0.059	84.7	75.4	9.4	0.142	80.6	80.2	0.3	0.967
A4	Communicating with the practice team through email, text messaging, or accessing a patient portal is generally available, and patients are regularly asked about their communication preferences for email, text messaging, or use of a patient portal	62.1	51.5	10.6	0.003	62.9	23.7	39.2	0.000	45.2	72.2	-26.9	0.000	49.3	61.8	-12.6	0.239
A5[a]	Scheduled phone visits or group visits (with multiple patients) with the physician, PA, NP, or nurse are generally available	22.1	19.4	2.7	0.378	24.2	19.1	5.1	0.482	12.3	6.3	6.0	0.178	11.9	24.5	-12.6	0.214
A6	Patient after-hours access to a physician, PA/NP, or nurse is available via the patient's choice of email or phone directly with the practice team or a provider who has real-time access to the patient's electronic medical record	62.0	37.9	24.1	0.000	65.1	22.2	42.9	0.000	65.8	34.5	31.3	0.000	65.7	43.7	21.9	0.040
Planned care for chronic conditions and preventive care																	
A7	Registries on individual patients are available to practice teams and routinely used for pre-visit planning and patient outreach, across a comprehensive set of diseases and risk states	40.3	37.3	3.0	0.418	31.7	18.3	13.4	0.083	49.3	27.3	22.1	0.003	35.8	39.4	-3.6	0.752

2014 Question[a]		CPC-wide				Arkansas				Colorado				New Jersey			
		CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value
A8	Comprehensive, evidence-based guidelines on prevention or on chronic illness treatment guide the creation of individual-level patient reports for care teams to use at the time of visits	35.5	37.8	-2.3	0.530	28.6	26.7	1.9	0.827	27.4	21.8	5.6	0.444	32.8	26.2	6.6	0.518
A9	Visits are organized to address both acute and planned care needs. Tailored guideline-based information is used in team huddles to ensure all outstanding patient needs are met at each encounter	42.7	41.0	1.8	0.643	42.9	28.2	14.6	0.079	49.3	26.1	23.2	0.005	52.2	53.4	-1.2	0.914
A10	Reminders to providers include general notification of the existence of a chronic illness and specific information for the team about guideline adherence at the time of individual patient encounters	47.1	45.8	1.3	0.729	46.0	31.6	14.5	0.082	31.9	33.1	-1.2	0.877	44.8	46.7	-1.9	0.868
A11	Non-physician practice team members perform key clinical service roles that match their abilities and credentials	67.4	60.3	7.0	0.045	69.8	61.4	8.5	0.303	80.8	63.4	17.4	0.040	58.5	31.9	26.6	0.008
A12	Medication reconciliation is regularly done for all patients and documented in the patient's medical record	80.1	76.3	3.8	0.236	82.5	74.6	8.0	0.295	82.2	79.8	2.4	0.725	93.8	74.9	19.0	0.087
A13[a]	Notification of patients of their laboratory and radiology results is consistently done for abnormal as well as normal results	80.0	83.8	-3.7	0.167	71.4	86.0	-14.6	0.057	96.2	93.8	2.4	0.537	80.6	83.1	-2.5	0.770
Risk-stratified care management																	
A16	Standard method or tool(s) to stratify patients by risk level is available, consistently used to stratify all patients, and is integrated into all aspects of care delivery	59.7	31.2	28.6	0.000	76.2	23.6	52.6	0.000	43.7	19.6	24.1	0.000	66.7	45.6	21.0	0.070

2014 Question[a]		CPC-wide				Arkansas				Colorado				New Jersey			
		CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value
A17	Clinical care management services for high-risk patients are systematically provided by care managers functioning as members of the practice team	88.5	37.6	50.9	0.000	90.3	33.0	57.3	0.000	95.8	34.4	61.4	0.000	79.4	38.2	41.2	0.000
A18	Registry or panel-level data are regularly available to assess and manage care for practice populations, across a comprehensive set of diseases and risk states	41.1	31.1	10.0	0.007	52.4	22.3	30.1	0.001	45.2	33.7	11.5	0.196	25.4	27.6	-2.2	0.820
Patient and caregiver engagement																	
A19	Assessing patient and family values and preferences is systematically done and incorporated in planning and organizing care	28.2	37.1	-8.9	0.012	23.8	32.7	-8.9	0.242	32.9	31.7	1.2	0.888	25.0	46.9	-21.9	0.037
A20	Involving patients in decision-making and care is systematically supported by practice teams trained in decision-making techniques	27.2	33.1	-5.9	0.106	22.8	29.5	-6.7	0.428	38.6	22.1	16.5	0.029	26.9	37.2	-10.3	0.350
A21	Patient comprehension of verbal and written materials is assessed and accomplished by translation services or multi-lingual staff, and training staff in health literacy and communication techniques (such as closing the loop) assuring that patients know what to do to manage conditions at home	22.8	27.1	-4.4	0.217	16.1	19.4	-3.3	0.664	26.1	15.8	10.3	0.100	19.4	40.5	-21.1	0.075
A22	Self-management support is provided by members of the practice team trained in patient empowerment and problem-solving methodologies	22.7	16.4	6.3	0.036	17.5	16.0	1.5	0.846	27.1	12.5	14.7	0.020	14.1	15.0	-0.9	0.903
A23	Test results and care plans are systematically communicated to patients in a variety of ways that are convenient to patients	57.5	65.9	-8.4	0.017	46.0	60.2	-14.2	0.160	57.5	57.0	0.5	0.951	54.5	71.7	-17.1	0.100

2014 Question[a]		CPC-wide				Arkansas				Colorado				New Jersey			
		CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value
A24	Feedback to practice from patient and family caregiver council is consistently used to guide practice improvements and measure system performance as well as care interactions at the practice level	25.9	30.0	-4.1	0.253	31.7	18.3	13.5	0.085	36.1	33.2	3.0	0.710	25.8	31.6	-5.9	0.579
A25[a]	Shared decision-making aids used to help patients and providers jointly decide on treatment options are consistently provided to patients for two or more clinical conditions and provision is tracked with run charts or other measures	42.1	23.1	19.0	0.000	31.7	25.2	6.5	0.437	79.5	5.7	73.7	0.000	49.3	24.8	24.4	0.018
Coordination of care across the medical neighborhood																	
A14	Tracking of patient referrals to specialists is consistently done for all patients	47.0	55.7	-8.7	0.019	50.8	54.9	-4.1	0.672	54.8	42.0	12.8	0.150	29.9	46.9	-17.0	0.122
A15	Care plans are developed collaboratively, include self-management and clinical management goals, are routinely recorded, and guide care at every subsequent point of service	40.2	42.9	-2.7	0.450	27.0	37.0	-10.1	0.223	32.9	35.3	-2.5	0.723	36.8	59.5	-22.7	0.028
A26	Referral relationships with medical and surgical specialists are formalized with referral protocols or practice agreements with most or all medical and surgical specialist groups	19.1	41.3	-22.2	0.000	14.3	24.5	-10.2	0.171	15.1	37.8	-22.7	0.002	14.9	37.6	-22.6	0.027
A27	Behavioral health services are readily available from behavioral health specialists who are onsite members of the care team or who work in an organization with which the practice has a referral protocol or agreement	20.6	11.1	9.4	0.000	14.3	9.0	5.3	0.432	42.0	4.6	37.4	0.000	19.4	7.6	11.8	0.049

2014 Question[a]		CPC-wide				Arkansas				Colorado				New Jersey			
		CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value
A28	Patients in need of specialty care, hospital care, or supportive community-based resources obtain needed referrals to partners with whom the practice has a relationship, relevant information is communicated in advance, and timely follow-up after the visit occurs	48.1	55.1	-7.0	0.064	63.5	62.1	1.4	0.878	59.7	41.3	18.4	0.041	49.3	47.1	2.1	0.861
A29	Follow-up by the primary care practice with patients seen in the Emergency Room (ER) or hospital is done routinely because the primary care practice has arrangements in place with the ER and hospital to both track these patients and ensure that follow-up is completed within a few days.	64.1	49.2	14.9	0.000	75.8	38.6	37.2	0.000	61.6	32.7	29.0	0.000	64.7	53.6	11.1	0.306
A30	Linking patients to supportive community-based resources is accomplished through active coordination between the health system, community service agencies, and patients and accomplished by a designated staff person	30.3	24.8	5.4	0.119	42.9	13.8	29.0	0.000	39.7	13.9	25.9	0.001	25.8	25.2	0.6	0.957
A31	Transmission of patient information when patients referred to other providers is consistently done and always contains a complete set of clinical information (e.g., medication list, problem list, allergy list, advance directives)	61.0	63.8	-2.8	0.431	82.5	79.8	2.7	0.688	74.0	47.9	26.0	0.004	40.3	57.3	-17.0	0.135
A32	Receipt of information about patients from hospitals and ERs in community consistently occurs in less than 24 hours after the event	34.8	34.2	0.6	0.872	27.0	24.1	2.9	0.733	30.6	23.4	7.2	0.344	36.9	34.0	2.9	0.814
A33[a]	Timely receipt of information about patients after they visit specialists in community occurs for all patients	10.6	19.4	-8.8	0.004	9.5	11.7	-2.2	0.693	5.7	7.0	-1.3	0.702	7.5	23.9	-16.5	0.047

2014 Question[a]		CPC-wide				Arkansas				Colorado				New Jersey			
		CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value
A34	Practice knows total cost to payers of medical care for all patients	5.2	11.0	-5.8	0.014	3.8	8.7	-4.9	0.317	6.5	6.6	-0.1	0.974	4.3	9.6	-5.2	0.468
Continuous improvement driven by data																	
A35	Quality improvement activities are based on a proven improvement strategy and used continuously in meeting organizational goals	46.8	42.9	3.8	0.275	50.8	27.4	23.4	0.007	48.6	37.4	11.2	0.171	51.5	51.9	-0.4	0.967
A36	QI activities are conducted by practice teams supported by a QI infrastructure with meaningful involvement of patients and their families	19.1	24.3	-5.2	0.123	17.7	16.0	1.7	0.814	26.1	15.0	11.1	0.089	10.4	32.5	-22.1	0.033
A37	Performance measures are comprehensive–including clinical, operational, and patient experience measures–and available for this practice site and individual providers, and fed back to individual providers	65.3	51.6	13.6	0.000	62.9	37.4	25.5	0.007	64.4	47.9	16.4	0.045	65.7	51.0	14.7	0.199
A38	Reports of patient care experiences and care processes or outcomes are routinely provided as feedback to practice teams, and transparently reported externally to patients, other teams, and external agencies	33.1	26.1	7.0	0.046	22.2	10.3	11.9	0.039	25.0	22.8	2.2	0.780	29.2	20.6	8.6	0.383
A39	Staff, resources, and time for QI activities are all fully available in the practice	17.5	22.5	-5.0	0.129	19.0	4.9	14.1	0.004	20.3	17.8	2.5	0.684	24.2	20.6	3.6	0.690
A40	Practice hiring and training processes support and sustain improvements in care through training and incentives focused on rewarding patient-centered care	21.3	27.8	-6.5	0.060	19.0	24.3	-5.3	0.570	21.7	15.5	6.2	0.324	21.2	14.6	6.6	0.375

2014 Question[a]		CPC-wide				Arkansas				Colorado				New Jersey			
		CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value
A41	Responsibility for conducting QI activities is shared by all staff, from leadership to team members, and is made explicit through protected time to meet and specific resources to engage in QI	36.6	32.9	3.7	0.319	33.3	21.3	12.0	0.081	46.6	27.1	19.5	0.016	37.3	29.1	8.2	0.437

Source: Mathematica analysis of the 2014 CPC practice survey administered from April through July 2014, fielded by Mathematica.

Notes: A practice self-reports functioning at the highest level by responding in the most positive response category (response values 10–12). For a practice's overall modified PCMH-A score to be considered highest functioning, a practice must report the highest functioning in all domains. That is, the practice must have given the most positive response to each question in every domain. If a practice skipped a question in a domain, that practice was treated as not having the most positive composite score for that domain, even if the practice provided the most positive response to the other questions in that domain. There were four CPC practices that had at least one missing response that would have otherwise been included as a highest-functioning practice for the overall modified PCMH-A score.

Using the practice-level responses and composites, we calculated the likelihood of practices giving the most positive response for each question and at the composite level. Regressions adjusted for baseline practice characteristics (practice size, medical home recognition, whether meaningful EHR user, and whether the practice was owned by a medical group or health system), and characteristics of the practices' county or census tract (whether in a medically underserved area, Medicare advantage penetration rate, percentage urban, and median household income). We weighted estimates using practice-level nonresponse weights.

In 2014, comparison practices were asked, but not required, to complete the practice survey. Those that did not complete the 2014 practice survey were then asked to complete a short-form version of the survey that consisted of six critical response questions with one question from each of the six areas (A6, A15, A17, A19, A29, and A35). Although the practices' responses to those six questions were included in question-level distributions, we did not generate composite scores for these practices and therefore the responses are not represented in the composite scores presented in this table.

[a] Only questions asked in both survey rounds were included in composite measures. There were three questions asked only in the 2014 survey and were therefore not included in the composite measures: A5, A25, and A33. In addition, A13 was not included in a composite measure because it is not statistically related to any function of primary care delivery.

[b] Data findings highlighted grey represent samples that contained either zero practices with the most positive composite scores, or sample sizes too small to perform regression adjustment. The data presented in these cases are the unadjusted proportions.

Modified PCMH-A = Patient-Centered Medical Home Assessment modified for the CPC evaluation; ER = emergency room; NP = nurse practitioner; PA = physician assistant; QI = quality improvement.

Table D.8b. Regression-adjusted proportions of practices self-reporting the highest level of functioning in the 2014 survey of CPC and comparison practices (New York, Ohio/Kentucky, Oklahoma, Oregon)

2014 Question[a]		New York				Ohio/Kentucky				Oklahoma				Oregon			
		CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value
Sample size		73	44			75	72			64	48			67	55		
Modified PCMH-A scales[b]																	
A1-2	Continuity of care	53.4	42.6	10.8	0.324	38.7	44.1	-5.5	0.530	48.4	42.6	5.9	0.599	72.3	60.3	12.0	0.272
A3, 4, 6	Access to care	32.9	37.3	-4.4	0.710	49.3	33.2	16.2	0.070	45.3	9.4	35.9	0.000	38.8	24.9	13.9	0.162
A7-12	Planned care for chronic conditions and preventive care	9.6	0.9	8.7	0.021	12.0	13.0	-1.0	0.877	25.0	3.8	21.2	0.000	12.3	16.4	-4.1	0.608
A16-18	Risk-stratified care management	13.5	13.5	0.0	0.997	46.7	18.8	27.9	0.000	34.4	17.7	16.7	0.107	26.9	8.2	18.7	0.010
A19-24	Patient and caregiver engagement	13.8	30.0	-16.2	0.128	1.3	9.6	-8.2	0.071	6.3	2.1			3.3	10.6	-7.3	0.458
A14-15, 26-32, 34	Coordination of care across the medical neighborhood	10.3	0.0	10.3	0.068	0.0	0.0			1.6	2.1			4.2	2.2	1.9	0.613
A35-41	Continuous improvement driven by data	12.8	0.0	12.8	0.017	7.5	10.9	-3.4	0.535	3.1	4.2			21.4	8.3	13.2	0.283
	Overall modified PCMH-A score	2.7	0.0			0.0	0.0			0.0	0.0			0.0	0.0		
Continuity of care																	
A1	Patients are assigned to specific provider panels and panel assignments are routinely used for scheduling purposes and are continuously monitored to balance supply and demand	54.2	47.5	6.6	0.552	48.0	63.1	-15.1	0.076	54.7	45.5	9.2	0.422	78.5	62.6	15.9	0.137
A2	Patients encouraged to see paneled provider and practice team by the practice team and it is a priority in appointment scheduling, and patients usually see their own provider or practice team	80.9	97.9	-17.0	0.000	68.9	72.2	-3.3	0.679	75.0	85.5	-10.5	0.185	80.0	75.1	4.9	0.566
Access to care																	
A3	Appointment systems are flexible and can accommodate customized visit lengths, same-day visits, scheduled follow-up, and multiple provider visits	76.5	84.9	-8.4	0.341	82.7	76.3	6.4	0.367	75.0	56.8	18.2	0.118	83.1	93.7	-10.6	0.036

2014 Question[a]		New York				Ohio/Kentucky				Oklahoma				Oregon			
		CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value
A4	Communicating with the practice team through email, text messaging, or accessing a patient portal is generally available, and patients are regularly asked about their communication preferences for email, text messaging, or use of a patient portal	60.3	73.4	-13.1	0.184	86.5	64.2	22.3	0.006	59.4	43.6	15.7	0.185	70.1	62.8	7.4	0.455
A5[a]	Scheduled phone visits or group visits (with multiple patients) with the physician, PA, NP, or nurse are generally available	21.1	12.0	9.2	0.183	34.7	22.6	12.0	0.089	29.7	22.5	7.2	0.454	20.9	22.6	-1.7	0.847
A6	Patient after-hours access to a physician, PA/NP, or nurse is available via the patient's choice of email or phone directly with the practice team or a provider who has real-time access to the patient's electronic medical record	45.2	49.9	-4.7	0.695	68.0	54.5	13.5	0.112	64.1	21.4	42.7	0.000	61.2	41.7	19.5	0.070
Planned care for chronic conditions and preventive care																	
A7	Registries on individual patients are available to practice teams and routinely used for pre-visit planning and patient outreach, across a comprehensive set of diseases and risk states	27.4	22.5	4.9	0.697	38.7	62.5	-23.8	0.004	54.7	38.1	16.6	0.146	46.9	36.0	10.9	0.284
A8	Comprehensive, evidence-based guidelines on prevention or on chronic illness treatment guide the creation of individual-level patient reports for care teams to use at the time of visits	28.8	15.7	13.0	0.189	38.7	52.7	-14.0	0.085	54.7	21.2	33.5	0.000	38.8	42.5	-3.7	0.734
A9	Visits are organized to address both acute and planned care needs. Tailored guideline-based information is used in team huddles to ensure all outstanding patient needs are met at each encounter	41.1	41.5	-0.5	0.973	37.3	59.0	-21.7	0.013	45.3	22.0	23.3	0.006	32.3	25.9	6.4	0.475

2014 Question[a]		New York				Ohio/Kentucky				Oklahoma				Oregon			
		CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value
A10	Reminders to providers include general notification of the existence of a chronic illness and specific information for the team about guideline adherence at the time of individual patient encounters	35.6	43.3	-7.7	0.550	80.0	47.2	32.8	0.000	46.9	28.2	18.7	0.090	43.8	72.4	-28.7	0.003
A11	Non-physician practice team members perform key clinical service roles that match their abilities and credentials	47.9	65.7	-17.8	0.129	57.3	66.6	-9.3	0.272	73.0	47.2	25.9	0.014	84.6	74.0	10.6	0.265
A12	Medication reconciliation is regularly done for all patients and documented in the patient's medical record	64.4	75.9	-11.5	0.178	73.3	82.8	-9.4	0.190	92.2	66.2	26.0	0.024	74.6	80.2	-5.5	0.572
A13[a]	Notification of patients of their laboratory and radiology results is consistently done for abnormal as well as normal results	84.7	66.3	18.4	0.146	80.0	85.6	-5.6	0.360	78.1	83.6	-5.5	0.500	64.6	70.5	-5.9	0.544
Risk-stratified care management																	
A16	Standard method or tool(s) to stratify patients by risk level is available, consistently used to stratify all patients, and is integrated into all aspects of care delivery	69.9	34.3	35.5	0.003	56.2	42.6	13.5	0.104	70.3	28.6	41.8	0.000	37.3	17.0	20.4	0.026
A17	Clinical care management services for high-risk patients are systematically provided by care managers functioning as members of the practice team	75.0	24.2	50.8	0.000	96.0	31.8	64.2	0.000	93.8	33.4	60.4	0.000	89.6	58.1	31.4	0.005
A18	Registry or panel-level data are regularly available to assess and manage care for practice populations, across a comprehensive set of diseases and risk states	16.4	23.4	-7.0	0.505	56.0	41.6	14.4	0.093	40.6	21.6	19.0	0.070	52.2	19.3	33.0	0.000

2014 Question[a]		New York				Ohio/Kentucky				Oklahoma				Oregon			
		CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value
Patient and caregiver engagement																	
A19	Assessing patient and family values and preferences is systematically done and incorporated in planning and organizing care	20.5	43.0	-22.5	0.043	31.1	43.7	-12.6	0.135	48.4	42.8	5.6	0.588	16.9	22.3	-5.4	0.550
A20	Involving patients in decision-making and care is systematically supported by practice teams trained in decision-making techniques	23.9	39.6	-15.7	0.265	28.8	49.7	-21.0	0.014	28.1	25.1	3.0	0.795	24.6	34.9	-10.3	0.350
A21	Patient comprehension of verbal and written materials is assessed and accomplished by translation services or multi-lingual staff, and training staff in health literacy and communication techniques (such as closing the loop) assuring that patients know what to do to manage conditions at home	18.1	38.4	-20.4	0.145	17.3	28.1	-10.8	0.156	31.3	25.8	5.4	0.589	33.8	25.5	8.4	0.429
A22	Self-management support is provided by members of the practice team trained in patient empowerment and problem-solving methodologies	25.0	34.3	-9.3	0.470	28.0	14.7	13.3	0.074	29.7	14.8	14.9	0.098	18.5	12.6	5.9	0.413
A23	Test results and care plans are systematically communicated to patients in a variety of ways that are convenient to patients	41.7	70.0	-28.3	0.037	76.0	80.7	-4.7	0.505	66.7	68.5	-1.8	0.851	59.1	54.9	4.1	0.670
A24	Feedback to practice from patient and family caregiver council is consistently used to guide practice improvements and measure system performance as well as care interactions at the practice level	19.2	18.6	0.6	0.949	27.4	38.1	-10.8	0.231	22.2	41.9	-19.6	0.104	19.0	25.5	-6.4	0.497

2014 Question[a]		New York				Ohio/Kentucky				Oklahoma				Oregon			
		CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value
A25[a]	Shared decision-making aids used to help patients and providers jointly decide on treatment options are consistently provided to patients for two or more clinical conditions and provision is tracked with run charts or other measures	38.4	25.2	13.2	0.252	14.7	22.1	-7.4	0.271	37.5	10.9	26.6	0.000	43.3	27.3	15.9	0.108
Coordination of care across the medical neighborhood																	
A14	Tracking of patient referrals to specialists is consistently done for all patients	43.8	54.9	-11.1	0.379	44.0	66.9	-22.9	0.004	57.1	59.2	-2.1	0.854	49.3	60.6	-11.3	0.275
A15	Care plans are developed collaboratively, include self-management and clinical management goals, are routinely recorded, and guide care at every subsequent point of service	47.9	66.9	-19.0	0.122	45.3	38.6	6.7	0.458	59.4	39.5	19.9	0.069	31.3	33.9	-2.6	0.805
A26	Referral relationships with medical and surgical specialists are formalized with referral protocols or practice agreements with most or all medical and surgical specialist groups	16.4	54.7	-38.2	0.003	22.7	56.7	-34.0	0.000	32.8	37.4	-4.6	0.655	18.5	43.5	-25.0	0.032
A27	Behavioral health services are readily available from behavioral health specialists who are onsite members of the care team or who work in an organization with which the practice has a referral protocol or agreement	13.5	22.1	-8.6	0.622	6.7	12.8	-6.1	0.278	10.9	7.8	3.2	0.617	49.3	25.5	23.7	0.010
A28	Patients in need of specialty care, hospital care, or supportive community-based resources obtain needed referrals to partners with whom the practice has a relationship, relevant information is communicated in advance, and timely follow-up after the visit occurs	34.2	60.0	-25.7	0.062	38.7	62.1	-23.5	0.006	44.4	50.7	-6.3	0.590	47.7	69.0	-21.3	0.036

2014 Question[a]		New York				Ohio/Kentucky				Oklahoma				Oregon			
		CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value
A29	Follow-up by the primary care practice with patients seen in the Emergency Room (ER) or hospital is done routinely because the primary care practice has arrangements in place with the ER and hospital to both track these patients and ensure that follow-up is completed within a few days.	58.9	54.9	4.0	0.796	62.7	57.3	5.4	0.531	57.8	37.7	20.1	0.042	68.7	52.2	16.5	0.114
A30	Linking patients to supportive community-based resources is accomplished through active coordination between the health system, community service agencies, and patients and accomplished by a designated staff person	21.1	49.4	-28.3	0.052	39.2	37.9	1.3	0.880	29.7	8.5	21.2	0.008	13.8	29.0	-15.2	0.188
A31	Transmission of patient information when patients referred to other providers is consistently done and always contains a complete set of clinical information (e.g., medication list, problem list, allergy list, advance directives)	42.5	85.5	-43.0	0.000	29.3	68.9	-39.5	0.000	75.0	65.4	9.6	0.419	89.2	64.7	24.5	0.015
A32	Receipt of information about patients from hospitals and ERs in community consistently occurs in less than 24 hours after the event	20.5	44.3	-23.8	0.078	39.2	46.2	-7.0	0.433	35.9	19.3	16.6	0.092	56.9	61.4	-4.5	0.701
A33[a]	Timely receipt of information about patients after they visit specialists in community occurs for all patients	17.4	52.8	-35.4	0.091	9.3	17.0	-7.6	0.226	18.8	21.0	-2.3	0.756	15.4	10.8	4.6	0.506
A34	Practice knows total cost to payers of medical care for all patients	13.8	0.0	13.8	0.033	6.0	16.4	-10.4	0.148	9.4	12.1	-2.8	0.608	7.7	8.2	-0.5	0.931

2014 Question[a]		New York				Ohio/Kentucky				Oklahoma				Oregon			
		CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value
Continuous improvement driven by data																	
A35	Quality improvement activities are based on a proven improvement strategy and used continuously in meeting organizational goals	25.0	35.1	-10.1	0.432	53.3	52.5	0.8	0.918	40.6	31.8	8.8	0.372	58.2	47.3	10.9	0.281
A36	QI activities are conducted by practice teams supported by a QI infrastructure with meaningful involvement of patients and their families	12.9	26.1	-13.3	0.230	20.0	32.9	-12.9	0.083	20.3	20.9	-0.5	0.954	27.3	21.2	6.0	0.496
A37	Performance measures are comprehensive – including clinical, operational, and patient experience measures – and available for this practice site and individual providers, and fed back to individual providers	34.2	52.4	-18.1	0.150	82.7	67.0	15.7	0.024	71.9	40.7	31.1	0.006	76.1	72.9	3.2	0.719
A38	Reports of patient care experiences and care processes or outcomes are routinely provided as feedback to practice teams, and transparently reported externally to patients, other teams, and external agencies	36.5	18.5	18.0	0.123	73.3	36.7	36.6	0.000	26.6	22.8	3.8	0.663	26.2	26.4	-0.2	0.977
A39	Staff, resources, and time for QI activities are all fully available in the practice	11.7	1.4	10.3	0.008	21.3	38.2	-16.8	0.035	20.3	34.7	-14.4	0.246	9.8	14.9	-5.1	0.500
A40	Practice hiring and training processes support and sustain improvements in care through training and incentives focused on rewarding patient-centered care	11.7	19.2	-7.6	0.550	31.5	51.3	-19.8	0.018	26.6	25.9	0.7	0.947	20.9	7.0	13.9	0.010

2014 Question[a]		New York				Ohio/Kentucky				Oklahoma				Oregon			
		CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value	CPC practices in 2014	Comparison practices in 2014	Difference	*p*-value
A41	Responsibility for conducting QI activities is shared by all staff, from leadership to team members, and is made explicit through protected time to meet and specific resources to engage in QI	19.2	24.2	-5.0	0.683	41.3	55.7	-14.4	0.076	42.9	26.1	16.8	0.117	35.8	24.5	11.4	0.195

Source: Mathematica analysis of the 2014 CPC practice survey administered from April through July 2014, fielded by Mathematica.

Notes: A practice self-reports functioning at the highest level by responding in the most positive response category (response values 10–12). For a practice's overall modified PCMH-A score to be considered highest functioning, a practice must report the highest functioning in all domains. That is, the practice must have given the most positive response to each question in every domain. If a practice skipped a question in a domain, that practice was treated as not having the most positive composite score for that domain, even if the practice provided the most positive response to the other questions in that domain. There were four CPC practices that had at least one missing response that would have otherwise been included as a highest-functioning practice for the overall modified PCMH-A score.

Using the practice-level responses and composites, we calculated the likelihood of practices giving the most positive response for each question and at the composite level. Regressions adjusted for baseline practice characteristics (practice size, medical home recognition, whether meaningful EHR user, and whether the practice was owned by a medical group or health system), and characteristics of the practices' county or census tract (whether in a medically underserved area, Medicare advantage penetration rate, percentage urban, and median household income). We weighted estimates using practice-level nonresponse weights.

In 2014, comparison practices were asked, but not required, to complete the practice survey. Those that did not complete the 2014 practice survey were then asked to complete a short-form version of the survey that consisted of six critical response questions with one question from each of the six areas (A6, A15, A17, A19, A29, and A35). Although the practices' responses to those six questions were included in question-level distributions, we did not generate composite scores for these practices and therefore the responses are not represented in the composite scores presented in this table.

[a] Only questions asked in both survey rounds were included in composite measures. There were three questions asked only in the 2014 survey and were therefore not included in the composite measures: A5, A25, and A33. In addition, A13 was not included in a composite measure because it is not statistically related to any function of primary care delivery.

[b] Data findings highlighted grey represent samples that contained either zero practices with the most positive composite scores, or sample sizes too small to perform regression adjustment. The data presented in these cases are the unadjusted proportions.

Modified PCMH-A = Patient-Centered Medical Home Assessment modified for the CPC evaluation; ER = emergency room; NP = nurse practitioner; PA = physician assistant; QI = quality improvement.

Table D.9a. Practice characteristics, finances, and participation in other initiatives in 2014, non-regression adjusted distributions (CPC-wide, Arkansas, Colorado, and New Jersey)

2014 Question		CPC-wide		Arkansas		Colorado		New Jersey	
		CPC practices in 2014	Comparison practices in 2014	CPC practices in 2014	Comparison practices in 2014	CPC practices in 2014	Comparison practices in 2014	CPC practices in 2014	Comparison practices in 2014
Sample size		483	423	63	83	73	75	68	46
Practice characteristics and finance									
B1	Medical organization that employs clinicians at this practice site								
	Independent solo or two-clinician practice	15.7%	32.1%	31.8%	46.9%	15.1%	24.7%	33.8%	28.3%
	Independent group practice (3 or more clinicians)	34.0%	32.6%	22.2%	25.9%	53.4%	43.8%	51.5%	43.5%
	Group or staff model HMO	1.9%	1.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Network of clinician practices owned by a hospital, hospital system, or medical school	38.1%	26.1%	39.7%	21.0%	24.7%	23.3%	2.9%	15.2%
	Hospital or medical school	6.0%	3.4%	4.8%	2.5%	4.1%	6.9%	10.3%	6.5%
	Community health center or clinic	0.2%	1.0%	0.0%	0.0%	1.4%	1.4%	0.0%	0.0%
	Other	4.1%	3.6%	1.6%	3.7%	1.4%	0.0%	1.5%	6.5%
	Number of respondents	483	417	63	81	73	73	68	46
B2	Number of practice sites in each organization								
	Mean	25.6	12.9	15.7	5.0	12.3	9.9	7.6	16.7
	Median	9.0	1.0	1.0	1.0	3.0	1.0	1.0	2.0
	Number of respondents	483	423	63	83	73	75	68	46
B3	Practice ownership (multiple responses possible)								
	Physicians in the practice	50.0%	65.0%	56.0%	65.0%	67.0%	68.0%	79.0%	76.0%
	Non-physician clinicians (nurse practitioners or physician assistants) in the practice	1.0%	3.0%	0.0%	5.0%	1.0%	3.0%	0.0%	3.0%
	Another physician organization	0.0%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Public or private hospital, health system, or foundation owned by a hospital	42.0%	27.0%	37.0%	20.0%	27.0%	23.0%	13.0%	20.0%
	Insurance company, health plan, or HMO	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Medical school or university	2.0%	2.0%	8.0%	7.0%	0.0%	4.0%	1.0%	0.0%
	Other	7.0%	5.0%	2.0%	5.0%	5.0%	6.0%	6.0%	4.0%
	Number of respondents	483	423	63	83	73	75	68	46
B4	Practice is affiliated with or contracts with (multiple responses possible)								
	Independent practice association	25.0%	32.0%	17.0%	27.0%	44.0%	39.0%	25.0%	46.0%
	Physician hospital organization	25.0%	25.0%	61.0%	19.0%	14.0%	15.0%	16.0%	25.0%
	Accountable care organization	14.0%	32.0%	2.0%	21.0%	10.0%	26.0%	18.0%	50.0%
	Number of respondents	483	423	63	83	73	75	68	46

2014 Question		CPC-wide		Arkansas		Colorado		New Jersey	
		CPC practices in 2014	Comparison practices in 2014	CPC practices in 2014	Comparison practices in 2014	CPC practices in 2014	Comparison practices in 2014	CPC practices in 2014	Comparison practices in 2014
B5a	Practice site autonomy to implement changes without approval from health care system or group: Staff hiring								
	Little/no autonomy	4.4%	4.4%	1.6%	3.4%	4.1%	6.1%	1.5%	2.7%
	Some autonomy	11.3%	4.7%	9.8%	3.4%	0.0%	4.6%	0.0%	8.1%
	Moderate autonomy	19.9%	10.9%	27.9%	8.5%	32.9%	10.6%	9.1%	5.4%
	High autonomy	32.7%	28.5%	21.3%	28.8%	12.3%	18.2%	25.8%	29.7%
	Not applicable/not part of system	31.7%	51.5%	39.3%	55.9%	50.7%	60.6%	63.6%	54.1%
	Number of respondents	477	340	61	59	73	66	66	37
B5b	Practice site autonomy to implement changes without approval from health care system or group: Organizational priorities (e.g., picking a specific quality improvement goal)								
	Little/no autonomy	2.7%	3.2%	0.0%	1.7%	12.3%	4.6%	0.0%	5.4%
	Some autonomy	13.1%	11.2%	27.9%	8.5%	2.7%	9.1%	1.5%	16.2%
	Moderate autonomy	29.9%	13.9%	4.9%	8.5%	13.7%	4.6%	12.1%	2.7%
	High autonomy	23.2%	20.1%	29.5%	25.4%	20.6%	21.2%	24.2%	21.6%
	Not applicable/not part of system	31.2%	51.6%	37.7%	55.9%	50.7%	60.6%	62.1%	54.1%
	Number of respondents	475	339	61	59	73	66	66	37
B5c	Practice site autonomy to implement changes without approval from health care system or group: Clinical work processes (e.g., process for rooming patients)								
	Little/no autonomy	0.4%	1.8%	1.6%	1.7%	0.0%	1.5%	0.0%	2.9%
	Some autonomy	10.7%	7.1%	0.0%	1.7%	12.3%	6.1%	3.1%	2.9%
	Moderate autonomy	11.6%	10.4%	4.9%	5.1%	20.6%	12.1%	10.8%	2.9%
	High autonomy	46.0%	29.4%	55.7%	35.6%	16.4%	19.7%	21.5%	41.2%
	Not applicable/not part of system	31.3%	51.3%	37.7%	55.9%	50.7%	60.6%	64.6%	50.0%
	Number of respondents	476	337	61	59	73	66	65	34
B6	Total number of different patients seen in past year by practice site								
	Mean	6,413.9	10,414.6	5,536.1	12,219.6	6,547.5	11,901.8	4,746.3	11,796.4
	Median	4,700.0	5,500.0	3,500.0	5,600.0	5,000.0	6,500.0	3,000.0	4,800.0
	Number of respondents	483	423	63	83	73	75	68	46
B7	Does this practice site charge a “retainer” or “concierge” fee for some or all of its patients?								
	Yes	0.4%	2.6%	0.0%	0.0%	1.4%	6.0%	0.0%	5.4%
	No	99.6%	97.4%	100.0%	100.0%	98.6%	94.0%	100.0%	94.6%
	Number of respondents	482	345	63	60	73	67	67	37
B8	Practice site accepts new Medicare patients (including managed care patients):								

2014 Question		CPC-wide		Arkansas		Colorado		New Jersey	
		CPC practices in 2014	Comparison practices in 2014	CPC practices in 2014	Comparison practices in 2014	CPC practices in 2014	Comparison practices in 2014	CPC practices in 2014	Comparison practices in 2014
	None of these patients	2.1%	3.5%	1.6%	0.0%	2.7%	6.0%	1.5%	5.4%
	Some of these patients	16.8%	19.1%	22.2%	23.3%	28.8%	20.9%	1.5%	8.1%
	Most of these patients	19.5%	22.9%	36.5%	33.3%	12.3%	23.9%	14.9%	13.5%
	All of these patients	61.5%	54.5%	39.7%	43.3%	56.2%	49.3%	82.1%	73.0%
	Number of respondents	481	345	63	60	73	67	67	37
B9-1	Clinician (Physician/PA/NP) owner compensation (multiple responses possible)								
	Salary	40.0%	54.0%	51.0%	47.0%	33.0%	56.0%	64.0%	54.0%
	Productivity incentives, including profit sharing	36.0%	39.0%	30.0%	30.0%	48.0%	35.0%	39.0%	41.0%
	Quality incentives	17.0%	25.0%	19.0%	15.0%	23.0%	27.0%	15.0%	43.0%
	Other	5.0%	9.0%	3.0%	16.0%	3.0%	4.0%	6.0%	21.0%
	Not applicable	11.0%	10.0%	8.0%	14.0%	14.0%	12.0%	3.0%	0.0%
	Number of respondents	483	423	63	83	73	75	68	46
B9-2	Non-owner physician compensation (multiple responses possible)								
	Salary	60.0%	38.0%	51.0%	31.0%	63.0%	47.0%	57.0%	46.0%
	Productivity incentives, including profit sharing	49.0%	33.0%	54.0%	28.0%	49.0%	43.0%	24.0%	30.0%
	Quality incentives	34.0%	21.0%	44.0%	16.0%	22.0%	21.0%	27.0%	21.0%
	Other	6.0%	6.0%	3.0%	4.0%	1.0%	5.0%	1.0%	8.0%
	Not applicable	10.0%	13.0%	16.0%	16.0%	12.0%	15.0%	9.0%	13.0%
	Number of respondents	483	423	63	83	73	75	68	46
B9-3	Non-owner PA/NP compensation (multiple responses possible)								
	Salary	57.0%	40.0%	62.0%	36.0%	75.0%	56.0%	49.0%	35.0%
	Productivity incentives, including profit sharing	32.0%	21.0%	37.0%	22.0%	52.0%	42.0%	10.0%	4.0%
	Quality incentives	16.0%	12.0%	30.0%	6.0%	8.0%	20.0%	12.0%	2.0%
	Other	3.0%	4.0%	5.0%	4.0%	1.0%	11.0%	1.0%	2.0%
	Not applicable	9.0%	13.0%	19.0%	11.0%	4.0%	12.0%	13.0%	14.0%
	Number of respondents	483	423	63	83	73	75	68	46
B10	Practice participation in other initiatives (by sponsoring organization)								
	CMS: The Physician Quality Reporting System	90.0%	79.0%	94.0%	86.0%	93.0%	82.0%	91.0%	77.0%
	CMS: Health Care Innovation Awards	8.0%	14.0%	20.0%	10.0%	5.0%	9.0%	3.0%	15.0%
	CMS: Other initiative	44.0%	25.0%	54.0%	19.0%	36.0%	29.0%	61.0%	38.0%
	Medicaid: Medicaid Health Home	18.0%	16.0%	11.0%	17.0%	21.0%	12.0%	0.0%	4.0%
	Medicaid: Other initiative	14.0%	13.0%	28.0%	18.0%	34.0%	8.0%	4.0%	10.0%
	Other Federally-sponsored initiative (Not CMS or Medicaid)	7.0%	3.0%	15.0%	5.0%	3.0%	2.0%	3.0%	3.0%
	State/Community reporting program	25.0%	20.0%	5.0%	8.0%	14.0%	22.0%	5.0%	11.0%
	State/Community health information exchange	47.0%	25.0%	46.0%	16.0%	49.0%	42.0%	23.0%	24.0%
	State/Community: Other initiative	10.0%	6.0%	12.0%	1.0%	8.0%	6.0%	0.0%	4.0%

2014 Question		CPC-wide		Arkansas		Colorado		New Jersey	
		CPC practices in 2014	Comparison practices in 2014	CPC practices in 2014	Comparison practices in 2014	CPC practices in 2014	Comparison practices in 2014	CPC practices in 2014	Comparison practices in 2014
	Purchaser-sponsored program linking payment to performance or value	42.0%	34.0%	28.0%	38.0%	53.0%	35.0%	59.0%	62.0%
	A consortium or collaborative working on quality improvement	29.0%	20.0%	27.0%	16.0%	32.0%	21.0%	15.0%	12.0%
	Other initiative supported by a commercial health plan or medical society or organization	17.0%	17.0%	9.0%	14.0%	13.0%	35.0%	27.0%	17.0%
	Number of respondents	483	423	63	83	73	75	68	46
B11	Practice has recognition as a medical home from (multiple responses possible):								
	Any medical home recognition	63.0%	40.0%	32.0%	24.0%	56.0%	33.0%	65.0%	55.0%
	National Committee for Quality Assurance (NCQA-PCMH)	44.0%	23.0%	29.0%	17.0%	47.0%	21.0%	40.0%	46.0%
	- NCQA Level 1	2.0%	4.0%	0.0%	2.0%	3.0%	2.0%	1.0%	8.0%
	- NCQA Level 2	5.0%	2.0%	24.0%	5.0%	3.0%	0.0%	7.0%	7.0%
	- NCQA Level 3	35.0%	14.0%	5.0%	5.0%	41.0%	17.0%	29.0%	28.0%
	- NCQA Level Not Specified	2.0%	3.0%	0.0%	4.0%	0.0%	2.0%	1.0%	2.0%
	The Joint Commission	2.0%	7.0%	0.0%	3.0%	4.0%	7.0%	0.0%	2.0%
	Accreditation Association for Ambulatory Health Care	1.0%	2.0%	0.0%	1.0%	1.0%	1.0%	0.0%	0.0%
	Utilization Review Accreditation Commission	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	State-based recognition program	17.0%	8.0%	3.0%	1.0%	5.0%	5.0%	0.0%	0.0%
	Insurance plan-based recognition program	10.0%	8.0%	0.0%	9.0%	8.0%	9.0%	22.0%	13.0%
	Other	3.0%	4.0%	0.0%	4.0%	1.0%	0.0%	9.0%	8.0%
	Number of respondents	483	423	63	83	73	75	68	46
Practice staff and roles									
B12-1	Number of full- and part-time physicians (primary care and specialty) at the practice site								
	0-1 Full-time or part-time	20.0%	27.0%	38.0%	44.0%	13.0%	18.0%	27.0%	25.0%
	2 Full-time or part-time	21.0%	19.0%	16.0%	16.0%	25.0%	17.0%	19.0%	23.0%
	3 Full-time or part-time	16.0%	10.0%	6.0%	7.0%	20.0%	10.0%	15.0%	16.0%
	4-6 Full-time or part-time	28.0%	25.0%	29.0%	15.0%	28.0%	28.0%	30.0%	24.0%
	7+ Full-time or part-time	15.0%	20.0%	11.0%	18.0%	14.0%	27.0%	9.0%	13.0%
	Number of respondents	483	423	63	83	73	75	68	46
B12-2	Number of full- and part-time care Managers/care coordinators								
	0 Full-time or part-time	15.0%	75.0%	21.0%	84.0%	14.0%	69.0%	24.0%	65.0%
	1 Full-time or part-time	64.0%	18.0%	49.0%	7.0%	66.0%	26.0%	57.0%	29.0%
	2 Full-time or part-time	15.0%	4.0%	19.0%	2.0%	15.0%	4.0%	16.0%	5.0%
	3+ Full-time or part-time	6.0%	3.0%	11.0%	7.0%	4.0%	1.0%	3.0%	2.0%
	Number of respondents	483	423	63	83	73	75	68	46

2014 Question		CPC-wide		Arkansas		Colorado		New Jersey	
		CPC practices in 2014	Comparison practices in 2014	CPC practices in 2014	Comparison practices in 2014	CPC practices in 2014	Comparison practices in 2014	CPC practices in 2014	Comparison practices in 2014
B12-3	Practice site has full- or part-time:								
	Primary care physicians	100.0%	98.0%	100.0%	97.0%	100.0%	98.0%	99.0%	100.0%
	Specialty Physicians	12.0%	21.0%	5.0%	16.0%	11.0%	27.0%	12.0%	25.0%
	NP/PAs who bill under own NPI	44.0%	43.0%	46.0%	50.0%	41.0%	55.0%	28.0%	31.0%
	NP/PAs who do not bill under own NPI	22.0%	17.0%	32.0%	25.0%	39.0%	28.0%	27.0%	21.0%
	RNs	46.0%	42.0%	38.0%	43.0%	34.0%	45.0%	60.0%	33.0%
	LPN/LVNs	50.0%	56.0%	86.0%	72.0%	24.0%	41.0%	29.0%	45.0%
	MAs	88.0%	83.0%	65.0%	78.0%	97.0%	93.0%	93.0%	80.0%
	Receptionists	95.0%	94.0%	97.0%	94.0%	97.0%	97.0%	91.0%	93.0%
	Practice supervisors/managers	89.0%	87.0%	89.0%	78.0%	89.0%	89.0%	76.0%	90.0%
	Care managers/care coordinators	85.0%	28.0%	79.0%	21.0%	86.0%	31.0%	76.0%	35.0%
	Community services coordinators	5.0%	3.0%	6.0%	1.0%	1.0%	8.0%	4.0%	5.0%
	Health educators	9.0%	7.0%	8.0%	4.0%	11.0%	1.0%	4.0%	10.0%
	QI specialists	11.0%	8.0%	24.0%	11.0%	21.0%	15.0%	6.0%	5.0%
	Behavioral health/clinical psychologists/social workers	18.0%	9.0%	11.0%	7.0%	42.0%	9.0%	7.0%	6.0%
	Physical/respiratory therapists	3.0%	4.0%	3.0%	5.0%	4.0%	5.0%	1.0%	3.0%
	Lab/radiology technicians	31.0%	39.0%	60.0%	61.0%	32.0%	38.0%	18.0%	30.0%
	Dieticians/nutritionists	10.0%	9.0%	6.0%	11.0%	8.0%	16.0%	12.0%	12.0%
	Pharmacists/primary technicians	15.0%	7.0%	13.0%	7.0%	15.0%	2.0%	10.0%	0.0%
	HIT technologists/EHR specialists	16.0%	19.0%	27.0%	27.0%	17.0%	28.0%	16.0%	12.0%
	Accountants/financial managers	13.0%	15.0%	21.0%	18.0%	21.0%	14.0%	15.0%	13.0%
	Billing staff	51.0%	61.0%	73.0%	66.0%	69.0%	64.0%	52.0%	48.0%
	Other staff	21.0%	8.0%	16.0%	17.0%	15.0%	10.0%	22.0%	5.0%
	Number of respondents	483	423	63	83	73	75	68	46
B13	How has this practice's staffing changed since the beginning of the CPC initiative/since October 2012?								
	Hired or contracted staff to fill new roles or functions	89.0%	39.0%	83.0%	40.0%	77.0%	48.0%	94.0%	35.0%
	Moved existing staff into new roles or functions	62.0%	44.0%	81.0%	43.0%	77.0%	45.0%	69.0%	38.0%
	Hired or contracted new staff to fill existing roles	32.0%	46.0%	37.0%	50.0%	41.0%	51.0%	31.0%	43.0%
	Moved clinicians from other practice sites to this practice site	5.0%	9.0%	3.0%	4.0%	4.0%	7.0%	1.0%	15.0%
	Moved non-clinician staff from other practice sites to this practice site	4.0%	6.0%	0.0%	1.0%	16.0%	7.0%	1.0%	7.0%
	Eliminated some existing staff and their roles or functions	3.0%	21.0%	5.0%	14.0%	1.0%	21.0%	4.0%	18.0%
	Other	4.0%	2.0%	3.0%	2.0%	3.0%	8.0%	1.0%	0.0%
	Did not make any changes to staffing	4.0%	24.0%	3.0%	26.0%	1.0%	23.0%	0.0%	31.0%
	Number of respondents	483	423	63	83	73	75	68	46

2014 Question		CPC-wide		Arkansas		Colorado		New Jersey	
		CPC practices in 2014	Comparison practices in 2014	CPC practices in 2014	Comparison practices in 2014	CPC practices in 2014	Comparison practices in 2014	CPC practices in 2014	Comparison practices in 2014
Use of health information technology									
B14	Does this practice site use an Electronic Health Record (EHR) system for managing patient care?								
	Yes	99.8%	94.1%	100.0%	86.1%	98.6%	93.0%	100.0%	100.0%
	No	0.2%	5.9%	0.0%	13.9%	1.4%	7.0%	0.0%	0.0%
	Number of respondents	483	404	63	79	73	71	68	45
Among practices that use an EHR:									
B15	Do clinicians at this practice site use the e-prescribing functionality of the EHR?								
	Yes	99.6%	99.1%	100.0%	98.2%	100.0%	98.4%	100.0%	100.0%
	No, the clinicians do not use the EHR's e-prescribing function	0.2%	0.9%	0.0%	1.9%	0.0%	1.6%	0.0%	0.0%
	Don't know	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Number of respondents	481	320	63	54	72	62	67	36
B16	Does this practice use data extracts or reports generated from your EHR to guide quality improvement (QI) efforts?								
	Yes	97.3%	80.1%	96.8%	68.6%	100.0%	82.3%	100.0%	80.6%
	No	1.9%	9.5%	3.2%	19.6%	0.0%	9.7%	0.0%	8.3%
	Don't know	0.8%	10.4%	0.0%	11.8%	0.0%	8.1%	0.0%	11.1%
	Number of respondents	481	316	63	51	72	62	67	36
B16a	Type of staff responsible for extracting data or generating reports from EHR to guide quality improvement efforts (multiple responses possible)								
	Primary care physician (MD/DO)	27.0%	42.0%	13.0%	53.0%	26.0%	20.0%	46.0%	51.0%
	NP/PA	9.0%	14.0%	5.0%	30.0%	10.0%	6.0%	13.0%	13.0%
	RN, LPN, or LVN	24.0%	18.0%	16.0%	26.0%	25.0%	6.0%	22.0%	6.0%
	MA	24.0%	28.0%	3.0%	26.0%	44.0%	23.0%	27.0%	27.0%
	Practice supervisor or practice manager	53.0%	63.0%	62.0%	57.0%	49.0%	68.0%	43.0%	51.0%
	Care manager or care coordinator	55.0%	19.0%	51.0%	21.0%	56.0%	17.0%	43.0%	16.0%
	Medical records staff	6.0%	13.0%	2.0%	20.0%	7.0%	5.0%	1.0%	9.0%
	Data analyst	29.0%	13.0%	2.0%	13.0%	17.0%	16.0%	15.0%	12.0%
	QI specialist	26.0%	19.0%	26.0%	13.0%	49.0%	19.0%	10.0%	9.0%
	Health information technologist or EHR specialist	26.0%	19.0%	25.0%	31.0%	15.0%	27.0%	27.0%	6.0%
	Other	17.0%	11.0%	13.0%	15.0%	13.0%	7.0%	19.0%	14.0%
	Number of respondents	483	423	63	83	73	75	68	46

2014 Question		CPC-wide		Arkansas		Colorado		New Jersey	
		CPC practices in 2014	Comparison practices in 2014	CPC practices in 2014	Comparison practices in 2014	CPC practices in 2014	Comparison practices in 2014	CPC practices in 2014	Comparison practices in 2014
B17	Is this practice site part of a health care system or medical group?								
	Yes	68.3%	52.0%	52.4%	40.7%	51.4%	43.6%	40.3%	55.6%
	No	31.7%	48.0%	47.6%	59.3%	48.6%	56.5%	59.7%	44.4%
	Number of respondents	480	319	63	54	72	62	67	36
Among practice sites that use an EHR and are in a health care system or group:									
B17a-1	Patient clinical data shared between this practice site and local hospitals outside of your health care system								
	Read-only data	32.0%	31.1%	21.2%	9.1%	54.1%	42.3%	22.2%	20.0%
	Import or exchange data	32.0%	25.6%	6.1%	27.3%	29.7%	26.9%	25.9%	15.0%
	None	29.9%	33.5%	72.7%	59.1%	13.5%	15.4%	48.2%	50.0%
	Don't know	6.2%	9.8%	0.0%	4.6%	2.7%	15.4%	3.7%	15.0%
	Number of respondents	325	164	33	22	37	26	27	20
B17a-2	Patient clinical data shared between this practice site and other local medical care outside of your health care system								
	Read-only data	18.9%	27.0%	9.1%	13.6%	29.7%	33.3%	3.7%	15.8%
	Import or exchange data	28.3%	18.4%	3.0%	22.7%	27.0%	22.2%	14.8%	5.3%
	None	45.7%	44.8%	87.9%	59.1%	40.5%	33.3%	77.8%	63.2%
	Don't know	7.1%	9.8%	0.0%	4.6%	2.7%	11.1%	3.7%	15.8%
	Number of respondents	322	163	33	22	37	27	27	19
B17a-3	Patient clinical data shared between this practice site and local diagnostic service facilities (lab or imaging) outside of your health care system								
	Read-only data	12.3%	20.0%	18.2%	9.1%	5.4%	25.9%	11.1%	15.8%
	Import or exchange data	47.7%	36.4%	12.1%	45.5%	37.8%	33.3%	51.9%	47.4%
	None	33.2%	32.1%	69.7%	36.4%	54.1%	25.9%	33.3%	21.1%
	Don't know	6.8%	11.5%	0.0%	9.1%	2.7%	14.8%	3.7%	15.8%
	Number of respondents	325	165	33	22	37	27	27	19
B17a-4	Patient clinical data shared between this practice site and local hospitals in your health care system								
	Read-only data	24.8%	29.6%	60.6%	45.5%	10.8%	18.5%	18.5%	21.1%
	Import or exchange data	50.5%	41.4%	15.2%	36.4%	64.9%	44.4%	29.6%	31.6%
	None	17.2%	21.0%	24.2%	18.2%	24.3%	22.2%	48.2%	31.6%
	Don't know	7.5%	8.0%	0.0%	0.0%	0.0%	14.8%	3.7%	15.8%
	Number of respondents	319	162	33	22	37	27	27	19
B17a-5	Patient clinical data shared between this practice site and local medical care practices in your health care system								

2014 Question		CPC-wide		Arkansas		Colorado		New Jersey	
		CPC practices in 2014	Comparison practices in 2014	CPC practices in 2014	Comparison practices in 2014	CPC practices in 2014	Comparison practices in 2014	CPC practices in 2014	Comparison practices in 2014
	Read-only data	15.3%	29.5%	6.1%	38.1%	16.2%	22.2%	14.8%	21.1%
	Import or exchange data	68.7%	46.0%	63.6%	42.9%	78.4%	63.0%	74.1%	36.8%
	None	10.1%	19.0%	30.3%	19.1%	5.4%	7.4%	7.4%	31.6%
	Don't know	5.8%	5.5%	0.0%	0.0%	0.0%	7.4%	3.7%	10.5%
	Number of respondents	326	163	33	21	37	27	27	19
B17a-6	Patient clinical data shared between this practice site and local diagnostic service facilities (lab or imaging) in your health care system								
	Read-only data	15.9%	24.7%	12.1%	47.6%	13.5%	22.2%	7.4%	27.8%
	Import or exchange data	70.6%	55.6%	69.7%	42.9%	83.8%	66.7%	85.2%	44.4%
	None	7.7%	13.6%	18.2%	9.5%	2.7%	3.7%	3.7%	16.7%
	Don't know	5.8%	6.2%	0.0%	0.0%	0.0%	7.4%	3.7%	11.1%
	Number of respondents	327	162	33	21	37	27	27	18
Among practice sites that use an EHR and are not in a health care system or group:									
B17b-1	Patient clinical data shared between this practice and local hospitals								
	Read-only data	42.1%	24.2%	43.3%	25.8%	40.0%	32.4%	40.0%	33.3%
	Import or exchange data	33.6%	37.6%	23.3%	32.3%	42.9%	41.2%	25.0%	26.7%
	None	24.3%	36.9%	33.3%	38.7%	17.1%	26.5%	35.0%	40.0%
	Don't know	0.0%	1.3%	0.0%	3.2%	0.0%	0.0%	0.0%	0.0%
	Number of respondents	152	149	30	31	35	34	40	15
B17b-2	Patient clinical data shared between this practice and other local medical care practices								
	Read-only data	19.3%	8.5%	13.8%	6.5%	28.6%	9.7%	15.0%	6.3%
	Import or exchange data	20.7%	28.2%	20.7%	19.4%	20.0%	19.4%	5.0%	25.0%
	None	58.0%	61.3%	65.5%	67.7%	48.6%	71.0%	80.0%	68.8%
	Don't know	2.0%	2.1%	0.0%	6.5%	2.9%	0.0%	0.0%	0.0%
	Number of respondents	150	142	29	31	35	31	40	16
B17b-3	Patient clinical data shared between this practice and local diagnostic service facilities (e.g., lab or imaging)								
	Read-only data	17.1%	17.8%	30.0%	22.6%	11.4%	29.4%	17.5%	25.0%
	Import or exchange data	62.5%	54.1%	40.0%	51.6%	71.4%	41.2%	57.5%	43.8%
	None	19.1%	26.7%	30.0%	22.6%	14.3%	29.4%	25.0%	31.3%
	Don't know	1.3%	1.4%	0.0%	3.2%	2.9%	0.0%	0.0%	0.0%
	Number of respondents	152	146	30	31	35	34	40	16

Source: Mathematica analysis of the 2014 CPC practice survey administered from April through July 2014, fielded by Mathematica.

HMO = health maintenance organization; NP = nurse practitioner; PA = physician assistant; CMS = Center for Medicare & Medicaid Services; PCMH = patient-centered medical home; NPI = national provider identifier; RN = registered nurse; LPN = licensed practical nurse; LVN = licensed vocational nurse; MA = Medical assistant; QI = quality improvement; HIT = health information technology; EHR = electronic health record.

Table D.9b. Practice characteristics, finances, and participation in other initiatives in 2014, non-regression adjusted distributions (New York, Ohio/Kentucky, Oklahoma, and Oregon)

2014 Question		New York		Ohio/Kentucky		Oklahoma		Oregon	
		CPC practices in 2014	Comparison practices in 2014	CPC practices in 2014	Comparison practices in 2014	CPC practices in 2014	Comparison Practices in 2014	CPC practices in 2014	Comparison practices in 2014
Sample size		73	44	75	72	64	48	67	55
Practice characteristics and finance									
B1	Medical organization that employs clinicians at this practice site								
	Independent solo or two-clinician practice	8.2%	37.2%	6.7%	31.9%	12.5%	39.6%	4.5%	13.0%
	Independent group practice (3 or more clinicians)	28.8%	32.6%	26.7%	25.0%	14.1%	16.7%	38.8%	42.6%
	Group or staff model HMO	8.2%	4.7%	1.3%	0.0%	1.6%	2.1%	1.5%	3.7%
	Network of clinician practices owned by a hospital, hospital system, or medical school	38.4%	23.3%	64.0%	33.3%	59.4%	29.2%	37.3%	37.0%
	Hospital or medical school	4.1%	0.0%	1.3%	4.2%	4.7%	0.0%	13.4%	1.9%
	Community health center or clinic	0.0%	0.0%	0.0%	0.0%	0.0%	6.3%	0.0%	0.0%
	Other	12.3%	2.3%	0.0%	5.6%	7.8%	6.3%	4.5%	1.9%
	Number of respondents	73	43	75	72	64	48	67	54
B2	Number of practice sites in each organization								
	Mean	21.2	11.1	67.8	18.3	22.9	8.1	28.6	23.8
	Median	21.0	2.0	96.0	1.0	15.0	1.0	6.0	2.0
	Number of respondents	73	44	75	72	64	48	67	55
B3	Practice ownership (multiple responses possible)								
	Physicians in the practice	62.0%	58.0%	23.0%	63.0%	23.0%	63.0%	37.0%	63.0%
	Non-physician clinicians (nurse practitioners or physician assistants) in the practice	0.0%	0.0%	0.0%	0.0%	2.0%	6.0%	6.0%	2.0%
	Another physician organization	0.0%	0.0%	0.0%	2.0%	0.0%	3.0%	1.0%	0.0%
	Public or private hospital, health system, or foundation owned by a hospital	38.0%	31.0%	65.0%	33.0%	63.0%	32.0%	48.0%	34.0%
	Insurance company, health plan, or HMO	0.0%	0.0%	0.0%	0.0%	2.0%	0.0%	0.0%	3.0%
	Medical school or university	0.0%	0.0%	0.0%	0.0%	5.0%	0.0%	4.0%	0.0%
	Other	1.0%	11.0%	12.0%	5.0%	8.0%	3.0%	13.0%	0.0%
	Number of respondents	73	44	75	72	64	48	67	55

2014 Question		New York		Ohio/Kentucky		Oklahoma		Oregon	
		CPC practices in 2014	Comparison practices in 2014	CPC practices in 2014	Comparison practices in 2014	CPC practices in 2014	Comparison Practices in 2014	CPC practices in 2014	Comparison practices in 2014
B4	Practice is affiliated with or contracts with (multiple responses possible)								
	Independent practice association	15.0%	30.0%	3.0%	24.0%	18.0%	19.0%	55.0%	42.0%
	Physician hospital organization	14.0%	30.0%	38.0%	34.0%	25.0%	31.0%	8.0%	20.0%
	Accountable care organization	3.0%	35.0%	7.0%	36.0%	5.0%	22.0%	54.0%	40.0%
	Number of respondents	73	44	75	72	64	48	67	55
B5a	Practice site autonomy to implement changes without approval from health care system or group: Staff hiring								
	Little/no autonomy	5.6%	3.3%	0.0%	4.7%	12.5%	10.5%	6.0%	0.0%
	Some autonomy	18.3%	3.3%	6.7%	3.1%	40.6%	2.6%	6.0%	8.7%
	Moderate autonomy	21.1%	10.0%	9.3%	15.6%	20.3%	15.8%	19.4%	8.7%
	High autonomy	38.0%	30.0%	72.0%	37.5%	14.1%	18.4%	40.3%	37.0%
	Not applicable/not part of system	16.9%	53.3%	12.0%	39.1%	12.5%	52.6%	28.4%	45.7%
	Number of respondents	71	30	75	64	64	38	67	46
B5b	Practice site autonomy to implement changes without approval from health care system or group: Organizational priorities (e.g., picking a specific quality improvement goal)								
	Little/no autonomy	0.0%	6.7%	0.0%	0.0%	6.3%	5.3%	0.0%	2.2%
	Some autonomy	23.2%	3.3%	17.3%	14.3%	10.9%	5.3%	9.0%	19.6%
	Moderate autonomy	36.2%	10.0%	61.3%	31.8%	43.8%	15.8%	32.8%	19.6%
	High autonomy	23.2%	26.7%	9.3%	14.3%	28.1%	21.1%	29.9%	13.0%
	Not applicable/not part of system	17.4%	53.3%	12.0%	39.7%	10.9%	52.6%	28.4%	45.7%
	Number of respondents	69	30	75	63	64	38	67	46
B5c	Practice site autonomy to implement changes without approval from health care system or group: Clinical work processes (e.g., process for rooming patients)								
	Little/no autonomy	0.0%	6.7%	0.0%	0.0%	1.6%	2.6%	0.0%	0.0%
	Some autonomy	32.4%	3.3%	9.3%	6.3%	4.7%	5.3%	10.5%	23.9%
	Moderate autonomy	8.5%	10.0%	9.3%	18.8%	7.8%	7.9%	17.9%	10.9%
	High autonomy	42.3%	26.7%	69.3%	34.4%	75.0%	31.6%	43.3%	19.6%
	Not applicable/not part of system	16.9%	53.3%	12.0%	40.6%	10.9%	52.6%	28.4%	45.7%
	Number of respondents	71	30	75	64	64	38	67	46
B6	Total number of different patients seen in past year by practice site								
	Mean	4,890.1	8,430.7	5,417.8	8,704.8	8,918.2	5,422.5	9,088.1	14,109.8
	Median	3,719.0	6,000.0	4,731.5	6,000.0	5,570.0	3,000.0	6,111.5	6,500.0
	Number of respondents	73	44	75	72	64	48	67	55

2014 Question		New York		Ohio/Kentucky		Oklahoma		Oregon	
		CPC practices in 2014	Comparison practices in 2014	CPC practices in 2014	Comparison practices in 2014	CPC practices in 2014	Comparison Practices in 2014	CPC practices in 2014	Comparison practices in 2014
B7	Does this practice site charge a "retainer" or "concierge" fee for some or all of its patients?								
	Yes	0.0%	0.0%	0.0%	4.7%	0.0%	0.0%	1.5%	0.0%
	No	100.0%	100.0%	100.0%	95.3%	100.0%	100.0%	98.5%	100.0%
	Number of respondents	73	33	75	64	64	38	67	46
B8	Practice site accepts new Medicare patients (including managed care patients):								
	None of these patients	2.8%	3.0%	1.3%	1.6%	1.6%	0.0%	3.0%	8.7%
	Some of these patients	5.6%	9.1%	5.3%	7.9%	28.1%	23.1%	28.4%	39.1%
	Most of these patients	5.6%	21.2%	26.7%	22.2%	21.9%	25.6%	20.9%	15.2%
	All of these patients	86.1%	66.7%	66.7%	68.3%	48.4%	51.3%	47.8%	37.0%
	Number of respondents	72	33	75	63	64	39	67	46
B9-1	Clinician (Physician/PA/NP) owner compensation (multiple responses possible)								
	Salary	55.0%	64.0%	32.0%	66.0%	22.0%	56.0%	25.0%	39.0%
	Productivity incentives, including profit sharing	45.0%	39.0%	40.0%	52.0%	9.0%	29.0%	34.0%	51.0%
	Quality incentives	21.0%	22.0%	21.0%	30.0%	11.0%	23.0%	10.0%	23.0%
	Other	10.0%	0.0%	4.0%	4.0%	2.0%	9.0%	9.0%	11.0%
	Not applicable	18.0%	20.0%	7.0%	7.0%	13.0%	8.0%	13.0%	11.0%
	Number of respondents	73	44	75	72	64	48	67	55
B9-2	Non-owner physician compensation (multiple responses possible)								
	Salary	67.0%	30.0%	36.0%	34.0%	72.0%	33.0%	79.0%	47.0%
	Productivity incentives, including profit sharing	58.0%	30.0%	48.0%	34.0%	63.0%	20.0%	48.0%	44.0%
	Quality incentives	40.0%	9.0%	43.0%	27.0%	25.0%	21.0%	40.0%	28.0%
	Other	11.0%	3.0%	8.0%	3.0%	6.0%	6.0%	7.0%	13.0%
	Not applicable	7.0%	8.0%	16.0%	13.0%	2.0%	9.0%	4.0%	16.0%
	Number of respondents	73	44	75	72	64	48	67	55
B9-3	Non-owner PA/NP compensation (multiple responses possible)								
	Salary	68.0%	34.0%	31.0%	33.0%	36.0%	27.0%	75.0%	60.0%
	Productivity incentives, including profit sharing	38.0%	17.0%	20.0%	10.0%	25.0%	19.0%	40.0%	31.0%
	Quality incentives	15.0%	7.0%	11.0%	8.0%	9.0%	12.0%	28.0%	26.0%
	Other	1.0%	3.0%	3.0%	1.0%	5.0%	3.0%	4.0%	2.0%
	Not applicable	10.0%	8.0%	8.0%	16.0%	5.0%	15.0%	3.0%	11.0%
	Number of respondents	73	44	75	72	64	48	67	55

2014 Question		New York		Ohio/Kentucky		Oklahoma		Oregon	
		CPC practices in 2014	Comparison practices in 2014	CPC practices in 2014	Comparison practices in 2014	CPC practices in 2014	Comparison Practices in 2014	CPC practices in 2014	Comparison practices in 2014
B10	Practice participation in other initiatives (by sponsoring organization)								
	CMS: The Physician Quality Reporting System	93.0%	65.0%	100.0%	89.0%	62.0%	59.0%	94.0%	89.0%
	CMS: Health Care Innovation Awards	5.0%	22.0%	16.0%	26.0%	2.0%	6.0%	4.0%	12.0%
	CMS: Other initiative	41.0%	35.0%	47.0%	23.0%	45.0%	19.0%	25.0%	16.0%
	Medicaid: Medicaid Health Home	6.0%	13.0%	6.0%	10.0%	29.0%	34.0%	56.0%	21.0%
	Medicaid: Other initiative	3.0%	13.0%	3.0%	9.0%	3.0%	14.0%	17.0%	18.0%
	Other Federally-sponsored initiative (Not CMS or Medicaid)	3.0%	6.0%	9.0%	5.0%	5.0%	0.0%	15.0%	0.0%
	State/community reporting program	18.0%	18.0%	69.0%	31.0%	7.0%	26.0%	52.0%	30.0%
	State/community health information exchange	43.0%	17.0%	76.0%	28.0%	54.0%	20.0%	31.0%	32.0%
	State/community: Other initiative	9.0%	4.0%	21.0%	14.0%	3.0%	7.0%	19.0%	6.0%
	Purchaser-sponsored program linking payment to performance or value	32.0%	28.0%	47.0%	32.0%	18.0%	16.0%	52.0%	28.0%
	A consortium or collaborative working on quality improvement	5.0%	12.0%	72.0%	36.0%	12.0%	14.0%	35.0%	25.0%
	Other initiative supported by a commercial health plan or medical society or organization	13.0%	11.0%	18.0%	24.0%	15.0%	7.0%	25.0%	13.0%
	Number of respondents	73	44	75	72	64	48	67	55
B11	Practice has recognition as a medical home from (multiple responses possible):								
	Any medical home recognition	66.0%	30.0%	91.0%	42.0%	25.0%	38.0%	100.0%	65.0%
	National Committee for Quality Assurance (NCQA-PCMH)	59.0%	27.0%	89.0%	31.0%	5.0%	0.0%	31.0%	22.0%
	- NCQA Level 1	10.0%	9.0%	1.0%	0.0%	0.0%	0.0%	0.0%	7.0%
	- NCQA Level 2	1.0%	0.0%	0.0%	1.0%	0.0%	0.0%	1.0%	2.0%
	- NCQA Level 3	48.0%	13.0%	87.0%	22.0%	5.0%	0.0%	18.0%	12.0%
	- NCQA Level Not Specified	0.0%	4.0%	1.0%	8.0%	0.0%	0.0%	12.0%	2.0%
	The Joint Commission	1.0%	11.0%	1.0%	8.0%	0.0%	10.0%	7.0%	9.0%
	Accreditation Association for Ambulatory Health Care	3.0%	0.0%	0.0%	5.0%	0.0%	3.0%	1.0%	0.0%
	Utilization Review Accreditation Commission	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	State-based recognition program	0.0%	0.0%	4.0%	2.0%	13.0%	15.0%	94.0%	37.0%
	Insurance plan-based recognition program	14.0%	3.0%	4.0%	9.0%	3.0%	6.0%	21.0%	5.0%
	Other	0.0%	0.0%	1.0%	2.0%	9.0%	9.0%	3.0%	6.0%
	Number of respondents	73	44	75	72	64	48	67	55

2014 Question		New York		Ohio/Kentucky		Oklahoma		Oregon	
		CPC practices in 2014	Comparison practices in 2014	CPC practices in 2014	Comparison practices in 2014	CPC practices in 2014	Comparison Practices in 2014	CPC practices in 2014	Comparison practices in 2014
Practice staff and roles									
B12-1	Number of full- and part-time physicians (primary care and specialty) at the practice site								
	0-1 Full-time or part-time	23.0%	23.0%	17.0%	21.0%	20.0%	42.0%	3.0%	11.0%
	2 Full-time or part-time	30.0%	20.0%	21.0%	25.0%	17.0%	17.0%	19.0%	12.0%
	3 Full-time or part-time	18.0%	14.0%	21.0%	8.0%	19.0%	6.0%	10.0%	14.0%
	4-6 Full-time or part-time	18.0%	25.0%	36.0%	31.0%	32.0%	23.0%	24.0%	29.0%
	7+ Full-time or part-time	11.0%	18.0%	4.0%	15.0%	12.0%	12.0%	43.0%	34.0%
	Number of respondents	73	44	75	72	64	48	67	55
B12-2	Number of full- and part-time care managers/care coordinators								
	0 Full-time or part-time	19.0%	75.0%	9.0%	81.0%	7.0%	88.0%	12.0%	61.0%
	1 Full-time or part-time	71.0%	11.0%	69.0%	17.0%	68.0%	12.0%	67.0%	25.0%
	2 Full-time or part-time	8.0%	11.0%	16.0%	2.0%	15.0%	0.0%	12.0%	8.0%
	3+ Full-time or part-time	1.0%	3.0%	5.0%	0.0%	10.0%	0.0%	9.0%	6.0%
	Number of respondents	73	44	75	72	64	48	67	55
B12-3	Practice site has full- or part-time:								
	Primary care physicians	100.0%	95.0%	100.0%	100.0%	98.0%	95.0%	100.0%	97.0%
	Specialty Physicians	8.0%	36.0%	7.0%	15.0%	20.0%	15.0%	24.0%	19.0%
	NP/PAs who bill under own NPI	51.0%	45.0%	33.0%	33.0%	53.0%	29.0%	58.0%	56.0%
	NP/PAs who do not bill under own NPI	18.0%	10.0%	7.0%	11.0%	14.0%	10.0%	16.0%	13.0%
	RNs	52.0%	55.0%	47.0%	36.0%	24.0%	18.0%	61.0%	64.0%
	LPN/LVNs	82.0%	75.0%	45.0%	48.0%	51.0%	66.0%	33.0%	43.0%
	MAs	68.0%	63.0%	97.0%	90.0%	97.0%	81.0%	100.0%	93.0%
	Receptionists	95.0%	89.0%	91.0%	91.0%	98.0%	97.0%	100.0%	100.0%
	Practice supervisors/managers	89.0%	82.0%	99.0%	89.0%	90.0%	90.0%	94.0%	91.0%
	Care managers/care coordinators	81.0%	23.0%	91.0%	23.0%	93.0%	21.0%	88.0%	44.0%
	Community services coordinators	3.0%	0.0%	4.0%	3.0%	10.0%	5.0%	4.0%	2.0%
	Health educators	11.0%	10.0%	12.0%	6.0%	14.0%	8.0%	6.0%	11.0%
	QI specialists	5.0%	3.0%	9.0%	3.0%	7.0%	5.0%	4.0%	10.0%
	Behavioral health/clinical psychologists/social workers	3.0%	6.0%	0.0%	6.0%	12.0%	5.0%	55.0%	26.0%
	Physical/respiratory therapists	0.0%	0.0%	4.0%	3.0%	7.0%	0.0%	3.0%	13.0%
	Lab/radiology technicians	5.0%	27.0%	23.0%	25.0%	36.0%	36.0%	48.0%	49.0%
	Dieticians/nutritionists	10.0%	3.0%	8.0%	1.0%	12.0%	2.0%	13.0%	20.0%
	Pharmacists/primary technicians	1.0%	3.0%	9.0%	8.0%	12.0%	2.0%	43.0%	23.0%
	HIT technologists/EHR specialists	8.0%	15.0%	4.0%	9.0%	15.0%	8.0%	27.0%	28.0%
	Accountants/financial managers	5.0%	14.0%	4.0%	11.0%	10.0%	12.0%	16.0%	25.0%
	Billing staff	48.0%	51.0%	24.0%	55.0%	25.0%	68.0%	66.0%	72.0%
	Other staff	15.0%	7.0%	17.0%	4.0%	20.0%	10.0%	40.0%	2.0%
	Number of respondents	73	44	75	72	64	48	67	55

2014 Question		New York		Ohio/Kentucky		Oklahoma		Oregon	
		CPC practices in 2014	Comparison practices in 2014	CPC practices in 2014	Comparison practices in 2014	CPC practices in 2014	Comparison Practices in 2014	CPC practices in 2014	Comparison practices in 2014
B13	How has this practice's staffing changed since the beginning of the CPC initiative/since October 2012?								
	Hired or contracted staff to fill new roles or functions	86.0%	34.0%	95.0%	37.0%	94.0%	26.0%	93.0%	48.0%
	Moved existing staff into new roles or functions	58.0%	36.0%	55.0%	52.0%	27.0%	25.0%	66.0%	62.0%
	Hired or contracted new staff to fill existing roles	18.0%	37.0%	25.0%	53.0%	25.0%	37.0%	46.0%	51.0%
	Moved clinicians from other practice sites to this practice site	4.0%	3.0%	3.0%	8.0%	8.0%	6.0%	9.0%	22.0%
	Moved non-clinician staff from other practice sites to this practice site	0.0%	9.0%	0.0%	7.0%	0.0%	0.0%	10.0%	15.0%
	Eliminated some existing staff and their roles or functions	1.0%	39.0%	0.0%	19.0%	5.0%	18.0%	7.0%	24.0%
	Other	11.0%	0.0%	1.0%	1.0%	5.0%	0.0%	3.0%	2.0%
	Did not make any changes to staffing	7.0%	25.0%	3.0%	15.0%	9.0%	38.0%	3.0%	10.0%
	Number of respondents	73	44	75	72	64	48	67	55
Use of health information technology									
B14	Does this practice site use an Electronic Health Record (EHR) system for managing patient care?								
	Yes	100.0%	95.2%	100.0%	100.0%	100.0%	88.9%	100.0%	98.1%
	No	0.0%	4.8%	0.0%	0.0%	0.0%	11.1%	0.0%	1.9%
	Number of respondents	73	42	75	70	64	45	67	52
Among practices that use an EHR:									
B15	Do clinicians at this practice site use the e-prescribing functionality of the EHR?								
	Yes	100.0%	100.0%	100.0%	100.0%	96.9%	96.8%	100.0%	100.0%
	No, the clinicians do not use the EHR's e-prescribing function	0.0%	0.0%	0.0%	0.0%	1.6%	3.2%	0.0%	0.0%
	Don't know	0.0%	0.0%	0.0%	0.0%	1.6%	0.0%	0.0%	0.0%
	Number of respondents	73	30	75	63	64	31	67	44
B16	Does this practice use data extracts or reports generated from your EHR to guide quality improvement (QI) efforts?								
	Yes	89.0%	70.0%	100.0%	88.7%	96.9%	71.0%	98.5%	90.9%
	No	6.9%	13.3%	0.0%	6.5%	1.6%	9.7%	1.5%	0.0%
	Don't know	4.1%	16.7%	0.0%	4.8%	1.6%	19.4%	0.0%	9.1%
	Number of respondents	73	30	75	62	64	31	67	44

2014 Question		New York		Ohio/Kentucky		Oklahoma		Oregon	
		CPC practices in 2014	Comparison practices in 2014	CPC practices in 2014	Comparison practices in 2014	CPC practices in 2014	Comparison Practices in 2014	CPC practices in 2014	Comparison practices in 2014
B16a	Type of staff responsible for extracting data or generating reports from EHR to guide quality improvement efforts (multiple responses possible)								
	Primary care physician (MD/DO)	15.0%	26.0%	40.0%	48.0%	18.0%	49.0%	27.0%	46.0%
	NP/PA	8.0%	4.0%	5.0%	16.0%	3.0%	12.0%	15.0%	15.0%
	RN, LPN, or LVN	18.0%	11.0%	28.0%	22.0%	23.0%	25.0%	30.0%	24.0%
	MA	6.0%	12.0%	31.0%	42.0%	8.0%	19.0%	39.0%	36.0%
	Practice supervisor or practice manager	31.0%	53.0%	63.0%	68.0%	60.0%	62.0%	65.0%	72.0%
	Care manager or care coordinator	23.0%	17.0%	51.0%	16.0%	87.0%	10.0%	74.0%	31.0%
	Medical records staff	8.0%	10.0%	9.0%	14.0%	3.0%	18.0%	8.0%	11.0%
	Data analyst	29.0%	4.0%	49.0%	9.0%	48.0%	4.0%	44.0%	30.0%
	QI specialist	15.0%	16.0%	37.0%	17.0%	15.0%	12.0%	27.0%	42.0%
	Health information technologist or EHR specialist	22.0%	4.0%	51.0%	24.0%	23.0%	6.0%	21.0%	27.0%
	Other	18.0%	25.0%	31.0%	10.0%	0.0%	0.0%	21.0%	10.0%
	Number of respondents	73	44	75	72	64	48	67	55
B17	Is this practice site part of a health care system or medical group?								
	Yes	82.2%	50.0%	87.8%	55.6%	84.4%	56.7%	77.6%	68.2%
	No	17.8%	50.0%	12.2%	44.4%	15.6%	43.3%	22.4%	31.8%
	Number of respondents	73	30	74	63	64	30	67	44
Among practice sites that use an EHR and are in a health care system or group:									
B17a-1	Patient clinical data shared between this practice site and local hospitals outside of your health care system								
	Read-only data	8.3%	6.7%	39.1%	32.4%	26.9%	41.2%	51.9%	50.0%
	Import or exchange data	16.7%	33.3%	56.3%	32.4%	44.2%	5.9%	28.9%	30.0%
	None	45.0%	40.0%	4.7%	26.5%	28.9%	47.1%	19.2%	16.7%
	Don't know	30.0%	20.0%	0.0%	8.8%	0.0%	5.9%	0.0%	3.3%
	Number of respondents	60	15	64	34	52	17	52	30
B17a-2	Patient clinical data shared between this practice site and other local medical care outside of your health care system								
	Read-only data	5.0%	13.3%	23.4%	20.0%	20.0%	35.3%	35.3%	50.0%
	Import or exchange data	16.7%	26.7%	43.8%	25.7%	44.0%	5.9%	31.4%	14.3%
	None	48.3%	46.7%	31.3%	42.9%	34.0%	52.9%	31.4%	28.6%
	Don't know	30.0%	13.3%	1.6%	11.4%	2.0%	5.9%	2.0%	7.1%
	Number of respondents	60	15	64	35	50	17	51	28

2014 Question		New York		Ohio/Kentucky		Oklahoma		Oregon	
		CPC practices in 2014	Comparison practices in 2014	CPC practices in 2014	Comparison practices in 2014	CPC practices in 2014	Comparison Practices in 2014	CPC practices in 2014	Comparison practices in 2014
B17a-3	Patient clinical data shared between this practice site and local diagnostic service facilities (lab or imaging) outside of your health care system								
	Read-only data	8.3%	20.0%	10.9%	14.3%	13.5%	29.4%	19.2%	26.7%
	Import or exchange data	21.7%	26.7%	81.3%	34.3%	55.8%	11.8%	55.8%	46.7%
	None	40.0%	33.3%	6.3%	40.0%	30.8%	52.9%	23.1%	20.0%
	Don't know	30.0%	20.0%	1.6%	11.4%	0.0%	5.9%	1.9%	6.7%
	Number of respondents	60	15	64	35	52	17	52	30
B17a-4	Patient clinical data shared between this practice site and local hospitals in your health care system								
	Read-only data	33.9%	33.3%	3.4%	25.7%	22.6%	41.2%	31.4%	29.6%
	Import or exchange data	18.6%	33.3%	89.8%	57.1%	73.6%	23.5%	41.2%	44.4%
	None	17.0%	26.7%	0.0%	14.3%	1.9%	23.5%	27.5%	18.5%
	Don't know	30.5%	6.7%	6.8%	2.9%	1.9%	11.8%	0.0%	7.4%
	Number of respondents	59	15	59	35	53	17	51	27
B17a-5	Patient clinical data shared between this practice site and local medical care practices in your health care system								
	Read-only data	20.0%	33.3%	4.7%	25.7%	20.8%	41.2%	23.1%	31.0%
	Import or exchange data	33.3%	40.0%	93.8%	54.3%	75.5%	23.5%	65.4%	44.8%
	None	16.7%	20.0%	1.6%	14.3%	3.8%	29.4%	11.5%	20.7%
	Don't know	30.0%	6.7%	0.0%	5.7%	0.0%	5.9%	0.0%	3.5%
	Number of respondents	60	15	64	35	53	17	52	29
B17a-6	Patient clinical data shared between this practice site and local diagnostic service facilities (lab or imaging) in your health care system								
	Read-only data	20.0%	33.3%	3.1%	22.9%	26.4%	29.4%	25.0%	3.5%
	Import or exchange data	31.7%	46.7%	96.9%	57.1%	71.7%	29.4%	65.4%	79.3%
	None	18.3%	13.3%	0.0%	14.3%	1.9%	29.4%	9.6%	13.8%
	Don't know	30.0%	6.7%	0.0%	5.7%	0.0%	11.8%	0.0%	3.5%
	Number of respondents	60	15	65	35	53	17	52	29

2014 Question		New York		Ohio/Kentucky		Oklahoma		Oregon	
		CPC practices in 2014	Comparison practices in 2014	CPC practices in 2014	Comparison practices in 2014	CPC practices in 2014	Comparison Practices in 2014	CPC practices in 2014	Comparison practices in 2014
Among practice sites that use an EHR and are not in a health care system or group:									
B17b-1	Patient clinical data shared between this practice and local hospitals								
	Read-only data	46.2%	6.7%	22.2%	7.1%	50.0%	38.5%	53.3%	30.8%
	Import or exchange data	7.7%	60.0%	77.8%	50.0%	50.0%	15.4%	40.0%	23.1%
	None	46.2%	33.3%	0.0%	42.9%	0.0%	38.5%	6.7%	46.2%
	Don't know	0.0%	0.0%	0.0%	0.0%	0.0%	7.7%	0.0%	0.0%
	Number of respondents	13	15	9	28	10	13	15	13
B17b-2	Patient clinical data shared between this practice and other local medical care practices								
	Read-only data	23.1%	6.7%	44.4%	7.7%	10.0%	16.7%	7.1%	9.1%
	Import or exchange data	15.4%	60.0%	33.3%	30.8%	60.0%	25.0%	35.7%	36.4%
	None	61.5%	33.3%	22.2%	61.5%	20.0%	50.0%	50.0%	54.6%
	Don't know	0.0%	0.0%	0.0%	0.0%	10.0%	8.3%	7.1%	0.0%
	Number of respondents	13	15	9	26	10	12	14	11
B17b-3	Patient clinical data shared between this practice and local diagnostic service facilities (e.g., lab or imaging)								
	Read-only data	15.4%	6.7%	11.1%	3.9%	30.0%	16.7%	0.0%	8.3%
	Import or exchange data	53.9%	73.3%	88.9%	69.2%	70.0%	50.0%	86.7%	58.3%
	None	23.1%	20.0%	0.0%	26.9%	0.0%	25.0%	13.3%	33.3%
	Don't know	7.7%	0.0%	0.0%	0.0%	0.0%	8.3%	0.0%	0.0%
	Number of respondents	13	15	9	26	10	12	15	12

Source: Mathematica analysis of the 2014 CPC practice survey administered from April through July 2014, fielded by Mathematica.

HMO = health maintenance organization; NP = nurse practitioner; PA = physician assistant; CMS = Center for Medicare & Medicaid Services; PCMH = patient-centered medical home; NPI = national provider identifier; RN = registered nurse; LPN = licensed practical nurse; LVN = licensed vocational nurse; MA = Medical assistant; QI = quality improvement; HIT = health information technology; EHR = electronic health record.

Table D.10. 2014 CPC practice assessment of learning activities and assistance provided by regional learning faculty, non-regression adjusted distributions

2014 Question		CPC-wide	AR	CO	NJ	NY	OH/KY	OK	OR
Sample size		483	63	73	68	73	75	64	67
Experience with technical assistance from regional learning faculty (RLF)									
C1	The regional learning faculty directly communicates with								
	Staff in this practice	41.6%	77.8%	54.8%	79.1%	20.8%	12.0%	28.1%	23.9%
	Staff in the larger health care system or medical group	11.6%	4.8%	1.4%	7.5%	43.1%	9.3%	4.7%	9.0%
	A combination of practice site staff and group-level staff	46.6%	17.5%	43.8%	13.4%	34.7%	78.7%	67.2%	67.2%
	None of the staff in this practice site or in the larger health care system or medical group	0.2%	0.0%	0.0%	0.0%	1.4%	0.0%	0.0%	0.0%
	Number of respondents	481	63	73	67	72	75	64	67
C2	Frequency of communication between this practice and the regional learning faculty								
	Daily	2.1%	1.6%	4.1%	3.0%	0.0%	2.7%	1.6%	1.5%
	Weekly	37.4%	22.2%	50.7%	26.9%	31.9%	56.0%	48.4%	22.4%
	Monthly	45.1%	69.8%	42.5%	55.2%	52.8%	30.7%	28.1%	38.8%
	Less than monthly	13.9%	6.4%	1.4%	14.9%	12.5%	9.3%	20.3%	34.3%
	Never	1.5%	0.0%	1.4%	0.0%	2.8%	1.3%	1.6%	3.0%
	Number of respondents	481	63	73	67	72	75	64	67
C3	If the practice and the regional learning faculty communicate, the number of times the RLF has provided direct support through meetings at the practice site, coaching, or other direct assistance in the past 6 months								
	Average	10.3	9.4	21.4	10.1	9.6	4.5	11.1	5.7
	Median	6	7	15	6	3.5	2	6	3
	Minimum	0	0	6	0	0	0	0	0
	Maximum	100	40	100	60	50	30	75	50
	Number of respondents	467	62	72	67	70	71	60	65
C4	Practice rating of RLF in 6 regions/NJ AFP in meeting practice's CPC-related needs								
	Excellent	37.1%	41.3%	63.0%	61.2%	20.8%	32.0%	15.9%	23.9%
	Very good	33.3%	27.0%	27.4%	19.4%	34.7%	45.3%	41.3%	37.3%
	Good	21.7%	30.2%	6.9%	17.9%	30.6%	17.3%	28.6%	22.4%
	Fair	6.0%	1.6%	1.4%	1.5%	12.5%	4.0%	7.9%	13.4%
	Poor	1.9%	0.0%	1.4%	0.0%	1.4%	1.3%	6.4%	3.0%
	Number of respondents	467	62	72	67	70	71	60	65
C4a	(For NJ only) Practice rating of TransforMED in meeting practice's CPC-related needs								
	Excellent				40.3%				
	Very good				26.9%				
	Good				14.9%				
	Fair				16.4%				
	Poor				1.5%				
	Number of respondents				67				

2014 Question		CPC-wide	AR	CO	NJ	NY	OH/KY	OK	OR
C5	Would like to receive additional assistance from RLF								
	No	89.5%	90.3%	89.0%	86.2%	85.9%	93.2%	95.2%	86.6%
	Yes	10.5%	9.7%	11.0%	13.9%	14.1%	6.8%	4.8%	13.4%
	Number of respondents	475	62	73	65	71	74	63	67
Experience with technical assistance from CPC payers and others									
C6	The practice site received in-person or phone-based assistance on feedback reports or other quality improvement activities from other payers participating in CPC								
	At least 1 Payer	73.4%	46.0%	74.0%	80.6%	61.6%	93.2%	87.3%	69.7%
	Percentage of payers from which practice received assistance	26.6%	54.0%	26.0%	19.4%	38.4%	6.9%	12.7%	30.3%
	Number of respondents	478	63	73	67	73	73	63	66
C7	Number of times in past 6 months the practice received direct support from other payers participating in CPC (in person, over the phone, or via email)								
	Average	5.2	4.1	5.6	5.9	8.3	2.2	7.6	3.3
	Median	3	3	6	5	3.5	2	6	2
	Minimum	1	1	1	1	1	1	1	1
	Maximum	100	15	20	25	24	16	100	25
	Number receiving direct support	307	28	50	47	32	62	49	39
C7a	If the practice received help from other payers participating in CPC in the past 6 months, rating of helpfulness in improving primary care at the practice								
	Very helpful	22.8%	25.0%	10.0%	40.4%	25.0%	8.1%	40.8%	15.4%
	Somewhat helpful	66.8%	60.7%	76.0%	51.1%	71.9%	80.7%	57.1%	64.1%
	Not very helpful	8.5%	10.7%	12.0%	6.4%	3.1%	8.1%	2.0%	18.0%
	Not at all helpful	2.0%	3.6%	2.0%	2.1%	0.0%	3.2%	0.0%	2.6%
	Number of respondents	307	28	50	47	32	62	49	39
C8a	Number of times in past 6 months the practice received coaching or assistance from payers or health plans not participating in CPC								
	Average	1.0	0.1	0.6	0.6	1.9	0.9	2.4	0.7
	Median	0	0	0	0	0	0	0	0
	Minimum	0	0	0	0	0	0	0	0
	Maximum	75	2	6	20	10	8	75	6
	Number receiving coaching or assistance	81	2	13	7	13	23	6	17
C8a	If received coaching/assistance from payers or health plans not participating in CPC in the past 6 months, rating of helpfulness in improving primary care at the practice								
	Very helpful	12.4%	0.0%	15.4%	14.3%	15.4%	17.4%	16.7%	0.0%
	Somewhat helpful	79.0%	100.0%	84.6%	42.9%	76.9%	78.3%	83.3%	88.2%
	Not very helpful	6.2%	0.0%	0.0%	28.6%	7.7%	4.4%	0.0%	5.9%
	Not at all helpful	2.5%	0.0%	0.0%	14.3%	0.0%	0.0%	0.0%	5.9%
	Not applicable	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Number of respondents	81	2	13	7	13	23	6	17
C8b	Number of times in past 6 months the practice received coaching or assistance from practice's health care system or medical group								
	Average	13.1	10.8	10.0	11.0	14.7	18.7	15.5	8.9
	Median	6	6	6	0	5.5	4	12	5
	Minimum	0	0	0	0	0	0	0	0
	Maximum	100	100	100	100	100	100	100	50
	Number receiving coaching or assistance	235	31	34	23	26	45	44	32

2014 Question		CPC-wide	AR	CO	NJ	NY	OH/KY	OK	OR
C8b	If received coaching/assistance from practice's health care system or medical group in the past 6 months, rating of helpfulness in improving primary care at the practice								
	Very helpful	66.7%	69.0%	54.6%	73.9%	88.0%	44.4%	73.2%	78.1%
	Somewhat helpful	31.1%	27.6%	45.5%	13.0%	12.0%	53.3%	26.8%	21.9%
	Not very helpful	1.8%	3.5%	0.0%	8.7%	0.0%	2.2%	0.0%	0.0%
	Not at all helpful	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Not applicable	0.4%	0.0%	0.0%	4.4%	0.0%	0.0%	0.0%	0.0%
	Number of respondents	228	29	33	23	25	45	41	32
C8c	Number of times in past 6 months the practice received coaching or assistance from other local organizations (e.g., QIOs, medical society)								
	Average	1.3	1.4	3.1	0.9	0.1	1.4	1.1	1.4
	Median	0	0	0	0	0	0	0	0
	Minimum	0	0	0	0	0	0	0	0
	Maximum	40	10	40	18	4	6	10	12
	Number receiving coaching or assistance	115	21	18	10	3	27	17	19
C8c	If received coaching/assistance from other local organizations in the past 6 months, rating of helpfulness in improving primary care at the practice								
	Very helpful	44.1%	55.6%	52.9%	50.0%	33.3%	33.3%	52.9%	31.6%
	Somewhat helpful	40.5%	44.4%	47.1%	40.0%	66.7%	14.8%	47.1%	57.9%
	Not very helpful	1.8%	0.0%	0.0%	10.0%	0.0%	0.0%	0.0%	5.3%
	Not at all helpful	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.3%
	Not applicable	12.6%	0.0%	0.0%	0.0%	0.0%	51.9%	0.0%	0.0%
	Number of respondents	111	18	17	10	3	27	17	19
C8d	Number of times in past 6 months the practice received coaching or assistance from regional extension center								
	Average	2.1	1.3	2.4	0.6	2.1	5.4	0.6	1.4
	Median	0	0	0	0	0	2	0	0
	Minimum	0	0	0	0	0	0	0	0
	Maximum	50	15	30	10	12	50	6	15
	Number receiving coaching or assistance	102	15	10	8	18	31	7	13
C8d	If received coaching/assistance from regional extension center in the past 6 months, rating of helpfulness in improving primary care at the practice								
	Very helpful	41.4%	71.4%	20.0%	42.9%	72.2%	9.7%	57.1%	50.0%
	Somewhat helpful	41.4%	21.4%	70.0%	42.9%	27.8%	48.4%	28.6%	50.0%
	Not very helpful	4.0%	7.1%	10.0%	14.3%	0.0%	0.0%	14.3%	0.0%
	Not at all helpful	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Not applicable	13.1%	0.0%	0.0%	0.0%	0.0%	41.9%	0.0%	0.0%
	Number of respondents	99	14	10	7	18	31	7	12
C8e	Number of times in past 6 months the practice received coaching or assistance from other practices outside of practice's health care system or medical group								
	Average	1.4	1.4	2.1	2.0	1.2	1.1	0.8	1.4
	Median	0	0	0	0	0	0	1	0
	Minimum	0	0	0	0	0	0	0	0
	Maximum	25	10	10	20	10	6	10	25
	Number receiving coaching or assistance	120	20	16	15	13	18	24	14
C8e	If received coaching/assistance from other practices outside of practice's health care system or medical group in the past 6 months, rating of helpfulness in improving primary care at the practice								
	Very helpful	48.7%	55.6%	46.7%	53.3%	15.4%	66.7%	54.6%	35.7%
	Somewhat helpful	49.6%	44.4%	46.7%	46.7%	84.6%	27.8%	45.5%	64.3%
	Not very helpful	1.7%	0.0%	6.7%	0.0%	0.0%	5.6%	0.0%	0.0%
	Not at all helpful	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Not applicable	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

2014 Question		CPC-wide	AR	CO	NJ	NY	OH/KY	OK	OR
	Number of respondents	115	18	15	15	13	18	22	14
C8f	Number of times in past 6 months the practice received coaching or assistance from another source								
	Average	2.7	1.3	2.5	1.2	1.0	4.5	1.1	5.1
	Median	0	0	1	0	0	0	0	0
	Minimum	0	0	0	0	0	0	0	0
	Maximum	75	6	12	12	20	25	4	75
	Number receiving coaching or assistance	36	6	5	2	2	11	3	7
C8f	If received coaching/assistance from another source in the past 6 months, rating of helpfulness in improving primary care at the practice								
	Very helpful	61.8%	80.0%	75.0%	100.0%	100.0%	18.2%	100.0%	71.4%
	Somewhat helpful	35.3%	20.0%	0.0%	0.0%	0.0%	81.8%	0.0%	28.6%
	Not very helpful	2.9%	0.0%	25.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Not at all helpful	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Not applicable	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Number of respondents	34	5	4	2	2	11	3	7

Source: Mathematica analysis of the 2014 CPC practice survey administered from April through July 2014, fielded by Mathematica.

Table D.11. Clinician and staff survey results: Overall results comparing CPC practices and comparison practices (primary care physicians only)

PART A: MILESTONE SPECIFIC RESULTS

Milestone 2		Care Management for High-Risk Patients							
Question	Please state how much you agree or disagree with following statements.	Group	Observations	Strongly Disagree	Disagree	Neither Disagree nor Agree	Agree	Strongly Agree	*p*-value
A1_A	This practice can easily identify patients with a particular disease	CPC Practices	627	1%	2%	2%	34%	60%	0.01[a]
		Comparison Practices	441	1%	6%	5%	32%	55%	
A1_B	This practice has good systems in place to track test results and follow-up with patients about the results	CPC Practices	629	1%	3%	6%	40%	50%	0.35
		Comparison Practices	443	1%	6%	5%	35%	53%	
A1_C	This practice has a good system for identifying patients at high risk for poor outcomes	CPC Practices	624	1%	5%	15%	47%	31%	<0.01[a]
		Comparison Practices	440	1%	19%	17%	43%	20%	
A1_D	This practice intensifies services for patients at high risk for poor outcomes	CPC Practices	625	1%	4%	13%	48%	33%	<0.01[a]
		Comparison Practices	443	1%	15%	19%	43%	23%	
A1_E	This practice individualizes services to different people with different needs	CPC Practices	624	1%	3%	11%	51%	34%	0.43
		Comparison Practices	440	1%	5%	12%	44%	38%	
A1_F	This practice is effective in helping patients self-manage their chronic illness	CPC Practices	627	1%	4%	15%	59%	22%	0.69
		Comparison Practices	442	0%	4%	15%	55%	26%	
A1_G	Patient care is coordinated well among physicians, nurses, and practice staff within this practice	CPC Practices	625	1%	3%	9%	49%	37%	0.24
		Comparison Practices	443	0%	5%	9%	42%	43%	
A1_H	This practice effectively utilizes community resources to help meet the health care needs of patients	CPC Practices	627	1%	8%	24%	49%	18%	0.07[d]
		Comparison Practices	443	0%	9%	17%	50%	23%	

Milestone 2			Care Management for High-Risk Patients					
Question	In a typical week at your practice, how often do you do the following activities?	Group	Observations	Never	Rarely	Sometimes	Always	*p*-value
D2_B	Counsel patients on how they can care for their health or health conditions at home (e.g., diet, exercise, medication, smoking cessation, etc.)	CPC Practices	632	0%	1%	8%	91%	0.60
		Comparison Practices	444	0%	2%	10%	88%	
D2_C	Connect patients with community resources to help manage their health conditions (e.g., self-help programs, Meals on Wheels, etc.)	CPC Practices	632	2%	23%	56%	20%	0.19
		Comparison Practices	445	4%	26%	50%	19%	
D2_E	Initiate contact with patients to discuss test results	CPC Practices	631	0%	5%	19%	76%	0.32
		Comparison Practices	445	1%	9%	20%	71%	
D2_J	Reconcile patient medications before or after visits	CPC Practices	630	1%	4%	12%	83%	0.95
		Comparison Practices	444	1%	3%	11%	85%	
D2_M	Meet with care coordinators/ care managers at this practice to discuss care of high-risk patients	CPC Practices	628	9%	20%	40%	31%	<0.01[a]
		Comparison Practices	440	36%	29%	25%	11%	

Milestone 2			Care Management for High-Risk Patients						
Question	The following is a list of functions that may be available on your EHR system. Please indicate how often you have used each function in the past 12 months.	Group	Observations	Not implemented or no EHR	Never used; not in tasks	Never used but in tasks	Occasionally used function	Routinely used function	*p*-value
E2_A	Flag or transfer patient data to other providers within your practice organization	CPC Practices	618	3%	8%	3%	21%	65%	0.12
		Comparison Practices	445	6%	9%	2%	25%	58%	
E2_E	Help reconcile patient medications	CPC Practices	622	0%	2%	1%	6%	91%	0.28
		Comparison Practices	448	2%	2%	1%	5%	90%	
E2_I	Review multiple test results for a patient and graph changes over time	CPC Practices	620	10%	3%	5%	23%	59%	0.31
		Comparison Practices	448	11%	5%	5%	19%	59%	

Milestone 2			Care Management for High-Risk Patients						
Question	The following is a list of alerts or reminders that may be available in your EHR system. Please indicate how often you have responded to each alert or reminder in the past 12 months.	Group	Observations	Not implemented or no EHR	Never used; not in tasks	Never used but available	Responded occasionally	Responded routinely	*p*-value
E3_A	EHR alerts for possible drug interactions	CPC Practices	623	1%	0%	4%	27%	68%	0.03[e]
		Comparison Practices	446	4%	1%	5%	19%	72%	

Milestone 3			24/7 Access by Patients and Enhanced Access					
Question	**In a typical week at your practice, how often do you do the following activities?**	**Group**	**Observations**	**Never**	**Rarely**	**Sometimes**	**Always**	***p*-value**
D2_F	Respond to patient phone calls to discuss their health issues	CPC Practices	632	0%	7%	18%	75%	0.13
		Comparison Practices	445	2%	9%	20%	70%	
D2_H	Read electronic communications (e.g., secure email) from patients	CPC Practices	625	24%	17%	21%	37%	0.29
		Comparison Practices	445	29%	20%	17%	34%	
D2_I	Respond to electronic communications from patients to discuss their health issues	CPC Practices	626	23%	18%	23%	36%	0.43
		Comparison Practices	445	29%	18%	22%	31%	

Milestone 5			Quality Improvement						
Question	**This question is about the relationships you have with staff in your practice. Please indicate how much you agree or disagree with the following statements.**	**Group**	**Observations**	**Strongly Disagree**	**Disagree**	**Neither Disagree nor Agree**	**Agree**	**Strongly Agree**	***p*-value**
C1_I	Staff and clinicians are involved in developing plans for improving quality	CPC Practices	627	0%	3%	8%	51%	38%	0.13
		Comparison Practices	445	2%	6%	8%	50%	34%	
C1_O	During the past 12 months, this practice has changed how it takes initiative to improve patient care	CPC Practices	629	1%	5%	7%	52%	36%	<0.01[a]
		Comparison Practices	446	2%	20%	16%	48%	14%	
C1_P	During the past 12 months, this practice has changed how it does business	CPC Practices	614	2%	16%	20%	43%	20%	<0.01[a]
		Comparison Practices	442	4%	26%	19%	37%	13%	

Milestone 5			Quality Improvement						
Question	Please indicate how much you agree or disagree with the following statements about your practice.	Group	Observations	Strongly Disagree	Disagree	Neither Disagree nor Agree	Agree	Strongly Agree	*p*-value
C2_E	This practice has clearly articulated goals	CPC Practices	630	0%	6%	17%	53%	24%	0.80
		Comparison Practices	437	0%	6%	19%	53%	23%	
C2_F	This practice operates at a high level of efficiency	CPC Practices	629	1%	13%	22%	40%	24%	0.82
		Comparison Practices	439	1%	10%	22%	44%	24%	
C2_H	Staff monitor each other's performance	CPC Practices	624	1%	14%	36%	40%	10%	0.97
		Comparison Practices	430	1%	12%	35%	41%	11%	
C2_I	Staff exchange relevant information as it becomes available	CPC Practices	628	0%	4%	14%	59%	22%	0.44
		Comparison Practices	438	0%	4%	10%	63%	23%	
C2_K	Staff correct each other's mistakes	CPC Practices	620	1%	6%	26%	59%	8%	0.09[e]
		Comparison Practices	432	1%	11%	27%	51%	11%	

Milestone 5			Quality Improvement						
Question	Please indicate how much you agree or disagree with the following statements about your practice.	Group	Observations	Strongly Disagree	Disagree	Neither Disagree nor Agree	Agree	Strongly Agree	*p*-value
C3_A	People in this practice actively seek new ways to improve how we do things	CPC Practices	630	1%	4%	13%	59%	24%	0.41
		Comparison Practices	436	1%	7%	15%	58%	20%	
C3_B	People at all levels of this practice openly talk about what is and isn't working	CPC Practices	629	1%	11%	11%	55%	23%	0.76
		Comparison Practices	438	1%	9%	11%	58%	21%	
C3_C	After trying something new, we take time to think about how it worked	CPC Practices	626	2%	9%	21%	54%	13%	0.71
		Comparison Practices	437	1%	11%	20%	56%	12%	
C3_G	When we experience a problem in this practice, we make a serious effort to figure out what's really going on	CPC Practices	628	1%	4%	9%	54%	32%	0.35
		Comparison Practices	438	1%	5%	7%	61%	27%	

Milestone 5			Quality Improvement						
Question	Please indicate how much you agree or disagree with the following statements about learning within your practice.	Group	Observations	Strongly Disagree	Disagree	Neither Disagree nor Agree	Agree	Strongly Agree	*p*-value
C4_A	I am frequently taught new things by other people in this practice	CPC Practices	613	1%	10%	23%	49%	16%	0.04[a]
		Comparison Practices	430	3%	12%	29%	47%	9%	
C4_B	I learn a lot about how to do my job by talking with people in this practice	CPC Practices	609	2%	11%	24%	47%	16%	0.02[a]
		Comparison Practices	431	2%	13%	31%	45%	8%	
C4_C	When we have a problem in this practice, we tend to examine it carefully so that we can come to an understanding of the problem and why it occurred	CPC Practices	619	0%	8%	18%	57%	17%	0.85
		Comparison Practices	434	1%	8%	18%	56%	16%	
C4_D	In this practice, we frequently learn about new things together as a group	CPC Practices	619	1%	10%	17%	57%	16%	0.04[a]
		Comparison Practices	433	2%	15%	23%	49%	11%	
C4_E	I learn how to do things in this practice by sharing knowledge with team members	CPC Practices	614	1%	3%	14%	64%	17%	0.04[a]
		Comparison Practices	436	7%	18%	60%	15%	0%	

Milestone 5			Quality Improvement						
Question	The following is a list of functions that may be available on your EHR system. Please indicate how often you have used each function in the past 12 months.	Group	Observations	Not implemented or no EHR	Never used; not in tasks	Never used but in tasks	Occasionally used function	Routinely used function	*p*-value
E2_J	Generate reports on specific quality measures (e.g., the percentage of patients that have received recommended colon cancer screening)	CPC Practices	620	8%	27%	14%	27%	25%	0.08[e]
		Comparison Practices	446	14%	23%	14%	22%	27%	

Milestone 5				Quality Improvement				
Question	**In the past 12 months, which types of feedback reports on performance of your practice or clinicians have you seen?**	**Group**	**Observations**	**Patient experience**	**Quality**	**Cost**	**Utilization**	**No feedback**
F2_A	Reports from a private health insurance plan	CPC Practices	619	23%	51%	52%	59%	25%
		Comparison Practices	441	17%	44%	42%	50%	30%
		CPC vs Comparison *p*-value		0.09[b]	0.09[b]	0.02[a]	0.02[a]	0.16
F2_B	Reports from a state health agency	CPC Practices	598	3%	12%	8%	13%	81%
		Comparison Practices	428	2%	8%	7%	8%	87%
		CPC vs Comparison *p*-value		0.38	0.11	0.59	0.04[a]	0.03[a]
F2_C	Reports from Medicaid	CPC Practices	601	3%	14%	14%	20%	72%
		Comparison Practices	430	2%	10%	10%	15%	80%
		CPC vs Comparison *p*-value		0.65	0.11	0.10[b]	0.07[b]	0.02[a]
F2_D	Reports from Medicare	CPC Practices	603	6%	18%	19%	27%	64%
		Comparison Practices	431	4%	15%	11%	19%	71%
		CPC vs Comparison *p*-value		0.27	0.31	<0.01[a]	0.02[a]	0.08[b]
F2_E	Reports from other organization(s)	CPC Practices	469	20%	16%	8%	11%	73%
		Comparison Practices	352	22%	21%	11%	11%	67%
		CPC vs Comparison *p*-value		0.48	0.19	0.33	0.83	0.18

Milestone 5			Quality Improvement				
Question	In response to the feedback reports on the performance of your practice or clinicians in the practice that you have seen over past 12 months, have there been any changes to ...	Group	Observations	No Changes or No Feedback	Yes (minor)	Yes (major)	*p*-value
F3_A	The work you perform?	CPC Practices	603	46%	45%	9%	0.01[a]
		Comparison Practices	430	54%	42%	4%	
F3_B	The work performed by others in the practice?	CPC Practices	516	47%	40%	13%	<0.01[a]
		Comparison Practices	354	60%	34%	6%	

Milestone 6			Care Coordination Across the Medical Neighborhood				
Question	How much, if at all, does each of the following factors limit your ability to provide optimal patient-centered care for your patients?	Group	Observations	Limits a great deal	Limits somewhat	Does not limit	*p*-value
C5_A	Lack of available specialists for patient referrals	CPC Practices	601	8%	45%	48%	0.40
		Comparison Practices	431	11%	43%	46%	
C5_C	Challenges in communicating with specialists in or outside the practice	CPC Practices	609	9%	39%	51%	0.97
		Comparison Practices	431	10%	39%	51%	

Milestone 6			Care Coordination Across the Medical Neighborhood					
Question	In a typical week at your practice, how often do you do the following activities?	Group	Observations	Never	Rarely	Sometimes	Always	*p*-value
D2_D	Assist patients in accessing health care services from other providers (e.g., providing referrals, obtaining prior authorizations form insurance providers, etc.)	CPC Practices	631	2%	7%	17%	73%	0.66
		Comparison Practices	445	2%	6%	21%	70%	
D2_L	Communicate with other health care providers outside this practice to obtain their professional opinion about your patients' health issues	CPC Practices	630	1%	16%	57%	26%	0.18
		Comparison Practices	445	1%	22%	49%	28%	

Milestone 6			Care Coordination Across the Medical Neighborhood						
Question	The following is a list of functions that may be available on your EHR system. Please indicate how often you have used each function in the past 12 months.	Group	Observations	Not implemented or no EHR	Never used; not in tasks	Never used but in tasks	Occasionally used function	Routinely used function	*p*-value
E2_B	Flag or transfer patient data to other providers outside of your practice organization	CPC Practices	620	27%	19%	4%	26%	24%	0.87
		Comparison Practices	444	28%	20%	6%	24%	23%	
E2_H	Review images of test results electronically (e.g., using a picture archiving and communication system or PACS)	CPC Practices	619	17%	5%	2%	12%	65%	0.11
		Comparison Practices	444	20%	5%	2%	16%	56%	

PART B: TEAM COMPOSITION AND COLLABORATION

	Team Composition						
Question	**In a typical week at your practice, how often do the following types of clinicians and staff act as members of your team?**	**Group**	**Observations**	**Never members of your team**	**Sometimes members of your team**	**Always members of your team**	***p*-value**
B1_A	Primary Care Physician (MD or DO)	CPC Practices	628	0%	4%	95%	0.18
		Comparison Practices	446	2%	5%	93%	
B1_B	Nurse Practitioner (NP)	CPC Practices	603	46%	20%	34%	0.51
		Comparison Practices	440	41%	21%	37%	
B1_C	Physician Assistant (PA)	CPC Practices	600	58%	15%	28%	0.47
		Comparison Practices	437	62%	15%	23%	
B1_D	Registered Nurse (RN)	CPC Practices	612	25%	33%	42%	<0.01[a]
		Comparison Practices	438	41%	28%	31%	
B1_E	Licensed Practical Nurses (LPN) or Vocational Nurse (LVN)	CPC Practices	611	38%	23%	40%	0.39
		Comparison Practices	437	37%	18%	45%	
B1_F	Medical Assistant	CPC Practices	624	8%	8%	84%	0.46
		Comparison Practices	442	9%	11%	80%	
B1_G	Practice Supervisor or Practice Manager	CPC Practices	614	8%	35%	57%	<0.01[a]
		Comparison Practices	439	17%	29%	54%	
B1_H	Laboratory or Radiology Technician	CPC Practices	610	38%	23%	39%	0.10[d]
		Comparison Practices	440	33%	19%	48%	
B1_I	Dietitian or Nutritionist	CPC Practices	609	48%	44%	8%	0.72
		Comparison Practices	439	49%	41%	10%	
B1_J	Pharmacist or Pharmacy Technician	CPC Practices	605	56%	28%	15%	0.13
		Comparison Practices	439	66%	22%	11%	
B1_K	Behavioral Health, Clinical Psychologist, or Social Worker	CPC Practices	606	52%	35%	13%	0.62
		Comparison Practices	439	55%	35%	10%	
B1_L	Physical or Respiratory Therapist	CPC Practices	603	66%	29%	5%	0.37
		Comparison Practices	437	61%	33%	6%	

	Team Composition						
Question	In a typical week at your practice, how often do the following types of clinicians and staff act as members of your team?	Group	Observations	Never members of your team	Sometimes members of your team	Always members of your team	*p*-value
B1_M	Health Educator	CPC Practices	604	50%	40%	10%	0.52
		Comparison Practices	438	54%	38%	7%	
B1_N	Care Manager or Care Coordinator	CPC Practices	613	15%	38%	47%	<0.01[a]
		Comparison Practices	437	49%	34%	17%	
B1_O	Quality Improvement (QI) Specialist	CPC Practices	601	56%	33%	11%	0.40
		Comparison Practices	439	62%	30%	9%	
B1_P	Community Services Coordinator	CPC Practices	598	64%	29%	6%	0.01[a]
		Comparison Practices	440	76%	21%	3%	
B1_Q	Receptionist	CPC Practices	627	3%	13%	84%	0.03[e]
		Comparison Practices	442	1%	12%	87%	
B1_R	Other	CPC Practices	138	72%	14%	14%	0.83
		Comparison Practices	81	71%	11%	18%	

	Team Functioning SOAPC Questionnaire								
Question	This question is about the relationships you have with staff in your practice. Please indicate how much you agree or disagree with following statements.	Group	Observations	Strongly Disagree	Disagree	Neither Disagree nor Agree	Agree	Strongly Agree	*p*-value
C1_A	When there is a conflict the people involved usually talk it out and resolve the problem successfully	CPC Practices	629	1%	5%	10%	51%	33%	0.87
		Comparison Practices	446	0%	6%	10%	52%	33%	
C1_B	Our staff has constructive work relationships	CPC Practices	631	1%	3%	6%	51%	39%	0.46
		Comparison Practices	446	0%	2%	6%	47%	45%	
C1_C	There is often tension among the people I work with	CPC Practices	631	15%	54%	13%	15%	3%	0.78
		Comparison Practices	445	18%	51%	14%	13%	3%	
C1_D	Staff members and clinicians I work with operate as a real team	CPC Practices	628	1%	3%	8%	56%	32%	0.78
		Comparison Practices	446	0%	2%	8%	49%	40%	
C1_E	This practice encourages staff and clinicians to give input for making changes and improvements	CPC Practices	629	1%	4%	10%	44%	41%	0.59
		Comparison Practices	447	1%	3%	9%	50%	36%	
C1_F	All of the staff and clinicians participate in important decisions about clinical operations (e.g., workflow)	CPC Practices	629	2%	13%	14%	45%	26%	0.84
		Comparison Practices	446	3%	13%	13%	44%	27%	
C1_G	Practice leadership discourages nursing staff from taking initiative in direct patient care	CPC Practices	605	23%	56%	16%	4%	1%	0.35
		Comparison Practices	431	21%	60%	11%	5%	2%	
C1_H	This practice defines success as teamwork and concern for people	CPC Practices	624	0%	4%	16%	41%	39%	0.92
		Comparison Practices	446	0%	4%	15%	39%	42%	
C1_I	Staff and clinicians are involved in developing plans for improving quality	CPC Practices	627	0%	3%	8%	51%	38%	0.13
		Comparison Practices	445	2%	6%	8%	50%	34%	
C1_J	It's NOT hard to make changes because we are NOT too busy seeing patients. (Wording reversed)	CPC Practices	628	10%	32%	20%	29%	9%	0.81
		Comparison Practices	443	9%	30%	24%	30%	7%	

	Team Functioning SOAPC Questionnaire								
Question	**This question is about the relationships you have with staff in your practice. Please indicate how much you agree or disagree with following statements.**	**Group**	**Observations**	**Strongly Disagree**	**Disagree**	**Neither Disagree nor Agree**	**Agree**	**Strongly Agree**	***p*-value**
C1_K	Staff and clinicians DO NOT very frequently feel overwhelmed by the work demands. (Wording reversed)	CPC Practices	626	25%	42%	17%	14%	1%	0.21
		Comparison Practices	445	22%	39%	17%	21%	1%	
C1_L	It is NOT stressful to work in this practice. (Wording reversed)	CPC Practices	629	9%	32%	25%	28%	6%	0.25
		Comparison Practices	443	7%	27%	24%	34%	8%	
C1_M	This practice is NOT almost always in chaos. (Wording reversed)	CPC Practices	631	2%	4%	9%	45%	40%	0.66
		Comparison Practices	443	2%	2%	10%	44%	42%	
C1_N	Things have NOT been changing so fast in this practice that it is hard to keep up with what is going on. (Wording reversed)	CPC Practices	631	9%	22%	25%	36%	8%	0.05[c]
		Comparison Practices	446	6%	20%	19%	39%	15%	
C1_O	During the past 12 months, this practice has changed how it takes initiative to improve patient care	CPC Practices	629	1%	5%	7%	52%	36%	<0.01[a]
		Comparison Practices	446	2%	20%	16%	48%	14%	
C1_P	During the past 12 months, this practice has changed how it does business	CPC Practices	614	2%	16%	20%	43%	20%	<0.01[a]
		Comparison Practices	442	4%	26%	19%	37%	13%	
C1_Q	During the past 12 months, this practice has changed how everyone relates	CPC Practices	627	5%	22%	28%	36%	9%	<0.01[a]
		Comparison Practices	439	9%	41%	28%	16%	5%	

Team Work Perceptions Team STEPPS Questionnaire (modified)									
Question	**Please indicate how much you agree or disagree with the following statements about your practice.**	**Group**	**Observations**	**Strongly Disagree**	**Disagree**	**Neither Disagree nor Agree**	**Agree**	**Strongly Agree**	***p*-value**
C2_A	The skills of staff overlap sufficiently so that work can be shared when necessary	CPC Practices	626	1%	6%	7%	63%	22%	0.55
		Comparison Practices	437	1%	4%	8%	67%	20%	
C2_B	Staff are held accountable for their actions	CPC Practices	630	0%	5%	11%	58%	25%	0.22
		Comparison Practices	438	1%	3%	11%	65%	21%	
C2_C	This practice makes efficient use of resources (e.g., staff supplies, equipment, information)	CPC Practices	631	0%	4%	13%	57%	25%	0.22
		Comparison Practices	439	1%	4%	12%	62%	21%	
C2_D	Staff understand their roles and responsibilities	CPC Practices	629	0%	3%	6%	61%	29%	0.80
		Comparison Practices	439	0%	2%	7%	61%	29%	
C2_E	This practice has clearly articulated goals	CPC Practices	630	0%	6%	17%	53%	24%	0.80
		Comparison Practices	437	0%	6%	19%	53%	23%	
C2_F	This practice operates at a high level of efficiency	CPC Practices	629	1%	13%	22%	40%	24%	0.82
		Comparison Practices	439	1%	10%	22%	44%	24%	
C2_G	Staff effectively anticipate each other's needs	CPC Practices	627	1%	12%	24%	47%	16%	0.63
		Comparison Practices	439	1%	9%	24%	51%	15%	
C2_H	Staff monitor each other's performance	CPC Practices	624	1%	14%	36%	40%	10%	0.97
		Comparison Practices	430	1%	12%	35%	41%	11%	
C2_I	Staff exchange relevant information as it becomes available	CPC Practices	628	0%	4%	14%	59%	22%	0.44
		Comparison Practices	438	0%	4%	10%	63%	23%	
C2_J	Staff members frequently meet to re-evaluate patient care goals	CPC Practices	625	3%	12%	21%	47%	17%	<0.01[a]
		Comparison Practices	433	4%	27%	15%	41%	13%	
C2_K	Staff correct each other's mistakes	CPC Practices	620	1%	6%	26%	59%	8%	0.09[e]
		Comparison Practices	432	1%	11%	27%	51%	11%	

PART C: FACILITATORS AND BARRIERS TO PRACTICE TRANSFORMATION

	Adaptive Reserve: Leadership/Improvement/Learning/Growth/Work Enjoyment								
Question	**Please indicate how much you agree or disagree with the following statements about your practice.**	**Group**	**Observations**	**Strongly Disagree**	**Disagree**	**Neither Disagree nor Agree**	**Agree**	**Strongly Agree**	***p*-value**
C3_D	Practice leadership promotes an environment that is an enjoyable place to work	CPC Practices	627	2%	8%	22%	43%	24%	0.27
		Comparison Practices	436	3%	5%	20%	51%	21%	
C3_E	Leadership in this practice creates an environment where things can be accomplished	CPC Practices	625	2%	6%	18%	49%	25%	0.25
		Comparison Practices	435	1%	5%	15%	58%	21%	
C3_F	Leadership strongly supports practice change efforts	CPC Practices	626	1%	7%	12%	46%	34%	0.26
		Comparison Practices	438	1%	5%	15%	52%	28%	
C3_A	People in this practice actively seek new ways to improve how we do things	CPC Practices	630	1%	4%	13%	59%	24%	0.41
		Comparison Practices	436	1%	7%	15%	58%	20%	
C3_B	People at all levels of this practice openly talk about what is and isn't working	CPC Practices	629	1%	11%	11%	55%	23%	0.76
		Comparison Practices	438	1%	9%	11%	58%	21%	
C3_C	After trying something new, we take time to think about how it worked	CPC Practices	626	2%	9%	21%	54%	13%	0.71
		Comparison Practices	437	1%	11%	20%	56%	12%	
C3_G	When we experience a problem in this practice, we make a serious effort to figure out what's really going on	CPC Practices	628	1%	4%	9%	54%	32%	0.35
		Comparison Practices	438	1%	5%	7%	61%	27%	
C3_L	Mistakes have led to positive changes here	CPC Practices	622	1%	3%	22%	61%	13%	1.00
		Comparison Practices	424	1%	3%	22%	62%	13%	
C3_M	It is hard to get things to change in this practice	CPC Practices	630	11%	44%	19%	21%	5%	0.07[e]
		Comparison Practices	435	11%	52%	18%	13%	6%	

Adaptive Reserve: Leadership/Improvement/Learning/Growth/Work Enjoyment									
Question	**Please indicate how much you agree or disagree with the following statements about your practice.**	**Group**	**Observations**	**Strongly Disagree**	**Disagree**	**Neither Disagree nor Agree**	**Agree**	**Strongly Agree**	***p*-value**
C3_N	This practice learns from its mistakes	CPC Practices	625	1%	4%	14%	65%	15%	0.66
		Comparison Practices	435	1%	3%	18%	63%	15%	
C3_I	People in this practice operate as a real team	CPC Practices	631	1%	5%	15%	56%	23%	0.51
		Comparison Practices	438	1%	4%	12%	58%	25%	
C3_H	I have many opportunities to grow in my work	CPC Practices	624	1%	11%	19%	45%	23%	0.92
		Comparison Practices	435	2%	9%	20%	46%	24%	
C3_J	Most of the people who work in this practice seem to enjoy their work	CPC Practices	630	1%	4%	13%	61%	20%	0.69
		Comparison Practices	435	1%	5%	16%	56%	22%	
C3_K	This practice is a place of joy and hope	CPC Practices	630	2%	13%	33%	39%	12%	0.61
		Comparison Practices	437	2%	11%	32%	37%	17%	

Adaptive Reserve: Leadership/Improvement/Learning/Growth/Work Enjoyment						
Question	**Scale**	**Group**	**Observations**	**Mean**	**Standard Error**	***p*-value**
C3_AR	Adaptive Reserve Scale	CPC Practices	631	0.696	0.007	0.84
		Comparison Practices	438	0.694	0.008	

Control of Work Environment: Memo Questionnaire								
Question	**In your practice setting, how much control do you have over the following:**	**Group**	**Observations**	**Slight/ No control**	**Some control**	**Moderate control**	**Great control**	***p*-value**
D4_A	The hours you work	CPC Practices	626	8%	22%	28%	42%	0.20
		Comparison Practices	443	7%	21%	21%	51%	
D4_B	Details of your office or practice schedule	CPC Practices	626	9%	25%	25%	41%	0.06[d]
		Comparison Practices	444	6%	20%	22%	52%	
D4_C	The volume of 'paperwork' you have to do (on paper or electronic)	CPC Practices	625	65%	22%	9%	4%	0.52
		Comparison Practices	443	62%	21%	12%	5%	
D4_D	Work interruptions (e.g., telephone calls, unscheduled patients)	CPC Practices	621	18%	52%	23%	6%	0.02[c]
		Comparison Practices	444	23%	42%	24%	12%	
D4_E	Workplace issues (e.g., office space, facilities, supplies)	CPC Practices	610	24%	30%	23%	23%	0.18
		Comparison Practices	438	18%	30%	24%	28%	
D4_F	The pace of your work	CPC Practices	625	11%	31%	33%	24%	0.29
		Comparison Practices	443	9%	26%	37%	28%	
D4_G	The allotment of additional time for difficult-to-hel*p*-patients	CPC Practices	624	13%	32%	31%	25%	0.99
		Comparison Practices	443	13%	31%	32%	24%	

Adaptive Reserve: Leadership/Improvement/Learning/Growth/Work Enjoyment						
Question	**Scale**	**Group**	**Observations**	**Mean**	**Standard Error**	***p*-value**
D4_fqhc_ control	Control over Work Scale	CPC Practices	626	2.504	0.041	0.06[d]
		Comparison Practices	444	2.622	0.047	

Barriers to Care: PACT Evaluation Questionnaire (modified)							
Question	**How much, if at all, does each of the following factors limit your ability to provide optimal patient-centered care for your patients?**	**Group**	**Observations**	**Limits a great deal**	**Limits somewhat**	**Does not limit**	***p*-value**
C5_A	Lack of available specialists for patient referrals	CPC Practices	601	8%	45%	48%	0.40
		Comparison Practices	431	11%	43%	46%	
C5_B	Lack of local community resources for patient referrals (e.g., health education services, family counseling, etc.)	CPC Practices	608	20%	54%	26%	0.07[e]
		Comparison Practices	432	27%	46%	27%	
C5_C	Challenges in communicating with specialists in or outside the practice	CPC Practices	609	9%	39%	51%	0.97
		Comparison Practices	431	10%	39%	51%	
C5_D	Lack of control over my schedule	CPC Practices	594	12%	32%	56%	0.23
		Comparison Practices	416	8%	29%	62%	
C5_E	Inadequate time for patient counseling or education	CPC Practices	608	26%	54%	20%	0.55
		Comparison Practices	430	29%	49%	22%	
C5_F	Administrative tasks unrelated to direct patient care	CPC Practices	603	37%	43%	21%	0.69
		Comparison Practices	424	37%	40%	23%	
C5_G	Limited time to connect patients to local community resources (e.g., health education services, family counseling, etc.)	CPC Practices	606	20%	59%	22%	0.43
		Comparison Practices	426	23%	59%	18%	
C5_H	Low levels of engagement from patients	CPC Practices	603	12%	60%	28%	0.28
		Comparison Practices	424	16%	54%	30%	
C5_I	Insufficient number or type of staff employed at the practice	CPC Practices	590	13%	37%	50%	0.89
		Comparison Practices	418	13%	39%	48%	
C5_J	Challenges with electronic health records (EHRs)	CPC Practices	607	33%	38%	28%	0.39
		Comparison Practices	421	29%	44%	28%	
C5_K	Inadequate financial incentives from payers	CPC Practices	577	34%	41%	25%	0.38
		Comparison Practices	412	39%	36%	25%	

PART D: SELF REPORTED CARE ACTIVITIES AND ALIGNMENT OF WORK TASKS WITH TRAINING

	Alignment of Work Tasks With Training							
Question	**What proportion of your time each week do you typically spend doing the following?**	**Group**	**Observations**	**Less than 25%**	**25%-49%**	**50%-74%**	**75%+**	***p*-value**
D3_A	Work that could be done by someone with less training	CPC Practices	606	46%	40%	11%	4%	0.79
		Comparison Practices	426	48%	36%	11%	4%	
D3_B	Work for which you do not have enough training	CPC Practices	441	94%	5%	0%	1%	0.81
		Comparison Practices	321	94%	4%	1%	1%	
D3_C	Work that is well-matched to your training	CPC Practices	621	2%	7%	30%	61%	0.24
		Comparison Practices	440	1%	6%	26%	68%	

PART E: ELECTRONIC HEALTH RECORD FUNCTIONALITY AND FEEDBACK

	EHR Functionalities								
Question	The following is a list of functions that may be available on your EHR system. Please indicate how often you have used each function in the past 12 months.	Group	Observations	Not implemented or no EHR	Never used; not in tasks	Never used but in tasks	Occasionally used function	Routinely used function	*p*-value
E2_A	Flag or transfer patient data to other providers within your practice organization	CPC Practices	618	3%	8%	3%	21%	65%	0.12
		Comparison Practices	445	6%	9%	2%	25%	58%	
E2_B	Flag or transfer patient data to other providers outside of your practice organization	CPC Practices	620	27%	19%	4%	26%	24%	0.87
		Comparison Practices	444	28%	20%	6%	24%	23%	
E2_C	Create clinical notes about patient office visits and medical history	CPC Practices	620	1%	0%	0%	2%	97%	0.17
		Comparison Practices	448	3%	1%	1%	1%	95%	
E2_D	Track communications with other health care providers	CPC Practices	617	6%	6%	1%	18%	70%	0.66
		Comparison Practices	443	7%	5%	2%	18%	67%	
E2_E	Help reconcile patient medications	CPC Practices	622	0%	2%	1%	6%	91%	0.28
		Comparison Practices	448	2%	2%	1%	5%	90%	
E2_F	Enter orders for new prescriptions or refills	CPC Practices	622	0%	1%	0%	1%	98%	0.28
		Comparison Practices	448	2%	1%	0%	1%	95%	
E2_G	Enter orders for laboratory, radiology, and diagnostic tests	CPC Practices	621	1%	2%	1%	3%	93%	0.08[e]
		Comparison Practices	448	5%	2%	2%	3%	88%	
E2_H	Review images of test results electronically (e.g., using a picture archiving and communication system or PACS)	CPC Practices	619	17%	5%	2%	12%	65%	0.11
		Comparison Practices	444	20%	5%	2%	16%	56%	
E2_I	Review multiple test results for a patient and graph changes over time	CPC Practices	620	10%	3%	5%	23%	59%	0.31
		Comparison Practices	448	11%	5%	5%	19%	59%	

	EHR Functionalities								
Question	The following is a list of functions that may be available on your EHR system. Please indicate how often you have used each function in the past 12 months.	Group	Observations	Not implemented or no EHR	Never used; not in tasks	Never used but in tasks	Occasionally used function	Routinely used function	*p*-value
E2_J	Generate reports on specific quality measures (e.g., the percentage of patients that have received recommended colon cancer screening)	CPC Practices	620	8%	27%	14%	27%	25%	0.08[b]
		Comparison Practices	446	14%	23%	14%	22%	27%	
E2_K	Generate 'After Visit Summaries' for patients to take with them	CPC Practices	619	1%	7%	2%	7%	83%	0.01[a]
		Comparison Practices	448	5%	7%	4%	10%	74%	

Source: Clinician survey fielded by Mathematica from September 2013 through February 2014, 11 to 16 months after CPC began.

[a] Statistically significant and favorable effect for CPC practices, $p \leq 0.05$

[b] Statistically significant and favorable effect for CPC practices, $p \leq 0.10$

[c] Statistically significant and unfavorable effect for CPC practices, $p \leq 0.05$

[d] Statistically significant and unfavorable effect for CPC practices, $p \leq 0.10$

[e] Statistically significant but not interpretable effect, $p \leq 0.10$

APPENDIX E:

PATIENT EXPERIENCE SURVEY RESULTS

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This appendix presents additional results from the first two rounds of the CPC patient survey detailed in Chapter 6. The first survey was administered June through October 2013, 8 to 12 months after CPC began, and the second was administered July through October 2014, 21 to 24 months after CPC began.

For each of the seven regions, we present the predicted probability for a sample of Medicare FFS patients giving the most favorable response to individual survey questions and domain-level aggregates, as well as the difference-in-differences estimates comparing changes over time in CPC practices to changes over time in comparison practices. These results are tabled separately by region (Tables E.1a–E.1g). (Findings for the CPC-wide sample are presented in Chapter 6.) Table E.2 expands on Table 6.3, listing by domain, the number of statistically significant difference-in-differences estimates of the proportion of patients giving the most favorable response, by whether the estimate is favorable to CPC practices (the year-to-year change in CPC practices was better than that in comparison practices) or unfavorable to CPC practices (the change over time in CPC practices was worse than that in comparison practice), broken down by the magnitude of the year-to-year change for CPC practices.

Table E.1a. Patient experience results: Difference-in-differences of predicted probabilities of giving the most favorable responses from 2013 to 2014, sample of Medicare FFS patients in Arkansas

Question[a,b]			Arkansas					
			2014		2013			
2014	2013		Patients in CPC practices	Patients in comparison practices	Patients in CPC practices	Patients in comparison practices	Diff-in-diff (Pct. Pt.)	*p*-value
Composite measure[c,e]								
Getting timely appointments, care, and information (5 questions)			50.5	53.1	50.1	52.9	0.0	0.985
How well providers communicate (6 questions)			79.1	81.1	78.1	81.6	1.5	0.450
Attention to care from other providers (2 questions)			76.9	74.2	75.1	77.1	4.7	0.038
Providers support patients in taking care of own health (2 questions)			48.4	42.2	46.7	47.5	6.9	0.005
Shared decision making (3 questions)			60.6	58.9	57.2	64.7	9.2	0.003
Patients' rating of providers (1 question)			75.9	77.3	74.5	77.6	1.7	0.573
Getting timely appointments, care, and information								
Q7		Patient always got appointment as soon as needed when s/he phoned provider's office to get an appointment for care needed right away	68.8	74.6	68.0	72.2	-1.6	0.708
Q10		Patient always got appointment as soon as needed when s/he made appointment for check-up or routine care	73.7	78.0	73.6	78.4	0.4	0.877
Q15		When patient phoned provider's office during regular office hours, s/he always received an answer to his/her medical question that same day	57.1	65.9	55.5	63.7	-0.6	0.906
Q17		When patient phoned provider's office after regular office hours, s/he always received an answer to his/her medical question as soon as needed	54.6	58.0	34.9	46.8	8.5	0.445
Q23	Q21	If patient had an appointment, s/he always saw provider within 15 minutes of appointment time	20.2	21.4	20.7	21.6	-0.3	0.931
Q8		When patient phoned providers office for care needed right away, patient usually got an appointment on same day	40.6	45.4	45.0	54.0	4.2	0.269

Question[a,b]			Arkansas					
			2014		2013			
2014	2013		Patients in CPC practices	Patients in comparison practices	Patients in CPC practices	Patients in comparison practices	Diff-in-diff (Pct. Pt.)	*p*-value
Q11		Provider's office gave patient information about what to do if care was needed during evenings, weekends, or holidays	79.8	83.7	79.7	81.6	-2.0	0.485
Q13		If patient needed care during evenings, weekends, or holidays in the last 12 months, patient was always able to get needed care from provider's office	38.1	34.1	33.5	46.1	16.6	0.017
How well providers communicate								
Q24	Q22	Providers always explained things to patient in a way that was easy to understand	79.3	81.5	79.3	80.6	-0.9	0.714
Q25	Q23	Provider always listened carefully to patient	81.8	83.3	81.2	84.5	1.8	0.457
Q27	Q25	When patient talked with provider about health questions and concerns, provider always gave patient easy-to-understand information	75.5	81.3	78.9	83.7	-1.0	0.698
Q28	Q26	Provider always seemed to know the important information about patient's medical history	74.7	75.5	71.1	77.9	6.0	0.021
Q29	Q27	Provider always showed respect for what patient had to say	86.3	88.4	85.8	87.9	-0.1	0.960
Q30	Q28	Provider always spent enough time with patient	76.8	78.0	73.9	76.9	1.8	0.534
Q38	Q36	Patient always felt provider really cared about patient as a person	77.5	78.9	77.4	81.5	2.7	0.295
Q19	Q19	When patient emailed provider's office, s/he always received an answer to his/her medical question as soon as needed	60.0	70.0	71.0	51.0	-30.1	0.174
Q21[d]	N/A	If provider's office used a web portal or website, patient often (more than 3 times) used it to email the practice, review medical information, request prescription renewal or to make appointments	8.0	7.3	N/A	N/A	0.7	0.828

Question[a,b]			Arkansas					
			2014		2013			
2014	2013		Patients in CPC practices	Patients in comparison practices	Patients in CPC practices	Patients in comparison practices	Diff-in-diff (Pct. Pt.)	*p*-value
Q22	Q20	In the last 12 months, between visits, patient received reminders about tests, treatment, or appointments from provider's office	72.4	67.0	69.9	72.4	7.9	0.065
Q32	Q30	If provider ordered a blood test, x-ray, or other test, provider's office always followed up to provide patient with test results	76.7	80.6	75.9	82.3	2.5	0.420
Q45	Q43	Practice staff asked patient during the last 12 months if there was a period of time when they felt sad, empty, or depressed	41.6	35.0	36.9	37.7	7.4	0.126
Q46	Q44	Provider spoke with patient during the last 12 months about things in life that are worrisome or cause stress for the patient	41.0	36.4	38.6	39.2	5.2	0.215
Q47	Q45	Practice staff spoke with patient during the last 12 months about a personal, family, mental, emotional, or substance abuse problem	26.4	24.5	24.7	25.2	2.3	0.467
Q48	Q46	Clerks and receptionists at provider's office always were as helpful as patient thought they should be	70.7	75.2	69.1	70.9	-2.7	0.365
Q49	Q47	Clerks and receptionists at provider's office always treated patient with courtesy and respect	84.0	85.8	83.7	88.7	3.3	0.129
Attention to care from other providers								
Q40	Q38	If patient visited a specialist, provider always seemed informed and up-to-date about the care patient received from specialists	58.5	58.1	59.4	62.7	3.8	0.364
Q44	Q42	If patient takes prescription medicines, practice staff spoke with patient at each visit during the last 12 months about all prescription medications the patient was taking	87.4	84.5	84.7	85.8	3.9	0.093
Q52	Q49	If patient required a referral from provider to see a specialist, patient always easily got referral to a specialist the patient needed to see	76.4	78.0	76.5	76.7	-1.4	0.754

Question[a,b]			Arkansas					
			2014		2013			
2014	2013		Patients in CPC practices	Patients in comparison practices	Patients in CPC practices	Patients in comparison practices	Diff-in-diff (Pct. Pt.)	*p*-value
Q54	Q51	If patient made an appointment to see a specialist, patient always easily got appointments with specialists	58.6	61.4	61.4	61.4	-2.8	0.542
Q55	Q52	If patient made an appointment to see a specialist, provider talked with patient during the last 12 months about the cost of seeing a specialist	10.2	8.7	6.9	8.9	3.5	0.111
Q56	Q53	If patient made an appointment to see a specialist, patient was worried or concerned during the last 12 months about the cost of seeing a specialist	24.8	23.2	23.6	26.3	4.3	0.169
Q58	Q55	When patient saw specialist, specialist always knew the important information about patient's medical history	57.8	63.4	63.0	60.1	-8.5	0.022
N/A	Q57[d]	If patient stayed in a hospital overnight or longer in the last 12 months, patient saw doctor, nurse practitioner, or physician assistant in provider's office within two weeks after most recent hospital stay	N/A	N/A	71.4	72.8	-1.4	0.703
N/A	Q58[d]	When patient saw provider within two weeks of most recent hospital stay, provider seemed informed and up-to-date about patient's hospital stay	N/A	N/A	93.4	95.2	-1.8	0.429
Q60[d]	N/A	If patient stayed in a hospital overnight or longer in the last 12 months, patient was contacted by provider's office within 3 days of most recent hospital stay	56.5	49.4	N/A	N/A	7.1	0.070
Q62[d]	N/A	If patient visited the emergency room or emergency department for care in the last 12 months, patient was contacted by provider's office within one week of most recent visit	52.5	46.6	N/A	N/A	5.9	0.097
Providers support patients in taking care of own health								
Q41	Q39	Someone in provider's office discussed with patient during the last 12 months specific goals for his/her health	60.5	53.0	59.6	61.1	9.0	0.002

Question[a,b]			Arkansas					
			2014		2013			
2014	2013		Patients in CPC practices	Patients in comparison practices	Patients in CPC practices	Patients in comparison practices	Diff-in-diff (Pct. Pt.)	*p*-value
Q42	Q40	Someone in provider's office asked the patient during the last 12 months whether there are things that make it hard for patient to take care of his/her health	36.1	31.4	33.4	34.1	5.3	0.081
Shared decision making								
Q34	Q32	If patient talked about starting/stopping a prescription medicine, provider talked a lot about the reasons patient might want to take the medicine	60.2	60.8	58.7	67.2	8.0	0.047
Q35	Q33	If patient talked about starting/stopping a prescription medicine, provider talked a lot about the reasons patient might not want to take a medicine	45.6	43.5	42.1	48.1	8.0	0.081
Q36	Q34	If patient talked about starting/stopping a prescription medicine, provider asked what patient thought was best	75.9	73.4	71.8	78.3	9.0	0.017
Q67[d,f]	N/A	If patient received care from provider for a chronic condition, s/he was always asked for her/his ideas or goals when making a treatment plan	34.9	33.5	N/A	N/A	1.3	0.698
Q68[d]	N/A	When patient received care from provider for a chronic condition, patient was always given a copy of her/his treatment plan	40.8	35.1	N/A	N/A	5.6	0.154
Patients' rating of providers and care								
Q37	Q35	Patient rating of provider as best provider possible (9-10, out of a maximum of 10)	75.9	77.4	74.5	77.7	1.7	0.577
Q50[d]	N/A	Compared to one year ago, patient feels that the care received by the provider was much better	21.0	19.4	N/A	N/A	1.6	0.352

Table E.1b. Patient experience results: Difference-in-differences of predicted probabilities of giving the most favorable responses from 2013 to 2014, sample of Medicare FFS patients in Colorado

Question[a,b]			Colorado					
			2014		2013			
2014	2013		Patients in CPC practices	Patients in comparison practices	Patients in CPC practices	Patients in comparison practices	Diff-in-diff (Pct. Pt.)	*p*-value
Composite measure[c,e]								
Getting timely appointments, care, and information (5 questions)			53.7	50.5	54.4	53.7	2.5	0.187
How well providers communicate (6 questions)			79.4	80.0	80.9	80.2	-1.4	0.481
Attention to care from other providers (2 questions)			77.2	75.6	78.5	76.2	-0.7	0.716
Providers support patients in taking care of own health (2 questions)			48.2	46.4	48.2	47.8	1.3	0.563
Shared decision making (3 questions)			63.2	60.0	62.6	62.0	2.7	0.358
Patients' rating of providers (1 question)			74.5	74.1	76.9	78.9	2.4	0.389
Getting timely appointments, care, and information								
Q7		Patient always got appointment as soon as needed when s/he phoned provider's office to get an appointment for care needed right away	63.8	60.0	65.0	69.2	8.0	0.031
Q10		Patient always got appointment as soon as needed when s/he made appointment for check-up or routine care	67.2	67.4	68.7	70.9	2.0	0.458
Q15		When patient phoned provider's office during regular office hours, s/he always received an answer to his/her medical question that same day	52.8	50.8	53.5	48.5	-3.1	0.399
Q17		When patient phoned provider's office after regular office hours, s/he always received an answer to his/her medical question as soon as needed	65.0	42.3	58.5	63.6	27.8	0.024
Q23	Q21	If patient had an appointment, s/he always saw provider within 15 minutes of appointment time	37.2	33.3	37.2	33.4	0.1	0.969
Q8		When patient phoned providers office for care needed right away, patient usually got an appointment on same day	41.2	35.8	43.3	44.2	6.3	0.144

Question[a,b]			Colorado					
			2014		2013			
2014	2013		Patients in CPC practices	Patients in comparison practices	Patients in CPC practices	Patients in comparison practices	Diff-in-diff (Pct. Pt.)	*p*-value
Q11		Provider's office gave patient information about what to do if care was needed during evenings, weekends, or holidays	79.1	78.0	78.4	78.6	1.3	0.574
Q13		If patient needed care during evenings, weekends, or holidays in the last 12 months, patient was always able to get needed care from provider's office	37.8	31.8	30.3	34.0	9.7	0.109
How well providers communicate								
Q24	Q22	Providers always explained things to patient in a way that was easy to understand	82.0	81.3	82.8	79.8	-2.4	0.282
Q25	Q23	Provider always listened carefully to patient	82.5	81.5	83.7	83.6	1.0	0.678
Q27	Q25	When patient talked with provider about health questions and concerns, provider always gave patient easy-to-understand information	77.5	77.3	80.9	79.9	-0.8	0.703
Q28	Q26	Provider always seemed to know the important information about patient's medical history	71.9	73.5	73.4	72.2	-2.8	0.353
Q29	Q27	Provider always showed respect for what patient had to say	86.0	88.3	88.6	88.0	-2.9	0.104
Q30	Q28	Provider always spent enough time with patient	77.2	77.8	78.0	77.9	-0.6	0.816
Q38	Q36	Patient always felt provider really cared about patient as a person	77.4	79.1	78.0	79.0	-0.8	0.775
Q19	Q19	When patient emailed provider's office, s/he always received an answer to his/her medical question as soon as needed	64.4	59.8	66.0	58.1	-3.4	0.781
Q21[d]	N/A	If provider's office used a web portal or website, patient often (more than 3 times) used it to email the practice, review medical information, request prescription renewal or to make appointments	7.4	9.5	N/A	N/A	-2.1	0.295
Q22	Q20	In the last 12 months, between visits, patient received reminders about tests, treatment, or appointments from provider's office	66.4	65.4	69.3	67.8	-0.5	0.874

Question[a,b]			Colorado					
			2014		2013			
2014	2013		Patients in CPC practices	Patients in comparison practices	Patients in CPC practices	Patients in comparison practices	Diff-in-diff (Pct. Pt.)	*p*-value
Q32	Q30	If provider ordered a blood test, x-ray, or other test, provider's office always followed up to provide patient with test results	77.6	76.0	79.0	75.4	-2.1	0.457
Q45	Q43	Practice staff asked patient during the last 12 months if there was a period of time when they felt sad, empty, or depressed	49.0	45.8	42.7	44.8	5.3	0.102
Q46	Q44	Provider spoke with patient during the last 12 months about things in life that are worrisome or cause stress for the patient	46.2	45.7	44.4	45.2	1.4	0.716
Q47	Q45	Practice staff spoke with patient during the last 12 months about a personal, family, mental, emotional, or substance abuse problem	29.3	26.6	30.5	28.9	1.1	0.635
Q48	Q46	Clerks and receptionists at provider's office always were as helpful as patient thought they should be	65.7	69.2	68.4	71.3	-0.6	0.835
Q49	Q47	Clerks and receptionists at provider's office always treated patient with courtesy and respect	83.6	85.3	84.3	86.1	0.1	0.977
Attention to care from other providers								
Q40	Q38	If patient visited a specialist, provider always seemed informed and up-to-date about the care patient received from specialists	56.6	55.9	60.5	57.2	-2.5	0.407
Q44	Q42	If patient takes prescription medicines, practice staff spoke with patient at each visit during the last 12 months about all prescription medications the patient was taking	88.9	86.7	89.0	87.1	0.3	0.856
Q52	Q49	If patient required a referral from provider to see a specialist, patient always easily got referral to a specialist the patient needed to see	75.8	73.9	81.6	76.3	-3.4	0.407
Q54	Q51	If patient made an appointment to see a specialist, patient always easily got appointments with specialists	55.0	51.6	57.6	57.6	3.3	0.325
Q55	Q52	If patient made an appointment to see a specialist, provider talked with patient during the last 12 months about the cost of seeing a specialist	10.4	12.8	8.6	8.3	-2.6	0.318

Question[a,b]			Colorado					
			2014		2013			
2014	2013		Patients in CPC practices	Patients in comparison practices	Patients in CPC practices	Patients in comparison practices	Diff-in-diff (Pct. Pt.)	*p*-value
Q56	Q53	If patient made an appointment to see a specialist, patient was worried or concerned during the last 12 months about the cost of seeing a specialist	17.1	22.5	20.1	20.2	-5.2	0.101
Q58	Q55	When patient saw specialist, specialist always knew the important information about patient's medical history	57.0	54.6	55.5	54.4	1.3	0.687
N/A	Q57[d]	If patient stayed in a hospital overnight or longer in the last 12 months, patient saw doctor, nurse practitioner, or physician assistant in provider's office within two weeks after most recent hospital stay	N/A	N/A	70.3	61.4	8.9	0.013
N/A	Q58[d]	When patient saw provider within two weeks of most recent hospital stay, provider seemed informed and up-to-date about patient's hospital stay	N/A	N/A	95.5	97.4	-1.9	0.165
Q60[d]	N/A	If patient stayed in a hospital overnight or longer in the last 12 months, patient was contacted by provider's office within 3 days of most recent hospital stay	54.5	53.8	N/A	N/A	0.8	0.848
Q62[d]	N/A	If patient visited the emergency room or emergency department for care in the last 12 months, patient was contacted by provider's office within one week of most recent visit	55.1	46.5	N/A	N/A	8.6	0.008
Providers support patients in taking care of own health								
Q41	Q39	Someone in provider's office discussed with patient during the last 12 months specific goals for his/her health	59.7	59.5	61.2	61.1	0.0	0.988
Q42	Q40	Someone in provider's office asked the patient during the last 12 months whether there are things that make it hard for patient to take care of his/her health	36.3	32.7	34.7	33.9	2.8	0.305
Shared decision making								
Q34	Q32	If patient talked about starting/stopping a prescription medicine, provider talked a lot about the reasons patient might want to take the medicine	64.5	61.8	64.3	61.7	0.0	0.997

Question[a,b]			Colorado					
			2014		2013			
2014	2013		Patients in CPC practices	Patients in comparison practices	Patients in CPC practices	Patients in comparison practices	Diff-in-diff (Pct. Pt.)	*p*-value
Q35	Q33	If patient talked about starting/stopping a prescription medicine, provider talked a lot about the reasons patient might not want to take a medicine	43.8	40.5	45.2	45.0	3.1	0.406
Q36	Q34	If patient talked about starting/stopping a prescription medicine, provider asked what patient thought was best	81.4	78.4	79.1	79.8	3.6	0.190
Q67[d,f]	N/A	If patient received care from provider for a chronic condition, s/he was always asked for her/his ideas or goals when making a treatment plan	41.4	31.4	N/A	N/A	10.0	0.000
Q68[d]	N/A	When patient received care from provider for a chronic condition, patient was always given a copy of her/his treatment plan	51.5	40.1	N/A	N/A	11.4	0.005
Patients' rating of providers and care								
Q37	Q35	Patient rating of provider as best provider possible (9-10, out of a maximum of 10)	74.5	74.2	76.8	78.9	2.3	0.394
Q50[d]	N/A	Compared to one year ago, patient feels that the care received by the provider was much better	14.7	13.3	N/A	N/A	1.4	0.306

Table E.1c. Patient experience results: Difference-in-differences of predicted probabilities of giving the most favorable responses from 2013 to 2014, sample of Medicare FFS patients in New Jersey

Question[a,b]			New Jersey					
			2014		2013			
2014	2013		Patients in CPC practices	Patients in comparison practices	Patients in CPC practices	Patients in comparison practices	Diff-in-diff (Pct. Pt.)	*p*-value
Composite measure[c,e]								
Getting timely appointments, care, and information (5 questions)			53.0	49.5	51.1	48.8	1.0	0.708
How well providers communicate (6 questions)			81.5	82.8	82.1	80.2	-3.3	0.109
Attention to care from other providers (2 questions)			73.7	74.7	73.8	72.9	-1.9	0.381
Providers support patients in taking care of own health (2 questions)			47.6	40.8	44.0	43.7	6.5	0.012
Shared decision making (3 questions)			63.0	64.2	60.2	61.0	-0.3	0.890
Patients' rating of providers (1 question)			77.0	81.8	76.3	75.0	-6.0	0.026
Getting timely appointments, care, and information								
Q7		Patient always got appointment as soon as needed when s/he phoned provider's office to get an appointment for care needed right away	70.2	69.3	71.0	65.3	-4.8	0.176
Q10		Patient always got appointment as soon as needed when s/he made appointment for check-up or routine care	72.3	70.7	70.5	68.1	-0.8	0.787
Q15		When patient phoned provider's office during regular office hours, s/he always received an answer to his/her medical question that same day	60.9	53.6	56.7	55.0	5.5	0.194
Q17		When patient phoned provider's office after regular office hours, s/he always received an answer to his/her medical question as soon as needed	54.7	46.1	54.4	40.5	-5.4	0.588
Q23	Q21	If patient had an appointment, s/he always saw provider within 15 minutes of appointment time	28.1	25.8	25.2	23.4	0.5	0.887

Question[a,b]			New Jersey					
			2014		2013			
2014	2013		Patients in CPC practices	Patients in comparison practices	Patients in CPC practices	Patients in comparison practices	Diff-in-diff (Pct. Pt.)	*p*-value
Q8		When patient phoned providers office for care needed right away, patient usually got an appointment on same day	52.4	51.9	54.9	52.3	-2.1	0.589
Q11		Provider's office gave patient information about what to do if care was needed during evenings, weekends, or holidays	79.4	76.6	77.5	76.7	2.0	0.449
Q13		If patient needed care during evenings, weekends, or holidays in the last 12 months, patient was always able to get needed care from provider's office	45.1	39.6	42.1	39.0	2.3	0.712
How well providers communicate								
Q24	Q22	Providers always explained things to patient in a way that was easy to understand	83.1	82.5	83.5	81.8	-1.1	0.646
Q25	Q23	Provider always listened carefully to patient	84.3	84.8	85.7	84.6	-1.6	0.458
Q27	Q25	When patient talked with provider about health questions and concerns, provider always gave patient easy-to-understand information	78.7	80.1	82.1	79.5	-3.9	0.125
Q28	Q26	Provider always seemed to know the important information about patient's medical history	75.6	78.2	76.3	75.0	-3.9	0.233
Q29	Q27	Provider always showed respect for what patient had to say	89.7	90.6	90.2	87.9	-3.3	0.084
Q30	Q28	Provider always spent enough time with patient	78.5	81.9	77.1	73.0	-7.6	0.005
Q38	Q36	Patient always felt provider really cared about patient as a person	79.0	81.2	79.1	76.6	-4.7	0.061
Q19	Q19	When patient emailed provider's office, s/he always received an answer to his/her medical question as soon as needed	70.5	68.4	57.1	57.5	2.5	0.861

Question[a,b]			New Jersey					
			2014		2013			
2014	2013		Patients in CPC practices	Patients in comparison practices	Patients in CPC practices	Patients in comparison practices	Diff-in-diff (Pct. Pt.)	*p*-value
Q21[d]	N/A	If provider's office used a web portal or website, patient often (more than 3 times) used it to email the practice, review medical information, request prescription renewal or to make appointments	6.7	6.5	N/A	N/A	0.1	0.953
Q22	Q20	In the last 12 months, between visits, patient received reminders about tests, treatment, or appointments from provider's office	65.8	61.2	62.3	58.3	0.6	0.864
Q32	Q30	If provider ordered a blood test, x-ray, or other test, provider's office always followed up to provide patient with test results	75.2	74.0	74.3	70.8	-2.3	0.420
Q45	Q43	Practice staff asked patient during the last 12 months if there was a period of time when they felt sad, empty, or depressed	43.2	35.3	36.4	32.9	4.5	0.121
Q46	Q44	Provider spoke with patient during the last 12 months about things in life that are worrisome or cause stress for the patient	45.1	37.5	40.2	36.9	4.3	0.173
Q47	Q45	Practice staff spoke with patient during the last 12 months about a personal, family, mental, emotional, or substance abuse problem	31.0	25.0	28.9	27.1	4.2	0.075
Q48	Q46	Clerks and receptionists at provider's office always were as helpful as patient thought they should be	65.8	65.2	61.7	56.4	-4.7	0.174
Q49	Q47	Clerks and receptionists at provider's office always treated patient with courtesy and respect	82.6	82.5	79.7	76.8	-2.8	0.299
Attention to care from other providers								
Q40	Q38	If patient visited a specialist, provider always seemed informed and up-to-date about the care patient received from specialists	55.9	58.7	58.3	55.1	-6.0	0.091

Question[a,b]			New Jersey					
			2014		2013			
2014	2013		Patients in CPC practices	Patients in comparison practices	Patients in CPC practices	Patients in comparison practices	Diff-in-diff (Pct. Pt.)	*p*-value
Q44	Q42	If patient takes prescription medicines, practice staff spoke with patient at each visit during the last 12 months about all prescription medications the patient was taking	86.8	85.6	84.7	84.2	0.7	0.725
Q52	Q49	If patient required a referral from provider to see a specialist, patient always easily got referral to a specialist the patient needed to see	73.0	75.9	79.3	83.0	0.9	0.890
Q54	Q51	If patient made an appointment to see a specialist, patient always easily got appointments with specialists	55.9	54.5	54.3	55.7	2.8	0.394
Q55	Q52	If patient made an appointment to see a specialist, provider talked with patient during the last 12 months about the cost of seeing a specialist	6.6	10.3	6.7	6.7	-3.7	0.027
Q56	Q53	If patient made an appointment to see a specialist, patient was worried or concerned during the last 12 months about the cost of seeing a specialist	16.3	15.9	16.3	19.8	3.9	0.106
Q58	Q55	When patient saw specialist, specialist always knew the important information about patient's medical history	57.9	62.1	59.4	61.1	-2.5	0.440
N/A	Q57[d]	If patient stayed in a hospital overnight or longer in the last 12 months, patient saw doctor, nurse practitioner, or physician assistant in provider's office within two weeks after most recent hospital stay	N/A	N/A	68.0	57.1	10.9	0.019
N/A	Q58[d]	When patient saw provider within two weeks of most recent hospital stay, provider seemed informed and up-to-date about patient's hospital stay	N/A	N/A	93.7	96.1	-2.5	0.184

Question[a,b]			New Jersey					
			2014		2013			
2014	2013		Patients in CPC practices	Patients in comparison practices	Patients in CPC practices	Patients in comparison practices	Diff-in-diff (Pct. Pt.)	*p*-value
Q60[d]	N/A	If patient stayed in a hospital overnight or longer in the last 12 months, patient was contacted by provider's office within 3 days of most recent hospital stay	65.1	54.8	N/A	N/A	10.3	0.014
Q62[d]	N/A	If patient visited the emergency room or emergency department for care in the last 12 months, patient was contacted by provider's office within one week of most recent visit	60.7	53.8	N/A	N/A	6.9	0.142
Providers support patients in taking care of own health								
Q41	Q39	Someone in provider's office discussed with patient during the last 12 months specific goals for his/her health	60.2	54.7	57.3	55.9	4.1	0.175
Q42	Q40	Someone in provider's office asked the patient during the last 12 months whether there are things that make it hard for patient to take care of his/her health	34.5	26.5	30.2	30.4	8.2	0.005
Shared decision making								
Q34	Q32	If patient talked about starting/stopping a prescription medicine, provider talked a lot about the reasons patient might want to take the medicine	64.9	64.9	60.8	59.1	-1.7	0.633
Q35	Q33	If patient talked about starting/stopping a prescription medicine, provider talked a lot about the reasons patient might not want to take a medicine	45.1	49.3	43.4	43.2	-4.5	0.181
Q36	Q34	If patient talked about starting/stopping a prescription medicine, provider asked what patient thought was best	79.6	77.7	77.3	80.1	4.7	0.180
Q67[d,f]	N/A	If patient received care from provider for a chronic condition, s/he was always asked for her/his ideas or goals when making a treatment plan	35.2	32.6	N/A	N/A	2.6	0.498

Question[a,b]			New Jersey					
			2014		2013			
2014	2013		Patients in CPC practices	Patients in comparison practices	Patients in CPC practices	Patients in comparison practices	Diff-in-diff (Pct. Pt.)	*p*-value
Q68[d]	N/A	When patient received care from provider for a chronic condition, patient was always given a copy of her/his treatment plan	39.0	30.7	N/A	N/A	8.2	0.021
Patients' rating of providers and care								
Q37	Q35	Patient rating of provider as best provider possible (9-10, out of a maximum of 10)	77.0	81.7	76.3	75.1	-5.9	0.024
Q50[d]	N/A	Compared to one year ago, patient feels that the care received by the provider was much better	18.2	18.7	N/A	N/A	-0.5	0.860

Table E.1d. Patient experience results: Difference-in-differences of predicted probabilities of giving the most favorable responses from 2013 to 2014, sample if Medicare FFS patients in New York

Question[a,b]			New York					
			2014		2013			
2014	2013		Patients in CPC practices	Patients in comparison practices	Patients in CPC practices	Patients in comparison practices	Diff-in-diff (Pct. Pt.)	*p*-value
Composite measure[c,e]								
Getting timely appointments, care, and information (5 questions)			55.3	55.5	55.2	59.7	4.3	0.029
How well providers communicate (6 questions)			82.7	80.9	81.4	82.4	2.8	0.138
Attention to care from other providers (2 questions)			75.4	73.9	75.1	76.8	3.2	0.086
Providers support patients in taking care of own health (2 questions)			47.3	49.9	44.9	51.3	3.9	0.131
Shared decision making (3 questions)			62.7	60.3	62.0	62.7	3.3	0.272
Patients' rating of providers (1 question)			78.6	77.7	76.4	77.4	1.9	0.460
Getting timely appointments, care, and information								
Q7		Patient always got appointment as soon as needed when s/he phoned provider's office to get an appointment for care needed right away	75.3	73.9	73.5	77.3	5.3	0.134
Q10		Patient always got appointment as soon as needed when s/he made appointment for check-up or routine care	74.6	73.8	75.2	78.6	4.2	0.091
Q15		When patient phoned provider's office during regular office hours, s/he always received an answer to his/her medical question that same day	60.3	67.7	63.4	68.4	-2.4	0.582
Q17		When patient phoned provider's office after regular office hours, s/he always received an answer to his/her medical question as soon as needed	59.9	64.6	48.9	56.6	3.0	0.768
Q23	Q21	If patient had an appointment, s/he always saw provider within 15 minutes of appointment time	29.5	27.7	29.5	30.4	2.8	0.358
Q8		When patient phoned providers office for care needed right away, patient usually got an appointment on same day	57.7	51.6	56.9	51.7	1.0	0.812

Question[a,b]			New York					
			2014		2013			
2014	2013		Patients in CPC practices	Patients in comparison practices	Patients in CPC practices	Patients in comparison practices	Diff-in-diff (Pct. Pt.)	*p*-value
Q11		Provider's office gave patient information about what to do if care was needed during evenings, weekends, or holidays	78.5	80.1	77.0	80.7	2.2	0.380
Q13		If patient needed care during evenings, weekends, or holidays in the last 12 months, patient was always able to get needed care from provider's office	40.5	39.6	38.2	43.6	6.3	0.420
How well providers communicate								
Q24	Q22	Providers always explained things to patient in a way that was easy to understand	84.4	81.8	82.7	82.9	2.7	0.221
Q25	Q23	Provider always listened carefully to patient	85.1	84.1	84.2	84.5	1.3	0.559
Q27	Q25	When patient talked with provider about health questions and concerns, provider always gave patient easy-to-understand information	80.2	78.0	81.2	79.8	0.7	0.803
Q28	Q26	Provider always seemed to know the important information about patient's medical history	78.4	75.6	76.6	78.1	4.3	0.140
Q29	Q27	Provider always showed respect for what patient had to say	89.7	89.5	88.7	89.2	0.7	0.725
Q30	Q28	Provider always spent enough time with patient	79.0	77.7	77.1	79.6	3.8	0.142
Q38	Q36	Patient always felt provider really cared about patient as a person	80.8	78.9	78.9	81.6	4.6	0.060
Q19	Q19	When patient emailed provider's office, s/he always received an answer to his/her medical question as soon as needed	70.2	85.0	73.9	64.6	-24.1	0.162
Q21[d]	N/A	If provider's office used a web portal or website, patient often (more than 3 times) used it to email the practice, review medical information, request prescription renewal or to make appointments	7.5	7.0	N/A	N/A	0.6	0.750
Q22	Q20	In the last 12 months, between visits, patient received reminders about tests, treatment, or appointments from provider's office	72.3	73.0	68.5	73.0	3.8	0.255

Question[a,b]			New York					
			2014		2013			
2014	2013		Patients in CPC practices	Patients in comparison practices	Patients in CPC practices	Patients in comparison practices	Diff-in-diff (Pct. Pt.)	*p*-value
Q32	Q30	If provider ordered a blood test, x-ray, or other test, provider's office always followed up to provide patient with test results	71.7	71.8	71.0	75.4	4.3	0.176
Q45	Q43	Practice staff asked patient during the last 12 months if there was a period of time when they felt sad, empty, or depressed	39.5	46.3	36.0	41.4	-1.3	0.682
Q46	Q44	Provider spoke with patient during the last 12 months about things in life that are worrisome or cause stress for the patient	43.1	48.6	40.8	44.1	-2.1	0.454
Q47	Q45	Practice staff spoke with patient during the last 12 months about a personal, family, mental, emotional, or substance abuse problem	29.5	31.5	29.7	31.9	0.2	0.925
Q48	Q46	Clerks and receptionists at provider's office always were as helpful as patient thought they should be	65.1	66.3	65.8	73.1	6.2	0.026
Q49	Q47	Clerks and receptionists at provider's office always treated patient with courtesy and respect	84.3	86.6	82.2	86.8	2.3	0.266
Attention to care from other providers								
Q40	Q38	If patient visited a specialist, provider always seemed informed and up-to-date about the care patient received from specialists	60.4	60.1	59.4	64.2	5.2	0.110
Q44	Q42	If patient takes prescription medicines, practice staff spoke with patient at each visit during the last 12 months about all prescription medications the patient was taking	86.6	84.8	86.3	85.7	1.2	0.549
Q52	Q49	If patient required a referral from provider to see a specialist, patient always easily got referral to a specialist the patient needed to see	77.5	78.3	76.4	79.6	2.4	0.559
Q54	Q51	If patient made an appointment to see a specialist, patient always easily got appointments with specialists	55.2	56.9	56.7	59.6	1.2	0.682

Question[a,b]			New York					
			2014		2013			
2014	2013		Patients in CPC practices	Patients in comparison practices	Patients in CPC practices	Patients in comparison practices	Diff-in-diff (Pct. Pt.)	*p*-value
Q55	Q52	If patient made an appointment to see a specialist, provider talked with patient during the last 12 months about the cost of seeing a specialist	6.9	8.8	6.4	7.9	-0.4	0.819
Q56	Q53	If patient made an appointment to see a specialist, patient was worried or concerned during the last 12 months about the cost of seeing a specialist	16.8	18.3	17.5	16.9	-2.1	0.405
Q58	Q55	When patient saw specialist, specialist always knew the important information about patient's medical history	55.3	56.9	57.0	64.0	5.3	0.089
N/A	Q57[d]	If patient stayed in a hospital overnight or longer in the last 12 months, patient saw doctor, nurse practitioner, or physician assistant in provider's office within two weeks after most recent hospital stay	N/A	N/A	67.8	69.9	-2.1	0.564
N/A	Q58[d]	When patient saw provider within two weeks of most recent hospital stay, provider seemed informed and up-to-date about patient's hospital stay	N/A	N/A	95.8	98.8	-3.0	0.013
Q60[d]	N/A	If patient stayed in a hospital overnight or longer in the last 12 months, patient was contacted by provider's office within 3 days of most recent hospital stay	52.1	61.7	N/A	N/A	-9.6	0.005
Q62[d]	N/A	If patient visited the emergency room or emergency department for care in the last 12 months, patient was contacted by provider's office within one week of most recent visit	51.4	61.9	N/A	N/A	-10.5	0.019

Question[a,b]			New York					
			2014		2013			
2014	2013		Patients in CPC practices	Patients in comparison practices	Patients in CPC practices	Patients in comparison practices	Diff-in-diff (Pct. Pt.)	*p*-value
Providers support patients in taking care of own health								
Q41	Q39	Someone in provider's office discussed with patient during the last 12 months specific goals for his/her health	59.2	61.8	57.9	63.9	3.4	0.212
Q42	Q40	Someone in provider's office asked the patient during the last 12 months whether there are things that make it hard for patient to take care of his/her health	35.1	37.8	31.3	38.8	4.9	0.107
Shared decision making								
Q34	Q32	If patient talked about starting/stopping a prescription medicine, provider talked a lot about the reasons patient might want to take the medicine	64.8	64.0	62.8	65.2	3.3	0.424
Q35	Q33	If patient talked about starting/stopping a prescription medicine, provider talked a lot about the reasons patient might not want to take a medicine	46.1	40.6	45.0	45.4	5.9	0.107
Q36	Q34	If patient talked about starting/stopping a prescription medicine, provider asked what patient thought was best	77.8	76.9	79.1	78.8	0.7	0.830
Q67[d,f]	N/A	If patient received care from provider for a chronic condition, s/he was always asked for her/his ideas or goals when making a treatment plan	35.7	41.6	N/A	N/A	-5.9	0.043
Q68[d]	N/A	When patient received care from provider for a chronic condition, patient was always given a copy of her/his treatment plan	40.8	38.5	N/A	N/A	2.4	0.549

Question[a,b]			New York					
			2014		2013			
2014	2013		Patients in CPC practices	Patients in comparison practices	Patients in CPC practices	Patients in comparison practices	Diff-in-diff (Pct. Pt.)	*p*-value
Patients' rating of providers and care								
Q37	Q35	Patient rating of provider as best provider possible (9-10, out of a maximum of 10)	78.6	77.6	76.4	77.4	1.9	0.446
Q50[d]	N/A	Compared to one year ago, patient feels that the care received by the provider was much better	18.1	14.6	N/A	N/A	3.5	0.012

Table E.1e. Patient experience results: Difference-in-differences of predicted probabilities of giving the most favorable responses from 2013 to 2014, sample of Medicare FFS patients in Ohio/Kentucky

Question[a,b]			Ohio/Kentucky					
			2014		2013			
2014	2013		Patients in CPC practices	Patients in comparison practices	Patients in CPC practices	Patients in comparison practices	Diff-in-diff (Pct. Pt.)	*p*-value
Composite measure[c,e]								
Getting timely appointments, care, and information (5 questions)			55.9	55.4	53.7	55.1	1.9	0.464
How well providers communicate (6 questions)			81.6	81.2	79.5	79.9	0.8	0.679
Attention to care from other providers (2 questions)			76.5	78.0	75.0	76.0	-0.6	0.757
Providers support patients in taking care of own health (2 questions)			46.1	45.6	44.1	45.8	2.2	0.365
Shared decision making (3 questions)			60.9	59.6	58.7	62.8	5.4	0.071
Patients' rating of providers (1 question)			78.2	78.4	76.0	77.1	1.0	0.664
Getting timely appointments, care, and information								
Q7		Patient always got appointment as soon as needed when s/he phoned provider's office to get an appointment for care needed right away	69.0	67.4	69.1	70.0	2.5	0.501
Q10		Patient always got appointment as soon as needed when s/he made appointment for check-up or routine care	76.8	76.0	72.1	74.4	3.1	0.288
Q15		When patient phoned provider's office during regular office hours, s/he always received an answer to his/her medical question that same day	63.9	61.3	60.5	64.3	6.5	0.182
Q17		When patient phoned provider's office after regular office hours, s/he always received an answer to his/her medical question as soon as needed	53.4	57.8	51.4	56.6	0.8	0.938
Q23	Q21	If patient had an appointment, s/he always saw provider within 15 minutes of appointment time	30.6	33.5	28.5	29.6	-1.8	0.632

Question[a,b]			Ohio/Kentucky					
			2014		2013			
2014	2013		Patients in CPC practices	Patients in comparison practices	Patients in CPC practices	Patients in comparison practices	Diff-in-diff (Pct. Pt.)	*p*-value
Q8		When patient phoned providers office for care needed right away, patient usually got an appointment on same day	43.1	41.9	42.6	47.2	5.8	0.187
Q11		Provider's office gave patient information about what to do if care was needed during evenings, weekends, or holidays	79.6	82.1	77.9	81.1	0.7	0.755
Q13		If patient needed care during evenings, weekends, or holidays in the last 12 months, patient was always able to get needed care from provider's office	32.2	31.9	32.7	32.0	-0.4	0.958
How well providers communicate								
Q24	Q22	Providers always explained things to patient in a way that was easy to understand	82.4	82.1	81.1	81.3	0.5	0.825
Q25	Q23	Provider always listened carefully to patient	83.4	83.5	82.1	82.1	0.0	0.984
Q27	Q25	When patient talked with provider about health questions and concerns, provider always gave patient easy-to-understand information	78.9	79.3	77.5	79.0	1.1	0.664
Q28	Q26	Provider always seemed to know the important information about patient's medical history	79.0	76.6	76.0	75.4	1.9	0.428
Q29	Q27	Provider always showed respect for what patient had to say	88.7	89.1	86.7	87.3	0.2	0.917
Q30	Q28	Provider always spent enough time with patient	78.2	78.2	73.9	75.5	1.6	0.532
Q38	Q36	Patient always felt provider really cared about patient as a person	80.9	80.2	77.6	78.6	1.7	0.509
Q19	Q19	When patient emailed provider's office, s/he always received an answer to his/her medical question as soon as needed	77.5	74.0	69.1	72.5	6.8	0.532

Question[a,b]			Ohio/Kentucky					
			2014		2013			
2014	2013		Patients in CPC practices	Patients in comparison practices	Patients in CPC practices	Patients in comparison practices	Diff-in-diff (Pct. Pt.)	*p*-value
Q21[d]	N/A	If provider's office used a web portal or website, patient often (more than 3 times) used it to email the practice, review medical information, request prescription renewal or to make appointments	16.6	19.0	N/A	N/A	-2.3	0.312
Q22	Q20	In the last 12 months, between visits, patient received reminders about tests, treatment, or appointments from provider's office	70.3	67.9	67.0	69.8	5.1	0.118
Q32	Q30	If provider ordered a blood test, x-ray, or other test, provider's office always followed up to provide patient with test results	78.3	80.6	78.4	78.4	-2.4	0.290
Q45	Q43	Practice staff asked patient during the last 12 months if there was a period of time when they felt sad, empty, or depressed	39.2	42.8	34.6	42.2	4.0	0.226
Q46	Q44	Provider spoke with patient during the last 12 months about things in life that are worrisome or cause stress for the patient	40.6	44.6	38.0	41.8	-0.2	0.952
Q47	Q45	Practice staff spoke with patient during the last 12 months about a personal, family, mental, emotional, or substance abuse problem	27.9	29.6	27.1	30.4	1.6	0.588
Q48	Q46	Clerks and receptionists at provider's office always were as helpful as patient thought they should be	69.4	69.8	66.7	64.7	-2.4	0.434
Q49	Q47	Clerks and receptionists at provider's office always treated patient with courtesy and respect	84.8	87.0	82.5	82.0	-2.7	0.245
Attention to care from other providers								
Q40	Q38	If patient visited a specialist, provider always seemed informed and up-to-date about the care patient received from specialists	61.5	66.9	59.0	63.6	-0.8	0.780

Question[a,b]			Ohio/Kentucky					
			2014		2013			
2014	2013		Patients in CPC practices	Patients in comparison practices	Patients in CPC practices	Patients in comparison practices	Diff-in-diff (Pct. Pt.)	*p*-value
Q44	Q42	If patient takes prescription medicines, practice staff spoke with patient at each visit during the last 12 months about all prescription medications the patient was taking	86.3	85.9	84.9	83.7	-0.8	0.711
Q52	Q49	If patient required a referral from provider to see a specialist, patient always easily got referral to a specialist the patient needed to see	77.4	77.9	79.3	79.7	0.0	0.995
Q54	Q51	If patient made an appointment to see a specialist, patient always easily got appointments with specialists	54.0	58.6	55.6	54.6	-5.5	0.047
Q55	Q52	If patient made an appointment to see a specialist, provider talked with patient during the last 12 months about the cost of seeing a specialist	8.1	9.0	6.8	6.4	-1.3	0.421
Q56	Q53	If patient made an appointment to see a specialist, patient was worried or concerned during the last 12 months about the cost of seeing a specialist	21.5	20.5	23.3	23.9	1.6	0.548
Q58	Q55	When patient saw specialist, specialist always knew the important information about patient's medical history	57.5	60.2	58.0	61.2	0.5	0.870
N/A	Q57[d]	If patient stayed in a hospital overnight or longer in the last 12 months, patient saw doctor, nurse practitioner, or physician assistant in provider's office within two weeks after most recent hospital stay	N/A	N/A	69.9	63.8	6.1	0.066
N/A	Q58[d]	When patient saw provider within two weeks of most recent hospital stay, provider seemed informed and up-to-date about patient's hospital stay	N/A	N/A	94.7	95.8	-1.0	0.592

Question[a,b]			Ohio/Kentucky					
			2014		2013			
2014	2013		Patients in CPC practices	Patients in comparison practices	Patients in CPC practices	Patients in comparison practices	Diff-in-diff (Pct. Pt.)	*p*-value
Q60[d]	N/A	If patient stayed in a hospital overnight or longer in the last 12 months, patient was contacted by provider's office within 3 days of most recent hospital stay	57.2	57.0	N/A	N/A	0.2	0.953
Q62[d]	N/A	If patient visited the emergency room or emergency department for care in the last 12 months, patient was contacted by provider's office within one week of most recent visit	55.9	47.3	N/A	N/A	8.5	0.011
Providers support patients in taking care of own health								
Q41	Q39	Someone in provider's office discussed with patient during the last 12 months specific goals for his/her health	57.4	55.2	56.8	58.5	3.8	0.187
Q42	Q40	Someone in provider's office asked the patient during the last 12 months whether there are things that make it hard for patient to take care of his/her health	34.7	35.6	31.2	33.3	1.1	0.687
Shared decision making								
Q34	Q32	If patient talked about starting/stopping a prescription medicine, provider talked a lot about the reasons patient might want to take the medicine	61.4	60.9	60.5	63.8	3.8	0.302
Q35	Q33	If patient talked about starting/stopping a prescription medicine, provider talked a lot about the reasons patient might not want to take a medicine	43.3	43.1	43.2	47.6	4.5	0.261
Q36	Q34	If patient talked about starting/stopping a prescription medicine, provider asked what patient thought was best	78.4	75.7	72.3	78.0	8.4	0.005
Q67[d,f]	N/A	If patient received care from provider for a chronic condition, s/he was always asked for her/his ideas or goals when making a treatment plan	32.9	38.7	N/A	N/A	-5.8	0.042

Question[a,b]			Ohio/Kentucky					
			2014		2013			
2014	2013		Patients in CPC practices	Patients in comparison practices	Patients in CPC practices	Patients in comparison practices	Diff-in-diff (Pct. Pt.)	*p*-value
Q68[d]	N/A	When patient received care from provider for a chronic condition, patient was always given a copy of her/his treatment plan	46.1	46.8	N/A	N/A	-0.7	0.833
Patients' rating of providers and care								
Q37	Q35	Patient rating of provider as best provider possible (9-10, out of a maximum of 10)	78.2	78.4	76.0	77.2	1.0	0.673
Q50[d]	N/A	Compared to one year ago, patient feels that the care received by the provider was much better	18.9	21.9	N/A	N/A	-2.9	0.058

Table E.1f. Patient experience results: Difference-in-differences of predicted probabilities of giving the most favorable responses from 2013 to 2014, sample of Medicare FFS patients in Oklahoma

Question[a,b]			Oklahoma					
			2014		2013			
2014	2013		Patients in CPC practices	Patients in comparison practices	Patients in CPC practices	Patients in comparison practices	Diff-in-diff (Pct. Pt.)	*p*-value
Composite measure[c,e]								
Getting timely appointments, care, and information (5 questions)			49.7	49.9	50.2	54.2	3.7	0.154
How well providers communicate (6 questions)			76.3	78.7	77.2	80.4	0.8	0.739
Attention to care from other providers (2 questions)			75.8	77.4	75.7	76.3	-0.9	0.699
Providers support patients in taking care of own health (2 questions)			46.0	45.1	45.1	44.7	0.5	0.855
Shared decision making (3 questions)			57.8	59.6	58.8	61.5	1.0	0.757
Patients' rating of providers (1 question)			71.5	74.0	72.6	73.1	-2.1	0.528
Getting timely appointments, care, and information								
Q7		Patient always got appointment as soon as needed when s/he phoned provider's office to get an appointment for care needed right away	63.9	64.0	62.7	68.6	5.8	0.169
Q10		Patient always got appointment as soon as needed when s/he made appointment for check-up or routine care	70.0	69.7	72.1	75.6	3.8	0.268
Q15		When patient phoned provider's office during regular office hours, s/he always received an answer to his/her medical question that same day	53.4	51.6	53.8	56.5	4.5	0.328
Q17		When patient phoned provider's office after regular office hours, s/he always received an answer to his/her medical question as soon as needed	43.5	53.3	49.9	30.6	-29.1	0.004
Q23	Q21	If patient had an appointment, s/he always saw provider within 15 minutes of appointment time	26.1	25.8	26.3	29.2	3.1	0.318

Question[a,b]			Oklahoma					
			2014		2013			
2014	2013		Patients in CPC practices	Patients in comparison practices	Patients in CPC practices	Patients in comparison practices	Diff-in-diff (Pct. Pt.)	*p*-value
Q8		When patient phoned providers office for care needed right away, patient usually got an appointment on same day	33.9	40.3	37.6	45.6	1.5	0.718
Q11		Provider's office gave patient information about what to do if care was needed during evenings, weekends, or holidays	77.1	79.0	77.5	76.3	-3.1	0.293
Q13		If patient needed care during evenings, weekends, or holidays in the last 12 months, patient was always able to get needed care from provider's office	31.5	25.9	28.2	21.7	-0.9	0.889
How well providers communicate								
Q24	Q22	Providers always explained things to patient in a way that was easy to understand	77.8	80.0	78.1	79.7	-0.7	0.816
Q25	Q23	Provider always listened carefully to patient	78.3	81.8	80.3	82.2	-1.6	0.530
Q27	Q25	When patient talked with provider about health questions and concerns, provider always gave patient easy-to-understand information	74.6	77.2	76.4	82.2	3.2	0.231
Q28	Q26	Provider always seemed to know the important information about patient's medical history	70.6	70.3	71.3	73.4	2.3	0.529
Q29	Q27	Provider always showed respect for what patient had to say	83.9	86.5	85.6	87.1	-1.1	0.613
Q30	Q28	Provider always spent enough time with patient	73.7	77.4	72.7	78.1	1.7	0.527
Q38	Q36	Patient always felt provider really cared about patient as a person	74.4	76.5	76.3	78.6	0.2	0.935
Q19	Q19	When patient emailed provider's office, s/he always received an answer to his/her medical question as soon as needed	68.7	55.6	56.7	55.7	12.1	0.468

Question[a,b]			Oklahoma					
			2014		2013			
2014	2013		Patients in CPC practices	Patients in comparison practices	Patients in CPC practices	Patients in comparison practices	Diff-in-diff (Pct. Pt.)	*p*-value
Q21[d]	N/A	If provider's office used a web portal or website, patient often (more than 3 times) used it to email the practice, review medical information, request prescription renewal or to make appointments	6.4	15.2	N/A	N/A	-8.7	0.004
Q22	Q20	In the last 12 months, between visits, patient received reminders about tests, treatment, or appointments from provider's office	70.0	68.7	69.9	65.1	-3.5	0.299
Q32	Q30	If provider ordered a blood test, x-ray, or other test, provider's office always followed up to provide patient with test results	74.8	74.7	75.8	80.5	4.8	0.146
Q45	Q43	Practice staff asked patient during the last 12 months if there was a period of time when they felt sad, empty, or depressed	43.5	38.5	39.5	29.8	-4.8	0.143
Q46	Q44	Provider spoke with patient during the last 12 months about things in life that are worrisome or cause stress for the patient	41.9	36.2	40.3	37.1	2.6	0.435
Q47	Q45	Practice staff spoke with patient during the last 12 months about a personal, family, mental, emotional, or substance abuse problem	27.3	23.9	28.4	25.7	0.8	0.812
Q48	Q46	Clerks and receptionists at provider's office always were as helpful as patient thought they should be	65.0	65.4	66.3	68.2	1.5	0.642
Q49	Q47	Clerks and receptionists at provider's office always treated patient with courtesy and respect	82.8	79.6	81.7	83.8	5.3	0.023
Attention to care from other providers								
Q40	Q38	If patient visited a specialist, provider always seemed informed and up-to-date about the care patient received from specialists	56.9	59.8	57.7	59.8	-0.8	0.789

Question[a,b]			Oklahoma					
			2014		2013			
2014	2013		Patients in CPC practices	Patients in comparison practices	Patients in CPC practices	Patients in comparison practices	Diff-in-diff (Pct. Pt.)	*p*-value
Q44	Q42	If patient takes prescription medicines, practice staff spoke with patient at each visit during the last 12 months about all prescription medications the patient was taking	86.8	87.3	86.2	86.7	0.1	0.962
Q52	Q49	If patient required a referral from provider to see a specialist, patient always easily got referral to a specialist the patient needed to see	72.8	64.7	74.9	77.1	10.2	0.058
Q54	Q51	If patient made an appointment to see a specialist, patient always easily got appointments with specialists	56.2	59.8	56.7	60.1	-0.2	0.964
Q55	Q52	If patient made an appointment to see a specialist, provider talked with patient during the last 12 months about the cost of seeing a specialist	10.8	8.4	10.2	9.3	1.6	0.424
Q56	Q53	If patient made an appointment to see a specialist, patient was worried or concerned during the last 12 months about the cost of seeing a specialist	22.7	25.6	25.6	21.1	-7.5	0.016
Q58	Q55	When patient saw specialist, specialist always knew the important information about patient's medical history	58.7	62.6	58.5	61.2	-1.2	0.708
N/A	Q57[d]	If patient stayed in a hospital overnight or longer in the last 12 months, patient saw doctor, nurse practitioner, or physician assistant in provider's office within two weeks after most recent hospital stay	N/A	N/A	72.0	56.2	15.9	0.000
N/A	Q58[d]	When patient saw provider within two weeks of most recent hospital stay, provider seemed informed and up-to-date about patient's hospital stay	N/A	N/A	94.7	95.6	-0.9	0.707

Question[a,b]			Oklahoma					
			2014		2013			
2014	2013		Patients in CPC practices	Patients in comparison practices	Patients in CPC practices	Patients in comparison practices	Diff-in-diff (Pct. Pt.)	*p*-value
Q60[d]	N/A	If patient stayed in a hospital overnight or longer in the last 12 months, patient was contacted by provider's office within 3 days of most recent hospital stay	56.5	47.8	N/A	N/A	8.8	0.065
Q62[d]	N/A	If patient visited the emergency room or emergency department for care in the last 12 months, patient was contacted by provider's office within one week of most recent visit	51.7	38.6	N/A	N/A	13.0	0.001
Providers support patients in taking care of own health								
Q41	Q39	Someone in provider's office discussed with patient during the last 12 months specific goals for his/her health	57.6	54.5	57.0	56.9	3.0	0.382
Q42	Q40	Someone in provider's office asked the patient during the last 12 months whether there are things that make it hard for patient to take care of his/her health	34.1	35.4	33.4	32.7	-2.0	0.509
Shared decision making								
Q34	Q32	If patient talked about starting/stopping a prescription medicine, provider talked a lot about the reasons patient might want to take the medicine	57.7	61.1	58.1	63.0	1.6	0.679
Q35	Q33	If patient talked about starting/stopping a prescription medicine, provider talked a lot about the reasons patient might not want to take a medicine	42.0	41.9	44.3	45.3	1.2	0.796
Q36	Q34	If patient talked about starting/stopping a prescription medicine, provider asked what patient thought was best	74.4	75.9	74.6	75.3	-0.8	0.827
Q67[d,f]	N/A	If patient received care from provider for a chronic condition, s/he was always asked for her/his ideas or goals when making a treatment plan	34.1	35.4	N/A	N/A	-1.3	0.666

Question[a,b]			Oklahoma					
			2014		2013			
2014	2013		Patients in CPC practices	Patients in comparison practices	Patients in CPC practices	Patients in comparison practices	Diff-in-diff (Pct. Pt.)	*p*-value
Q68[d]	N/A	When patient received care from provider for a chronic condition, patient was always given a copy of her/his treatment plan	43.9	39.7	N/A	N/A	4.2	0.374
Patients' rating of providers and care								
Q37	Q35	Patient rating of provider as best provider possible (9-10, out of a maximum of 10)	71.5	74.0	72.6	73.1	-2.0	0.534
Q50[d]	N/A	Compared to one year ago, patient feels that the care received by the provider was much better	20.9	22.3	N/A	N/A	-1.4	0.563

Table E.1g. Patient experience results: Difference-in-differences of predicted probabilities of giving the most favorable responses from 2013 to 2014, sample of Medicare FFS patients in Oregon

Question[a,b]			Oregon					
			2014		2013			
2014	2013		Patients in CPC practices	Patients in comparison practices	Patients in CPC practices	Patients in comparison practices	Diff-in-diff (Pct. Pt.)	*p*-value
Composite measure[c,e]								
Getting timely appointments, care, and information (5 questions)			52.0	50.7	52.1	53.3	2.5	0.234
How well providers communicate (6 questions)			78.3	78.2	77.9	79.7	2.0	0.251
Attention to care from other providers (2 questions)			77.0	76.3	76.7	77.5	1.6	0.417
Providers support patients in taking care of own health (2 questions)			50.5	48.3	47.9	49.9	4.2	0.086
Shared decision making (3 questions)			62.6	62.1	61.0	61.7	1.3	0.587
Patients' rating of providers (1 question)			74.0	72.6	73.0	74.9	3.4	0.176
Getting timely appointments, care, and information								
Q7		Patient always got appointment as soon as needed when s/he phoned provider's office to get an appointment for care needed right away	60.2	56.3	60.5	57.4	0.8	0.849
Q10		Patient always got appointment as soon as needed when s/he made appointment for check-up or routine care	68.0	63.7	68.3	67.6	3.5	0.239
Q15		When patient phoned provider's office during regular office hours, s/he always received an answer to his/her medical question that same day	53.1	54.9	50.5	56.1	3.9	0.352
Q17		When patient phoned provider's office after regular office hours, s/he always received an answer to his/her medical question as soon as needed	49.0	49.8	53.1	63.2	9.3	0.382
Q23	Q21	If patient had an appointment, s/he always saw provider within 15 minutes of appointment time	34.4	36.9	33.8	36.2	-0.1	0.957
Q8		When patient phoned providers office for care needed right away, patient usually got an appointment on same day	35.4	32.6	34.3	35.7	4.3	0.288

Question[a,b]			Oregon					
			2014		2013			
2014	2013		Patients in CPC practices	Patients in comparison practices	Patients in CPC practices	Patients in comparison practices	Diff-in-diff (Pct. Pt.)	*p*-value
Q11		Provider's office gave patient information about what to do if care was needed during evenings, weekends, or holidays	78.0	75.0	75.8	78.4	5.5	0.047
Q13		If patient needed care during evenings, weekends, or holidays in the last 12 months, patient was always able to get needed care from provider's office	32.5	30.7	28.7	39.1	12.1	0.080
How well providers communicate								
Q24	Q22	Providers always explained things to patient in a way that was easy to understand	80.5	80.9	78.9	84.5	5.2	0.012
Q25	Q23	Provider always listened carefully to patient	81.5	83.5	81.2	83.7	0.6	0.779
Q27	Q25	When patient talked with provider about health questions and concerns, provider always gave patient easy-to-understand information	77.0	75.5	76.5	79.1	4.1	0.096
Q28	Q26	Provider always seemed to know the important information about patient's medical history	71.8	69.4	71.6	70.2	0.9	0.709
Q29	Q27	Provider always showed respect for what patient had to say	85.2	85.0	85.0	86.8	1.9	0.279
Q30	Q28	Provider always spent enough time with patient	75.0	75.4	74.6	74.0	-1.0	0.714
Q38	Q36	Patient always felt provider really cared about patient as a person	75.1	73.5	74.5	77.6	4.7	0.073
Q19	Q19	When patient emailed provider's office, s/he always received an answer to his/her medical question as soon as needed	67.7	72.0	62.5	78.2	11.3	0.198
Q21[d]	N/A	If provider's office used a web portal or website, patient often (more than 3 times) used it to email the practice, review medical information, request prescription renewal or to make appointments	24.8	17.3	N/A	N/A	7.6	0.014

Question[a,b]			Oregon					
			2014		2013			
2014	2013		Patients in CPC practices	Patients in comparison practices	Patients in CPC practices	Patients in comparison practices	Diff-in-diff (Pct. Pt.)	*p*-value
Q22	Q20	In the last 12 months, between visits, patient received reminders about tests, treatment, or appointments from provider's office	73.8	78.0	74.3	77.7	-0.9	0.790
Q32	Q30	If provider ordered a blood test, x-ray, or other test, provider's office always followed up to provide patient with test results	75.3	76.3	76.5	80.5	2.9	0.251
Q45	Q43	Practice staff asked patient during the last 12 months if there was a period of time when they felt sad, empty, or depressed	46.9	41.4	41.4	42.2	6.4	0.040
Q46	Q44	Provider spoke with patient during the last 12 months about things in life that are worrisome or cause stress for the patient	48.1	43.9	43.4	46.4	7.3	0.020
Q47	Q45	Practice staff spoke with patient during the last 12 months about a personal, family, mental, emotional, or substance abuse problem	33.1	31.1	32.1	31.5	1.3	0.636
Q48	Q46	Clerks and receptionists at provider's office always were as helpful as patient thought they should be	68.1	68.0	67.5	71.5	4.0	0.154
Q49	Q47	Clerks and receptionists at provider's office always treated patient with courtesy and respect	84.8	83.9	83.8	85.0	2.1	0.308
Attention to care from other providers								
Q40	Q38	If patient visited a specialist, provider always seemed informed and up-to-date about the care patient received from specialists	59.4	58.4	59.6	61.2	2.5	0.440
Q44	Q42	If patient takes prescription medicines, practice staff spoke with patient at each visit during the last 12 months about all prescription medications the patient was taking	88.1	86.4	86.8	86.9	1.8	0.388
Q52	Q49	If patient required a referral from provider to see a specialist, patient always easily got referral to a specialist the patient needed to see	79.7	74.5	74.8	79.9	10.3	0.011

Question[a,b]			Oregon					
			2014		2013			
2014	2013		Patients in CPC practices	Patients in comparison practices	Patients in CPC practices	Patients in comparison practices	Diff-in-diff (Pct. Pt.)	*p*-value
Q54	Q51	If patient made an appointment to see a specialist, patient always easily got appointments with specialists	57.5	57.8	54.5	59.2	4.3	0.175
Q55	Q52	If patient made an appointment to see a specialist, provider talked with patient during the last 12 months about the cost of seeing a specialist	11.3	10.8	10.5	9.1	-0.9	0.638
Q56	Q53	If patient made an appointment to see a specialist, patient was worried or concerned during the last 12 months about the cost of seeing a specialist	17.5	17.8	19.4	20.0	0.3	0.924
Q58	Q55	When patient saw specialist, specialist always knew the important information about patient's medical history	54.5	57.4	56.0	59.4	0.5	0.883
N/A	Q57[d]	If patient stayed in a hospital overnight or longer in the last 12 months, patient saw doctor, nurse practitioner, or physician assistant in provider's office within two weeks after most recent hospital stay	N/A	N/A	68.0	63.8	4.2	0.367
N/A	Q58[d]	When patient saw provider within two weeks of most recent hospital stay, provider seemed informed and up-to-date about patient's hospital stay	N/A	N/A	94.5	91.6	2.9	0.317
Q60[d]	N/A	If patient stayed in a hospital overnight or longer in the last 12 months, patient was contacted by provider's office within 3 days of most recent hospital stay	58.1	58.6	N/A	N/A	-0.4	0.924
Q62[d]	N/A	If patient visited the emergency room or emergency department for care in the last 12 months, patient was contacted by provider's office within one week of most recent visit	57.3	50.0	N/A	N/A	7.3	0.010

Question[a,b]			Oregon					
			2014		2013			
2014	2013		Patients in CPC practices	Patients in comparison practices	Patients in CPC practices	Patients in comparison practices	Diff-in-diff (Pct. Pt.)	*p*-value
Providers support patients in taking care of own health								
Q41	Q39	Someone in provider's office discussed with patient during the last 12 months specific goals for his/her health	62.6	59.4	60.1	62.4	5.5	0.075
Q42	Q40	Someone in provider's office asked the patient during the last 12 months whether there are things that make it hard for patient to take care of his/her health	38.0	37.0	35.1	37.3	3.2	0.240
Shared decision making								
Q34	Q32	If patient talked about starting/stopping a prescription medicine, provider talked a lot about the reasons patient might want to take the medicine	63.8	65.3	62.3	63.6	-0.2	0.955
Q35	Q33	If patient talked about starting/stopping a prescription medicine, provider talked a lot about the reasons patient might not want to take a medicine	44.9	42.0	44.0	43.5	2.5	0.501
Q36	Q34	If patient talked about starting/stopping a prescription medicine, provider asked what patient thought was best	79.6	80.4	77.1	77.8	-0.2	0.944
Q67[d,f]	N/A	If patient received care from provider for a chronic condition, s/he was always asked for her/his ideas or goals when making a treatment plan	37.1	40.6	N/A	N/A	-3.4	0.273
Q68[d]	N/A	When patient received care from provider for a chronic condition, patient was always given a copy of her/his treatment plan	57.5	52.6	N/A	N/A	4.8	0.190

Question[a,b]			Oregon					
			2014		2013			
2014	2013		Patients in CPC practices	Patients in comparison practices	Patients in CPC practices	Patients in comparison practices	Diff-in-diff (Pct. Pt.)	*p*-value
Patients' rating of providers and care								
Q37	Q35	Patient rating of provider as best provider possible (9-10, out of a maximum of 10)	74.0	72.6	73.0	75.0	3.5	0.177
Q50[d]	N/A	Compared to one year ago, patient feels that the care received by the provider was much better	15.0	12.3	N/A	N/A	2.6	0.048

Source: Mathematica analysis of the 2013 CPC patient survey and 2014 CPC patient survey, fielded by Mathematica.

[a] Question numbers highlighted in grey denote that the question is used to calculate the composite measure.

[b] The questions generally asked patients about their experiences in the past 12 months. We summarize survey questions that ask about "anyone in this provider's office" as "practice staff" in the question labels.

[c] We ran statistical analysis (OLS and logistic regression models) on weighted data to identify the predicted probability of CPC and comparison practice patients answering with the most favorable response. Because many questions are preceded by a screener question, predicted distributions are generated from patients who responded to that question. The composite measures are a summary score generated by patient-level responses to select questions following the CAHPS Clinician & Group Survey scoring instructions. The question numbers highlighted in grey are the 19 questions that are included in the composite measures. We created patient-level composite measures by averaging the non-missing responses to the appropriate questions for each composite measure. We then ran an OLS regression on patient-level composite measures to obtain CPC-wide and region-specific composite measures. This methodology differs from the question-specific analysis, which uses a logit regression analysis to obtain predicted probabilities.

[d] Only questions asked in 2013 and 2014 were included in the difference-in-differences model. For questions asked in only one survey round, we calculated predicted probabilities and conducted t-tests to identify significant differences between CPC and comparison practice results. (There were eight questions that were asked in only one survey round: Q57 and Q58 in 2013, and Q21, Q50, Q60, Q62, Q67, and Q68 in 2014.)

[e] We calculated predicted probabilities from regression models that controlled for baseline practice characteristics (practice size, medical home recognition, whether the practice had one or more meaningful EHR users, and whether the practice was independent or owned by a medical group or health system), and characteristics of the practices' county or census tract (whether in a medically underserved area, Medicare Advantage penetration rate, percentage urban, and median household income); and baseline (2012) patient characteristics (age, gender, race, reason for Medicare eligibility, dual eligibility status, HCC score, number of annualized physician visits, number of annualized emergency room visits, number of annualized inpatient hospitalizations), and education status at the time of the survey. The models also included indicators for whether the respondent was a patient of a CPC or comparison practice, the survey year, and a term interacting these two indicators. We weighted estimates using practice-level nonresponse weights.

[f] The predicted probabilities for question 67 excludes the less than 5 percent of respondents who answered "No treatment plan was made"—in addition to missing responses.

FFS = fee-for-service.

Table E.2. Patient experience results: The number of statistically significant effects (favorable and unfavorable) on the most favorable responses given by a sample of Medicare FFS patients for 36 questions, by size and region

	CPC-wide	AR	CO	NJ	NY	OH/KY	OK	OR
Getting timely appointments, care, and information (8 questions)								
Statistically significant difference-in-differences and favorable								
Year-to-year decline for CPC practices			1					
Less than 2 percentage point increase	1							
2 to 5 percentage point increase	1	1						2
5 to 7 percentage point increase			1					
Statistically significant difference-in-differences and unfavorable								
Less than 2 percentage point year-to-year decline for CPC practices								
2 to 5 percentage point decline								
5 to 7 percentage point decline							1	
How well providers communicate (15 questions)								
Statistically significant difference-in-differences and favorable								
Year-to-year decline for CPC practices					1			
Less than 2 percentage point increase							1	3
2 to 5 percentage point increase	2	2		1	1			1
5 to 7 percentage point increase								1
Statistically significant difference-in-differences and unfavorable								
Less than 2 percentage point year-to-year decline for CPC practices				3				
2 to 5 percentage point decline								
5 to 7 percentage point decline								
Attention to care from other providers (7 questions)								
Statistically significant difference-in-differences and favorable								
Year-to-year decline for CPC practices	1				1		1	
Less than 2 percentage point increase								
2 to 5 percentage point increase		1						1
5 to 7 percentage point increase								
Statistically significant difference-in-differences and unfavorable								
Less than 2 percentage point year-to-year decline for CPC practices				1		1		
2 to 5 percentage point decline		1		1			1	
5 to 7 percentage point decline								

	CPC-wide	AR	CO	NJ	NY	OH/KY	OK	OR
Providers support patients in taking care of own health (2 questions)								
Statistically significant difference-in-differences and favorable								
Year-to-year decline for CPC practices								
Less than 2 percentage point increase	1	1						
2 to 5 percentage point increase	1	1		1	1			1
5 to 7 percentage point increase								
Statistically significant difference-in-differences and unfavorable								
Less than 2 percentage point year-to-year decline for CPC practices								
2 to 5 percentage point decline								
5 to 7 percentage point decline								
Shared decision making (3 questions)								
Statistically significant difference-in-differences and favorable								
Year-to-year decline for CPC practices								
Less than 2 percentage point increase	1	1						
2 to 5 percentage point increase	1	2						
5 to 7 percentage point increase						1		
Statistically significant difference-in-differences and unfavorable								
Less than 2 percentage point year-to-year decline for CPC practices								
2 to 5 percentage point decline								
5 to 7 percentage point decline								
Patients' rating of providers and care (1 question)								
Statistically significant difference-in-differences and favorable								
Year-to-year decline for CPC practices								
Less than 2 percentage point increase								
2 to 5 percentage point increase								
5 to 7 percentage point increase								
Statistically significant difference-in-differences and unfavorable								
Less than 2 percentage point year-to-year decline for CPC practices				1				
2 to 5 percentage point decline								
5 to 7 percentage point decline								

	CPC-wide	AR	CO	NJ	NY	OH/KY	OK	OR
Total across all 6 domains (36 questions)								
Statistically significant difference-in-differences and favorable								
Year-to-year decline for CPC practices	1		1		2		1	
Less than 2 percentage point increase	3	2					1	3
2 to 5 percentage point increase	5	7		2	2			5
5 to 7 percentage point increase			1			1		1
Statistically significant difference-in-differences and unfavorable								
Less than 2 percentage point year-to-year decline for CPC practices				5		1		
2 to 5 percentage point decline		1		1			1	
5 to 7 percentage point decline							1	

Source: Mathematica analysis of the 2013 CPC patient survey and 2014 CPC patient survey, fielded by Mathematica.

Note: Difference-in-differences estimates are considered statistically significant if $p < 0.10$.

FFS = fee-for-service.

APPENDIX F:

IMPACTS OF CPC ON MEDICARE EXPENDITURES, SERVICE USE, AND QUALITY OF CARE, BY REGION

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This appendix reports region-specific effects on Medicare expenditures, service use, and quality of care. Our statistical tests led to rejection of the hypothesis that the impacts of CPC on expenditures were equal across regions in year 1 (October 2012 to September 2013), although the same hypothesis could not be rejected for year 2 (October 2013 to September 2014). In this appendix, we describe only estimates that were statistically significant for at least one year for each of the seven CPC regions, though Tables F.1 through F.14 report all results regardless of whether they are statistically significant.

A. Arkansas

There were no favorable impacts on Medicare expenditures in Arkansas and very few statistically significant impacts on Medicare service use and claims-based quality-of-care outcomes.

Medicare expenditures. As noted in Chapter 7, the cumulative expenditures estimates for Arkansas were quite different from the overall CPC-wide results, with no decline in Medicare expenditures without fees across the two years for CPC patients relative to comparison patients and with a $21 (3 percent) increase in net Medicare expenditures including fees that was not significant (Table 7.6). Examining year 1 and year 2 separately, statistically significant findings for the CPC group relative to the comparison group were the following (Table F.1):

- Average monthly Medicare expenditures with care management fees increased by $25 (3 percent) among all patients in Arkansas in year 2. A smaller increase of $16 in year 1 was not statistically significant.
- In year 2, average monthly Medicare expenditures on home health services increased by $7 (25 percent), and expenditures on physician services declined by $10 (4 percent) among all patients.
- Among high-risk patients, average monthly expenditures on home health services increased by $6 (8 percent) and $18 (25 percent) in years 1 and 2 respectively, while expenditures on hospice services increased by $9 (23 percent) in year 1. Expenditures on physician services decreased by $17 (5 percent) in year 1, with a similar decrease in year 2, but that change was not statistically significant that year.

Medicare service use. For service utilization measures, the only statistically significant effects were that primary care clinician visits per 1,000 patients declined by 338 and 758 (4 percent and 8 percent respectively) in years 1 and 2 respectively, for all patients in all settings and by 801 and 1,052 (6 percent and 8 percent respectively) among high-risk patients in years 1 and 2 respectively.

Quality of care. Among all patients as well as high-risk patients, there were a few statistically significant impacts on the claims-based quality-of-care process and outcome measures in Arkansas that were mostly favorable (Table F.2):

- Among all patients, the likelihood of not complying with any of the four tests for diabetes declined by 1 percentage point (15 percent) in year 2. A smaller decline in year 1 was not statistically significant.

- Among high-risk patients, the likelihood of receiving all four tests for diabetes increased by 4.5 percentage points (19 percent) in year 1. A smaller 4 percentage point increase in year 2 was not statistically significant.
- The Bice-Boxerman Index of continuity of care for *primary care* physician visits increased (implying improved continuity of care) by around 5 percentage points for both all patients and high-risk patients in the postintervention period, or by 7 and 8 percent respectively.
- The Bice-Boxerman Index of continuity of care for *all* physician visits, increased by 2 percentage points (6 percent) for all patients in the postintervention period.
- The likelihood of a followup visit within 14 days of a hospital discharge decreased by 3 percentage points for both all patients and high-risk patients in year 1, or by 4 and 5 percent respectively.
- The likelihood of an ED revisit within 30 days of an outpatient ED visit decreased by 0.4 and 1 percentage points for all and high-risk patients respectively in year 1, or by 8 percent for both groups.

B. Colorado

Unlike results for the full sample, there were few statistically significant effects on Medicare expenditures, service use, or claims-based quality-of-care measures in Colorado.

Medicare expenditures. As indicated in Chapter 7, cumulative expenditures estimates across the two years show no statistically significant effects on Medicare expenditures either with or without care management fees among all or high-risk patients in Colorado, although expenditures including fees did increase by 2 percent among both groups (Table 7.6). Similarly, none of the separate yearly estimates for Medicare expenditures were significant in Colorado (Table F.3).

Medicare service use. Among all patients as well as high-risk patients in Colorado, there were no significant cumulative impacts on key service utilization measures (Table F.3), and the only significant effect on Medicare service use, by year, was the following:

- Annualized primary care clinician visits increased by 213 per 1,000 patients or 3 percent among all patients in year 1.

Quality of care. There were a few statistically significant findings—most of them favorable—for quality-of-care measures (Table F.4). Relative to the comparison group, the CPC group saw the following changes:

- The rate of eye exams for diabetes increased by 3 percentage points (6 percent) among all patients in year 2 and by 6 percentage points (11 percent) for high-risk patients in year 2.
- Urine protein testing for diabetes among high-risk patients increased by 5 percentage points (9 percent) in year 1.
- There was improvement in one measure of continuity of care during the two-year post-CPC period, with a significant increase in the percentage of *all* office visits with the patients' attributed practice of 2 percentage points (6 percent), among all patients.

- The likelihood of an unplanned 30-day readmission declined by 1 percentage point (10 percent) among all patients in year 2.
- The likelihood of an ED revisit within 30 days of an outpatient ED visit increased by around 2 percentage points (27 and 21 percent respectively) among high-risk patients in both year 1 and year 2.

C. New Jersey

As in the CPC-wide results, there were statistically significant reductions in Medicare expenditures without fees in New Jersey, and these changes were driven by reductions in inpatient, outpatient, physician, and home health expenditures.

Medicare expenditures. As noted in Chapter 7, cumulative expenditures estimates for the first two years show a significant decline in Medicare expenditures per beneficiary per month without fees of $39 (4 percent) for all patients and of $62 (4 percent) for high-risk patients. There were also declines with fees, but they were not significant (Table 7.6).

Separate yearly estimates show the following statistically significant results for all patients (Table F.5):

- Average monthly Medicare expenditures per beneficiary per month without care management fees declined for the CPC group relative to the comparison group by $45 (5 percent) and $33 (3 percent) in years 1 and 2 respectively among all patients. Also, the CPC-comparison difference suggests a significant net savings of $26 (3 percent) in year 1 when including care management fees, but a smaller net savings of $15 in year 2 was not statistically significant.
- Nearly 60 percent of the decline in Medicare expenditures without fees in year 1 was due to a reduction in inpatient expenditures ($26), 15 percent was due to a reduction in physician expenditures ($7), 13 percent due to a reduction in outpatient expenditures ($6), and 7 percent was due to a reduction in expenditures on home health services ($3). In year 2, two-thirds of the decline was due to reduced inpatient expenditures ($22) and another 20 percent was due to reduction in outpatient expenditures, but that change was not significant. (A reduction in expenditures for skilled nursing facility use also contributed to the decline in both years, but was not statistically significant.)
- Separate yearly estimates for high-risk patients show a statistically significant decline of $67 (4 percent) in year 1, driven by declines in expenditures for inpatient services and skilled nursing facilities. A somewhat smaller $57 decline in year 2 was not significant. Also, declines in Medicare expenditures with care management fees for the high-risk group were not statistically significant in any year.

Medicare service use. In New Jersey, there were several favorable impacts on Medicare service use outcomes (Table F.5):

- Hospitalizations per 1,000 patients per year declined by 15 (5 percent) in year 1, with a smaller decline of 10 in year 2 not being statistically significant.

- Annual specialist visits in all settings declined by 697 and 392 per 1,000 patients (4 and 2 percent) in years 1 and 2 respectively.
- Annual primary care clinician visits in all settings declined by 564 per 1,000 patients (7 percent) in year 1, with a much smaller decline of 217 in year 2 not significant.

There were one favorable and one unfavorable impact on Medicare service use outcomes for high-risk patients, by year (Table F.5):

- Annual specialist visits in all settings declined by 929 per 1,000 patients (3 percent) in year 1, with the decline of 486 in year 2 not being significant.
- Annual outpatient ED visits increased by 37 per 1,000 patients (7 percent) in year 2, with a smaller increase of 24 in year 1 not being significant.

Quality of care. There were a few statistically significant unfavorable effects on the quality-of-care process measures for diabetes in New Jersey—mainly driven by improvements in the comparison group over time, with the CPC group means being higher at baseline and remaining stable over time. There were also unfavorable effects on transitional care (Table F.6):

- HbA1c testing declined by 3 percentage points (3 percent) among all patients with diabetes in year 1.
- Eye exams declined by 5 percentage points (7 percent) among all patients with diabetes in year 2, and by 9 percentage points (13 percent) among high-risk patients with diabetes in year 2, with smaller declines in year 1 not being significant.
- The likelihood of receiving a 14-day followup visit declined by 2 percentage points (2 percent) and 3 percentage points (4 percent) among all patients and high-risk patients in year 2.

D. New York: Capital district-Hudson Valley region

In New York, although reductions in Medicare expenditures were not statistically significant, there were sizable statistically significant reductions in hospitalizations. In addition, there were a number of improvements in claims-based measures of quality of care.

Medicare expenditures. There were no statistically significant effects on annual Medicare expenditures in either year or cumulatively, either with or without care management fees, among all attributed patients or high-risk patients in New York (Table F.7).

Medicare service use. As described in Chapter 7, among all patients in New York, cumulative impact estimates suggest a significant decline in hospitalizations of 21 per 1,000 patients (6 percent) across the two years, but no significant effect on outpatient ED visits (Table G.7). In terms of yearly estimates, there were a few statistically significant impacts for the CPC group relative to the comparison group (Table F.7):

- Annual hospitalizations decreased by 19 and 21 per 1,000 patients (6–7 percent) in years 1 and 2 respectively.

- Outpatient ED visits per 1,000 patients increased by 25 (6 percent) in year 2, with a smaller increase of 17 in total ED visits in the same year not being significant.
- Primary care clinician visits in all settings declined by 935 per 1,000 patients (10 percent) in year 2, with a much smaller decline of 90 being insignificant in Year 1.

Among high-risk patients in New York, cumulative impact estimates show a significant decline in hospitalizations by 54 per 1,000 patients (8 percent) and a significant increase in outpatient ED visits, also by 54 per 1,000 (8 percent) (Table 7.6). There were also a few statistically significant findings for the CPC group relative to the comparison group in single years (Table F.7):

- Annual hospitalizations decreased by 62 and 43 per 1,000 patients (9 and 7 percent) in years 1 and 2 respectively.
- Outpatient ED visits increased by 62 per 1,000 patients (9 percent) in year 2, with a smaller increase of 47 in total ED visits that same year not being significant.
- Primary care clinician visits in all settings declined by 1,208 per 1,000 patients (9 percent) in year 2, with a smaller decline of 437 in year 1 being insignificant.
- Specialist visits in all settings declined by 1,024 per 1,000 patients (4 percent) in year 2, with a smaller decline of 431 in year 1 being insignificant.

Quality of care. Among all patients in New York, there were several statistically significant improvements for the CPC group relative to the comparison group in the quality-of-care measures, but only during the first year of CPC, as shown in Table F.8:

- HbA1c testing for patients with diabetes increased by 4 percentage points (5 percent) in year 1.
- Lipid testing among patients with diabetes increased by 2.6 percentage points (3 percent) in year 1.
- The likelihood of not complying with all four diabetes tests or exams declined by 1.6 percentage point (31 percent) in year 1.
- Lipid testing among patients with IVD increased by 2 percentage points (3 percent) in year 1.
- Followup visits 14 days after a hospital discharge rose by 3 percentage points (4 percent) in year 1.

Similarly, among high-risk patients in New York, there were also several statistically significant improvements in quality-of-care measures for the CPC group relative to the comparison group, with most of those effects occurring in year 1:

- HbA1c testing among patients with diabetes increased by 7 percentage points (9 percent) in year 1.
- Lipid testing among patients with diabetes increased by 3.6 percentage points (4 percent) in year 1.

- Eye exams among patients with diabetes increased by 5 percentage points (9 percent) in year 2.
- Urine protein testing among patients with diabetes increased by 6 percentage points (11 percent) in year 1.
- All four tests for patients with diabetes increased by 6–7 percentage points (21 and 20 percent respectively) in both years 1 and 2.
- Lipid testing among patients with IVD increased by 3 and 5 percentage points (4 and 6 percent) in years 1 and 2 respectively.
- Followup visits 14 day after a hospital discharge increased by 4 percentage points (6 percent) in year 1.

E. Ohio/Kentucky: Cincinnati-Dayton region

The pattern of results in Ohio/Kentucky differed from that of all regions combined, with *increases* in Medicare expenditures and service use for the CPC group relative to the comparison group.

Medicare expenditures. As shown in Chapter 7, cumulative expenditures estimates for the first two years show a significant increase in Medicare expenditures without fees of $35 (4 percent) for all patients and of $102 (7 percent) for high-risk patients (Table 7.6). After including fees, these increases were $53 (7 percent) and $131 (9 percent) for all and high-risk patients respectively.

Separate yearly estimates show the following statistically significant results for all patients in Ohio/Kentucky (Table F.9):

- Average monthly Medicare expenditures without care management fees increased for the CPC group relative to the comparison group by $28 (3 percent) in year 1, but a larger $41 increase in year 2 was not significant. After including care management fees, the CPC-comparison differences suggest significant net increases of $47 (6 percent) and $59 (7 percent) in years 1 and 2 respectively.
- Nearly 80 percent of the increase in Medicare expenditures without fees in year 1 was due to an increase in inpatient expenditures ($22). Although there were savings in skilled nursing facility costs of around $9, those were more than offset by increases in physician expenditures ($10) and home health expenditures ($3) in year 1.

Separate yearly estimates for high-risk patients show the following:

- Statistically significant increases in Medicare expenditures without fees of $80 (5 percent) and $123 (8 percent) in years 1 and 2 respectively, driven by increases in expenditures for inpatient (accounting for 60 percent of the increase and physician services). Including care management fees, Medicare expenditures increased by $109 (7 percent) and $153 (10 percent) over the two years.

Medicare service use. By year 2, there were statistically significant impacts on only two Medicare service use outcomes (Table F.9):

- For all patients, annual observation stays per 1,000 beneficiaries increased by 6 (12 percent) in year 1, and annual specialist visits increased by 744 per 1,000 beneficiaries (6 percent) in year 2.
- For high-risk patients, annual observation stays per 1,000 beneficiaries increased by 16 (18 percent) in year 1, and annual specialist visits increased by 1,239 and 1,515 per 1,000 beneficiaries (6 and 7 percent) in years 1 and 2 respectively.

Quality of care. There were very few statistically significant effects on the quality-of-care measures among either all or high-risk patients in Ohio/Kentucky during the first year of the initiative (Table F.10) relative to the comparison group:

- The percentage of CPC beneficiaries with diabetes that received a urine protein test increased by 5 percentage points (7 percent) for high-risk patients only.
- The Bice-Boxerman Index of continuity of care, based on primary care physician visits, decreased by 2 percentage points (3 percent) among all CPC patients in the postintervention period, implying a decline in the continuity of care received.
- ACSC admissions increased by 5 per 1,000 patients (7 percent) among all patients in year 1 and by 20 and 18 per 1,000 patients (11 and 12 percent) among high-risk patients in year 1 and year 2 respectively.
- The likelihood of an ED revisit increased by 0.5 and 0.4 percentage points, or 11 and 9 percent, among all patients in year 1 and year 2 respectively.

F. Oklahoma: Greater Tulsa region

Medicare expenditures. As shown in Chapter 7, cumulative expenditures estimates for the first two years show a significant decline in Medicare expenditures without fees of $27 (3 percent) for all patients and of $88 (6 percent) for high-risk patients, but the declines with fees were not significant (Table 7.6).

Separate yearly estimates show the following statistically significant results for all patients in Oklahoma (Table F.11):

- Average monthly Medicare expenditures without care management fees declined for the CPC group relative to the comparison group by $52 (6 percent) in year 1, but the much smaller decline of $6 in year 2 was not statistically significant. Also, the CPC-comparison difference suggests a statistically significant net savings of $33 (4 percent) in year 1—after including care management fees, but a net increase of $11 in year 2 that was not statistically significant.
- Over 60 percent of the decline in Medicare expenditures without fees in year 1 was due to a reduction in inpatient expenditures ($33), close to 20 percent was due to a reduction in skilled nursing facilities expenditures ($10), and another 8 percent due to a reduction in expenditures on home health services ($4), with smaller declines in physician, outpatient,

DME, and hospice costs that were not statistically significant. In contrast, there were no statistically significant savings in any of the expenditures components in year 2.

Separate yearly estimates for high-risk patients show a sizeable and statistically significant decline of $146 (9 percent) in total Medicare expenditures without fees in year 1, driven by declines in expenditures for inpatient services, skilled nursing facilities, and home health services, and leading to a net savings of $119 or 7 percent with fees. A somewhat smaller $31 decline in total Medicare expenditures without fees in year 2 was not significant.

Medicare service use. As shown in Chapter 7, among all patients, cumulative impact estimates for the two key utilization outcomes (hospitalizations and outpatient ED visits) suggest a statistically significant decline in outpatient ED visits by 18 per 1,000 patients or 3 percent (Table 7.6). Separate yearly estimates show the following significant impacts on Medicare service use outcomes in Oklahoma (Table F.11):

- Annualized hospitalizations per 1,000 patients per year declined by 18 (5 percent) in Year 1, with a small increase of 4 in year 2 not being statistically significant.
- Annualized outpatient ED visits and total ED visits declined by 28 and 35 per 1,000 patients respectively, or by 5 percent in year 1, without any significant impacts in year 2.
- Observation stays increased by 6 per 1,000 patients (8 percent) in year 2, with a decline of 3 in year 1 not being significant.

Among high-risk patients, cumulative impact estimates for the two key utilization outcomes suggest a significant decline in outpatient ED visits by 72 per 1,000 patients or 8 percent (Table 7.6). Yearly estimates show several favorable impacts on these Medicare service use outcomes (Table F.12):

- Annualized hospitalizations per 1,000 patients per year declined by 47 (6 percent) in Year 1, with a small increase of 6 in year 2 not being statistically significant.
- Annualized outpatient ED visits and total ED visits declined by 97 and 121 per 1,000 patients, or by 10 and 8 percent respectively in year 1, with smaller declines of 47 and 41 in year 2 not being significant.
- Annualized specialist visits in all settings declined by 685 per 1,000 patients (4 percent) in year 1, with the decline of 393 in year 2 not being significant.

Quality of care. Among all patients in Oklahoma, there were relatively few significant effects on quality of care, and these were a mix of favorable and unfavorable effects (Table F.12). For CPC patients relative to comparison patients, the following differences were significant:

- HbA1c testing for diabetes increased by 3.6 percentage points (6 percent) among all patients in year 2.
- The likelihood of receiving all four tests for patients with diabetes declined by 6 percentage points (21 percent) among all patients in year 1.

- The Bice-Boxerman Index of continuity of care, based on all physician visits, declined by 1 percentage point (4 percent) in the postintervention period, implying a decline in care continuity.
- The likelihood of having an ED revisit within 30 days of an outpatient ED visit declined by 1 percentage point (11 percent) in year 1.

Similarly, among high-risk patients in Oklahoma, there were relatively few significant effects on quality of care, with two unfavorable effects on claims-based quality process measures related to diabetes and two favorable effects on claims-based quality outcomes for CPC patients relative to comparison patients (Table F.12):

- Lipid testing for diabetes declined by 4 percentage points (6 percent) in year 2.
- The likelihood of receiving all four tests for patients with diabetes declined by 4 percentage points (16 percent) in year 1.
- The likelihood of an unplanned 30-day readmission within 30 days of an index discharge declined by 3 percentage points (12 percent) in year 1.
- The likelihood of an ED revisit within 30 days of an outpatient ED visit declined by around 1 percentage point (13 and 12 percent in years 1 and 2 respectively) in both years.

G. Oregon

In Oregon, although reductions in Medicare expenditures were not statistically significant, there were favorable effects on Medicare service use outcomes, including hospitalizations and outpatient ED visits. In addition, there were a number of improvements in claims-based measures of quality of care.

Medicare expenditures. Based on either the cumulative or separate yearly estimates, there were no statistically significant effects on annual Medicare expenditures, either with or without care management fees, among all attributed patients or high-risk patients in Oregon (Table F.13).

Medicare service use. As shown in the text, among all patients, cumulative impact estimates for the two key utilization outcomes (hospitalizations and outpatient ED visits) suggest a significant decline in outpatient ED visits by 24 per 1,000 patients, or 5 percent (Table 7.6). Separate yearly estimates show a few significant, favorable impacts on Medicare service use outcomes in Oregon (Table F.13) for CPC patients relative to comparison patients:

- Annual hospitalizations declined by 13 per 1,000 patients (5 percent) in year 1, with a slightly smaller decline of 10 in year 2 not being significant.
- Outpatient and total ED visits declined by 29 and 34 per 1,000 patients respectively in year 2, or by 5 percent, with smaller declines of 18 and 25 not being significant in year 1.
- Primary care clinician visits in all settings declined by 346 per 1,000 patients (5 percent) in year 1, with a smaller decline of 222 being insignificant in year 2.

Among high-risk patients in Oregon, yearly estimates point towards a single favorable impact (Table F.14):

- Relative to comparison patients, CPC patients experienced a decline in primary care clinician visits in all settings of 665 per 1,000 patients (6 percent) in year 1, with a smaller decline of 28 not being significant in year 2.

Quality of care. Among all patients in Oregon, there were several statistically significant improvements for the CPC group relative to the comparison group in the quality-of-care measures for diabetes, with the effects concentrated in the first year of CPC (Table F.14):

- HbA1c testing for patients with diabetes increased by 4 percentage points (5 percent) in year 1.
- Lipid testing among patients with diabetes increased by 2 percentage points (2 percent) in year 1.
- Eye exams among patients with diabetes increased by 3.5 percentage points (6 percent) in year 1.
- Urine protein testing among patients with diabetes increased by 4 percentage points (6 percent) in year 2.
- The likelihood of complying with all four diabetes tests or exams increased by 4 percentage points (12 percent) in year 1.
- The likelihood of not complying with all four diabetes tests or exams declined by 1.7 and 1.2 percentage points (28 percent and 24 percent) in year 1 and year 2 respectively.
- There was an unfavorable effect on continuity of care, with the Bice-Boxerman Index based on primary care physician visits declining by 3 percentage points (5 percent) in the postintervention period.
- The likelihood of an ED revisit within 30 days of an outpatient ED visit declined by 0.4 percentage points (7 percent) in year 2.

Similarly, among high-risk patients in Oregon, there were also several statistically significant improvements in quality-of-care measures for diabetes among the CPC group relative to the comparison group:

- HbA1c testing among patients with diabetes increased by 3.6 percentage points (4 percent) in year 1.
- Lipid testing among patients with diabetes increased by 3 and 5 percentage points (4 and 7 percent) in year 1 and year 2 respectively.
- Eye exams among patients with diabetes increased by nearly 8 percentage points (15 percent) in year 1.
- Urine protein testing among patients with diabetes increased by 5.5 percentage points (8 percent) in year 2.

- All four tests for patients with diabetes increased by 7 and 5 percentage points (21 and 15 percent) in years 1 and 2 respectively.
- The likelihood of not complying with all four diabetes tests or exams declined by 1.8 percentage points (30 percent) in year 1.
- There were unfavorable effects on continuity of care, with the Bice-Boxerman Index based on primary care physician visits and on all physician visits declining by 4.6 and 1.5 percentage points (7 and 4 percent) respectively in the postintervention period.

Table F.1. Regression-adjusted means and estimated difference-in-differences impact of CPC on expenditure and utilization measures during the first two years of CPC for attributed Medicare FFS beneficiaries: Yearly estimates for Arkansas

	All Attributed Medicare Beneficiaries						High-Risk Attributed Medicare Beneficiaries					
	CPC practices' predicted mean	Comparison group practices' predicted mean	Estimated impact (size)	Standard error for impact estimate	Estimated impact (%)	*p*-value for estimated impact	CPC practices' predicted mean	Comparison group practices' predicted mean	Estimated impact (size)	Standard error for impact estimate	Estimated impact (%)	*p*-value for estimated impact
Total Medicare expenditures ($ per beneficiary per month)												
Without CPC care management fees												
Baseline	$598	$621	—	—	—	—	$1,425	$1,427	—	—	—	—
Year 1	$717	$742	-$3	$14	0%	0.852	$1,410	$1,453	-$41	$52	-3%	0.437
Year 2	$760	$774	$8	$14	1%	0.561	$1,446	$1,439	$9	$41	1%	0.835
Test whether year 1 and year 2 impacts are jointly significant	F = 0.392	*p*-val = 0.676					F = 0.51	*p*-val = 0.601				
With CPC care management fees												
Baseline	$598	$621	—	—	—	—	$1,425	$1,427	—	—	—	—
Year 1	$735	$741	$16	$14	2%	0.262	$1,437	$1,452	-$14	$52	-1%	0.79
Year 2	$777	$774	$25*	$14	3%	0.081	$1,471	$1,439	$34	$41	2%	0.41
Test whether year 1 and year 2 impacts are jointly significant	F = 1.544	*p*-val = 0.216					F = 0.612	*p*-val = 0.543				
Expenditures by type of service ($ per beneficiary per month)												
Inpatient												
Baseline	$220	$202	—	—	—	—	$579	$511	—	—	—	—
Year 1	$276	$260	-$2	$10	-1%	0.85	$573	$542	-$38	$36	-6%	0.303
Year 2	$288	$263	$7	$9	2%	0.447	$582	$514	$0	$23	0%	1
Physician												
Baseline	$191	$200	—	—	—	—	$360	$361	—	—	—	—
Year 1	$205	$216	-$2	$3	-1%	0.461	$332	$351	-$17*	$9	-5%	0.051
Year 2	$213	$231	-$10*	$5	-4%	0.071	$336	$358	-$20	$14	-6%	0.144
Outpatient												
Baseline	$101	$103	—	—	—	—	$209	$212	—	—	—	—
Year 1	$110	$111	$2	$3	1%	0.615	$196	$190	$9	$9	5%	0.33
Year 2	$121	$122	$1	$4	1%	0.742	$206	$198	$11	$13	6%	0.415

	All Attributed Medicare Beneficiaries						High-Risk Attributed Medicare Beneficiaries					
	CPC practices' predicted mean	Comparison group practices' predicted mean	Estimated impact (size)	Standard error for impact estimate	Estimated impact (%)	*p*-value for estimated impact	CPC practices' predicted mean	Comparison group practices' predicted mean	Estimated impact (size)	Standard error for impact estimate	Estimated impact (%)	*p*-value for estimated impact
Skilled nursing facility												
Baseline	$25	$39	—	—	—	—	$92	$121	—	—	—	—
Year 1	$47	$65	-$4	$3	-8%	0.107	$119	$156	-$9	$9	-7%	0.346
Year 2	$54	$68	$0	$4	-1%	0.918	$126	$161	-$7	$9	-5%	0.455
DME												
Baseline	$30	$29	—	—	—	—	$78	$75	—	—	—	—
Year 1	$29	$27	$1	$1	2%	0.412	$63	$60	-$1	$2	-1%	0.592
Year 2	$26	$26	-$1	$1	-5%	0.284	$56	$56	-$3	$3	-5%	0.37
Hospice												
Baseline	$2	$3	—	—	—	—	$11	$13	—	—	—	—
Year 1	$18	$15	$4	$2	22%	0.105	$45	$39	$9*	$5	23%	0.083
Year 2	$21	$19	$4	$3	22%	0.152	$50	$43	$10	$6	24%	0.123
Home health												
Baseline	$29	$44	—	—	—	—	$97	$134	—	—	—	—
Year 1	$32	$47	$1	$1	2%	0.623	$82	$114	$6*	$3	8%	0.075
Year 2	$37	$45	$7***	$2	25%	<.001	$89	$109	$18***	$5	25%	0.001
Service utilization (annualized rate per 1,000 beneficiaries)												
Hospitalizations												
Baseline	281	270	—	—	—	—	700	665	—	—	—	—
Year 1	327	312	4	7	1%	0.517	686	660	-8	22	-1%	0.698
Year 2	329	316	2	10	1%	0.831	679	643	1	25	0%	0.96
Outpatient ED visits												
Baseline	491	480	—	—	—	—	974	915	—	—	—	—
Year 1	520	517	-8	13	-1%	0.559	922	888	-24	36	-3%	0.502
Year 2	548	531	6	15	1%	0.701	948	907	-18	34	-2%	0.584
Total ED visits												
Baseline	647	646	—	—	—	—	1,405	1,372	—	—	—	—
Year 1	715	724	-10	15	-1%	0.521	1,369	1,365	-29	45	-2%	0.525
Year 2	756	745	11	17	1%	0.524	1,418	1,378	7	42	0%	0.869
Observation stays												
Baseline	62	67	—	—	—	—	134	143	—	—	—	—
Year 1	65	70	1	5	1%	0.852	128	132	4	14	4%	0.759
Year 2	73	70	8	6	13%	0.168	139	123	24	16	21%	0.134

	All Attributed Medicare Beneficiaries						High-Risk Attributed Medicare Beneficiaries					
	CPC practices' predicted mean	Comparison group practices' predicted mean	Estimated impact (size)	Standard error for impact estimate	Estimated impact (%)	*p*-value for estimated impact	CPC practices' predicted mean	Comparison group practices' predicted mean	Estimated impact (size)	Standard error for impact estimate	Estimated impact (%)	*p*-value for estimated impact
Primary care visits in all settings												
Baseline	7,854	8,380	—	—	—	—	12,636	13,113	—	—	—	—
Year 1	9,095	9,959	-338**	161	-4%	0.036	13,041	14,320	-801***	279	-6%	0.004
Year 2	8,637	9,921	-758***	214	-8%	<.001	12,538	14,067	-1,052***	375	-8%	0.005
Specialist visits in all settings												
Baseline	11,373	11,877	—	—	—	—	20,857	20,987	—	—	—	—
Year 1	11,981	12,410	76	156	1%	0.629	19,209	19,701	-363	452	-2%	0.423
Year 2	12,344	12,758	91	186	1%	0.624	19,079	19,471	-262	390	-1%	0.502
Total number of observations (CPC and comparison) across all years:	697,867						182,278					

Source: Medicare claims data for the period October 2011–September 2014.

Note: Impact estimates and predicted means are regression adjusted for baseline patient characteristics (including HCC scores) and baseline practice characteristics. Each impact estimate is based on a difference-in-differences analysis, and reflects the difference in the regression-adjusted average outcome for beneficiaries in CPC practices in year 1 or year 2 compared to baseline relative to the same difference over time for beneficiaries in matched comparison practices.

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

FFS = fee-for-service; DME= durable medical equipment; ED = emergency department.

Table F.2. Regression-adjusted means and estimated difference-in-differences impact of CPC on selected quality-of-care process and outcome measures during the first two years of CPC for attributed Medicare FFS beneficiaries: Yearly estimates for Arkansas

	All Attributed Medicare Beneficiaries						High-Risk Attributed Medicare Beneficiaries					
	CPC practices' predicted mean	Comparison group practices' predicted mean	Estimated impact (size)	Standard error for impact estimate	Estimated impact (%)	*p*-value for estimated impact	CPC practices' predicted mean	Comparison group practices' predicted mean	Estimated impact (size)	Standard error for impact estimate	Estimated impact (%)	*p*-value for estimated impact
Quality of Care												
Among patients with diabetes—HbA1c test												
Baseline	68.7	75.3	—	—	—	—	66.9	71.1	—	—	—	—
Year 1	69.7	73.2	3.1	2.7	5%	0.243	68.5	69.6	3.1	3.1	5%	0.313
Year 2	69.7	77.5	-1.2	3.0	-2%	0.693	68.5	73.9	-1.2	3.7	-2%	0.749
Among patients with diabetes—lipid test												
Baseline	81.9	82.6	—	—	—	—	78.9	78.2	—	—	—	—
Year 1	83.3	83.8	0.2	1.0	0%	0.799	80.8	79.1	1.0	1.3	1%	0.435
Year 2	83.2	84.1	-0.1	1.3	0%	0.919	80.6	81.5	-1.6	1.7	-2%	0.349
Among patients with diabetes—eye exam												
Baseline	52.4	48.7	—	—	—	—	52.1	48.9	—	—	—	—
Year 1	55.4	50.3	1.3	1.3	2%	0.317	56.0	50.8	2.0	1.9	4%	0.301
Year 2	54.6	49.7	1.2	1.3	2%	0.358	54.9	49.6	2.1	2.1	4%	0.314
Among patients with diabetes—urine protein test												
Baseline	49.4	52.1	—	—	—	—	54.4	58.9	—	—	—	—
Year 1	51.3	54.7	-0.8	1.6	-1%	0.631	54.9	60.2	-0.8	2.1	-1%	0.695
Year 2	53.5	57.8	-1.6	2.6	-3%	0.52	57.8	61.6	0.7	2.5	1%	0.771
Among patients with Ischemic vascular disease—lipid test												
Baseline	77.3	82.3	—	—	—	—	73.1	77.7	—	—	—	—
Year 1	75.2	77.4	2.8	3.2	4%	0.387	71.1	71.8	3.9	4.4	6%	0.374
Year 2	73.4	77.6	0.7	2.9	1%	0.799	69.7	73.1	1.2	4.0	2%	0.774

	All Attributed Medicare Beneficiaries						High-Risk Attributed Medicare Beneficiaries					
	CPC practices' predicted mean	Comparison group practices' predicted mean	Estimated impact (size)	Standard error for impact estimate	Estimated impact (%)	*p*-value for estimated impact	CPC practices' predicted mean	Comparison group practices' predicted mean	Estimated impact (size)	Standard error for impact estimate	Estimated impact (%)	*p*-value for estimated impact
Among patients with diabetes—all 4 tests performed												
Baseline	23.3	23.7	—	—	—	—	24.0	25.5	—	—	—	—
Year 1	26.8	24.0	3.1	2.1	13%	0.126	28.1	25.1	4.5*	2.4	19%	0.062
Year 2	25.9	25.7	0.5	2.3	2%	0.826	27.2	24.8	3.9	3.1	17%	0.215
Among patients with diabetes—none of the 4 tests performed												
Baseline	7.7	6.3	—	—	—	—	7.5	6.6	—	—	—	—
Year 1	7.1	5.7	-0.1	0.5	-2%	0.838	6.5	6.3	-0.7	1.0	-11%	0.476
Year 2	6.0	5.7	-1.1*	0.6	-15%	0.062	5.7	5.5	-0.7	1.0	-11%	0.447
Total number of observations (CPC and comparison) across all years: Patients with diabetes	84,402						30,993					
Total number of observations (CPC and comparison) across all years: Patients with Ischemic vascular disease	87,063						43,399					
Continuity of care (percentage)												
Percentage of PCP visits at attributed practice												
Preintervention	85.4	84.2	—	—	—	—	81.9	79.5	—	—	—	—
Postintervention	75.1	71.9	2.0	2.1	3%	0.329	71.4	67.4	1.6	2.2	2%	0.468
Percentage of all visits at attributed practice												
Preintervention	51.1	53.5	—	—	—	—	44.0	46.3	—	—	—	—
Postintervention	43.7	44.5	1.6	1.2	4%	0.191	38.6	39.7	1.2	1.4	3%	0.42
Bice-Boxerman Index based on PCP visits												
Preintervention	78.7	76.8	—	—	—	—	74.7	72.6	—	—	—	—
Postintervention	76.6	69.4	5.2**	2.2	7%	0.016	73.5	65.9	5.5**	2.3	8%	0.016

	All Attributed Medicare Beneficiaries						High-Risk Attributed Medicare Beneficiaries					
	CPC practices' predicted mean	Comparison group practices' predicted mean	Estimated impact (size)	Standard error for impact estimate	Estimated impact (%)	*p*-value for estimated impact	CPC practices' predicted mean	Comparison group practices' predicted mean	Estimated impact (size)	Standard error for impact estimate	Estimated impact (%)	*p*-value for estimated impact
Bice-Boxerman Index based on all visits												
Preintervention	38.2	39.4	—	—	—	—	32.1	32.9	—	—	—	—
Postintervention	37.1	36.0	2.3**	0.9	6%	0.012	33.2	32.2	1.8	1.1	6%	0.108
Total number of observations (CPC and comparison) across all years: Measures based on PCP visits	262,338						77,424					
Total number of observations (CPC and comparison) across all years: Measures based on all visits	307,706						88,462					
Transitional care and quality of care outcomes (annualized rate per 1,000 or percentage)												
Likelihood of 14-day followup visit												
Baseline	56.0%	57.6%	—	—	—	—	59.5%	61.0%	—	—	—	—
Year 1	54.5%	58.7%	-3%*	2%	-4%	0.097	57.4%	62.1%	-3%*	2%	-5%	0.09
Year 2	54.6%	58.0%	-2%	2%	-3%	0.262	57.5%	61.4%	-2%	2%	-4%	0.272
Total number of observations (CPC and comparison) across all years: followup visit	183,107						100,552					
ACSC admissions												
Baseline	57	64	—	—	—	—	170	186	—	—	—	—
Year 1	76	78	5	3	6%	0.136	190	198	8	10	4%	0.418
Year 2	78	80	6	4	8%	0.161	190	199	7	13	4%	0.579
Total number of observations (CPC and comparison) across all years: ACSC admissions	697,867						182,278					
Likelihood of 30-day readmission												
Baseline	13.2%	13.6%	—	—	—	—	16.2%	17.4%	—	—	—	—
Year 1	14.7%	14.7%	0%	1%	3%	0.509	18.0%	18.2%	1%	1%	6%	0.374
Year 2	14.8%	14.3%	1%	1%	7%	0.128	18.2%	18.3%	1%	1%	6%	0.241

	All Attributed Medicare Beneficiaries						High-Risk Attributed Medicare Beneficiaries					
	CPC practices' predicted mean	Comparison group practices' predicted mean	Estimated impact (size)	Standard error for impact estimate	Estimated impact (%)	*p*-value for estimated impact	CPC practices' predicted mean	Comparison group practices' predicted mean	Estimated impact (size)	Standard error for impact estimate	Estimated impact (%)	*p*-value for estimated impact
Total number of observations (CPC and comparison) across all years: Readmissions	183,107						100,552					
Likelihood of an ED revisit within 30 days of an outpatient ED visit												
Baseline	4.8%	4.2%	—	—	—	—	10.5%	9.0%	—	—	—	—
Year 1	4.7%	4.5%	0%**	0%	-8%	0.028	9.4%	8.7%	-1%*	0%	-8%	0.067
Year 2	5.3%	4.8%	0%	0%	-1%	0.757	9.9%	8.7%	0%	0%	-3%	0.513
Total number of observations (CPC and comparison) across all years: ED revisit	697,867						182,278					

Source: Medicare claims data for the period October 2010–September 2014.

Note: Impact estimates and predicted means are regression adjusted for baseline patient characteristics (including HCC scores) and baseline practice characteristics. Each impact estimate is based on a difference-in-differences analysis and reflects the difference in the regression-adjusted average outcome for beneficiaries in CPC practices in the postintervention period compared to the preintervention period relative to the same difference over time for beneficiaries in matched comparison practices. For ED revisit, we also control for chronic conditions at baseline. For the readmissions and follow-up visits equations that are estimated at the discharge level, we also control for discharge-level risk factors.

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

FFS = fee-for-service; ACSC = ambulatory care sensitive condition; DME = durable medical equipment; ED = emergency department; PCP = primary care physician.

Table F.3. Regression-adjusted means and estimated difference-in-differences impact of CPC on expenditure and utilization measures during the first two years of CPC for attributed Medicare FFS beneficiaries: Yearly estimates for Colorado

	All Attributed Medicare Beneficiaries						High-Risk Attributed Medicare Beneficiaries					
	CPC practices' predicted mean	Comparison group practices' predicted mean	Estimated impact (size)	Standard error for impact estimate	Estimated impact (%)	*p*-value for estimated impact	CPC practices' predicted mean	Comparison group practices' predicted mean	Estimated impact (size)	Standard error for impact estimate	Estimated impact (%)	*p*-value for estimated impact
Total Medicare expenditures ($ per beneficiary per month)												
Without CPC care management fees												
Baseline	$569	$587	—	—	—	—	$1,402	$1,443	—	—	—	—
Year 1	$673	$687	$5	$23	1%	0.844	$1,347	$1,383	$5	$99	0%	0.963
Year 2	$715	$744	-$10	$21	-1%	0.625	$1,390	$1,441	-$10	$64	-1%	0.882
Test whether year 1 and year 2 impacts are jointly significant	F = 0.25	*p*-val = 0.779					F = 0.021	*p*-val = 0.979				
With CPC care management fees												
Baseline	$568	$587	—	—	—	—	$1,402	$1,443	—	—	—	—
Year 1	$692	$687	$24	$23	3%	0.312	$1,378	$1,383	$35	$100	3%	0.723
Year 2	$733	$744	$7	$21	1%	0.725	$1,423	$1,441	$23	$64	2%	0.716
Test whether year 1 and year 2 impacts are jointly significant	F = 0.529	*p*-val = 0.59					F = 0.086	*p*-val = 0.918				
Expenditures by type of service ($ per beneficiary per month)												
Inpatient												
Baseline	$188	$193	—	—	—	—	$510	$508	—	—	—	—
Year 1	$234	$236	$3	$10	1%	0.765	$485	$500	-$17	$37	-3%	0.652
Year 2	$244	$245	$4	$12	2%	0.754	$490	$494	-$6	$37	-1%	0.866
Physician												
Baseline	$194	$190	—	—	—	—	$365	$356	—	—	—	—
Year 1	$204	$194	$6	$5	3%	0.194	$325	$309	$7	$13	2%	0.59
Year 2	$211	$206	$0	$4	0%	0.966	$323	$322	-$8	$10	-2%	0.423
Outpatient												
Baseline	$103	$109	—	—	—	—	$224	$237	—	—	—	—
Year 1	$113	$123	-$5	$5	-4%	0.32	$200	$226	-$13	$14	-6%	0.352
Year 2	$124	$137	-$7*	$4	-6%	0.078	$221	$225	$9	$9	4%	0.351

	All Attributed Medicare Beneficiaries						High-Risk Attributed Medicare Beneficiaries					
	CPC practices' predicted mean	Comparison group practices' predicted mean	Estimated impact (size)	Standard error for impact estimate	Estimated impact (%)	*p*-value for estimated impact	CPC practices' predicted mean	Comparison group practices' predicted mean	Estimated impact (size)	Standard error for impact estimate	Estimated impact (%)	*p*-value for estimated impact
Skilled nursing facility												
Baseline	$32	$35	—	—	—	—	$122	$136	—	—	—	—
Year 1	$52	$56	-$1	$9	-2%	0.903	$144	$140	$18	$34	14%	0.592
Year 2	$58	$66	-$4	$8	-7%	0.608	$150	$169	-$5	$22	-3%	0.81
DME												
Baseline	$28	$28	—	—	—	—	$86	$85	—	—	—	—
Year 1	$28	$28	-$1	$1	-2%	0.559	$68	$69	-$2	$3	-3%	0.472
Year 2	$26	$27	-$1	$1	-4%	0.396	$59	$64	-$7*	$4	-10%	0.085
Hospice												
Baseline	$2	$7	—	—	—	—	$17	$34	—	—	—	—
Year 1	$16	$19	$2	$3	12%	0.514	$51	$56	$11	$10	27%	0.245
Year 2	$22	$29	-$2	$4	-7%	0.672	$66	$80	$3	$11	4%	0.809
Home Health												
Baseline	$21	$25	—	—	—	—	$77	$88	—	—	—	—
Year 1	$27	$31	$0	$2	-1%	0.822	$73	$84	$0	$9	1%	0.961
Year 2	$30	$34	$0	$2	0%	1	$80	$85	$6	$5	8%	0.188
Service utilization (annualized rate per 1,000 beneficiaries)												
Hospitalizations												
Baseline	204	231	—	—	—	—	536	592	—	—	—	—
Year 1	243	262	8	12	3%	0.533	531	551	37	40	7%	0.359
Year 2	237	266	-2	11	-1%	0.856	500	562	-6	23	-1%	0.813
Outpatient ED visits												
Baseline	389	403	—	—	—	—	798	811	—	—	—	—
Year 1	424	435	4	14	1%	0.748	798	787	25	32	3%	0.44
Year 2	459	489	-15	15	-3%	0.324	843	865	-8	31	-1%	0.798
Total ED visits												
Baseline	510	542	—	—	—	—	1,166	1,212	—	—	—	—
Year 1	577	601	8	20	1%	0.7	1,186	1,176	56	51	5%	0.272
Year 2	612	663	-19	20	-3%	0.34	1,216	1,284	-22	43	-2%	0.608
Observation stays												
Baseline	37	38	—	—	—	—	85	79	—	—	—	—
Year 1	45	42	5	4	11%	0.213	91	85	0	10	0%	0.985
Year 2	58	52	7	5	14%	0.174	112	100	6	12	6%	0.617

	All Attributed Medicare Beneficiaries						High-Risk Attributed Medicare Beneficiaries					
	CPC practices' predicted mean	Comparison group practices' predicted mean	Estimated impact (size)	Standard error for impact estimate	Estimated impact (%)	*p*-value for estimated impact	CPC practices' predicted mean	Comparison group practices' predicted mean	Estimated impact (size)	Standard error for impact estimate	Estimated impact (%)	*p*-value for estimated impact
Primary care visits in all settings												
Baseline	6,150	6,177	—	—	—	—	10,836	10,538	—	—	—	—
Year 1	7,372	7,186	213*	125	3%	0.09	11,704	11,099	307	231	3%	0.184
Year 2	7,290	7,236	80	162	1%	0.62	11,798	11,121	379	339	3%	0.264
Specialist visits in all settings												
Baseline	10,296	10,661	—	—	—	—	19,177	19,755	—	—	—	—
Year 1	10,597	10,892	70	179	1%	0.694	17,224	17,742	60	470	0%	0.899
Year 2	10,729	11,231	-137	224	-1%	0.543	16,526	17,656	-552	513	-3%	0.282
Total number of observations (CPC and comparison) across all years	535,173						120,914					

Source: Medicare claims data for the period October 2011–September 2014.

Note: Impact estimates and predicted means are regression adjusted for baseline patient characteristics (including HCC scores) and baseline practice characteristics. Each impact estimate is based on a difference-in-differences analysis and reflects the difference in the regression-adjusted average outcome for beneficiaries in CPC practices in year 1 or year 2 compared to baseline relative to the same difference over time for beneficiaries in matched comparison practices.

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

FFS = fee-for-service; DME = durable medical equipment; ED = emergency department.

Table F.4. Regression-adjusted means and estimated difference-in-differences impact of CPC on selected quality-of-care process and outcome measures during the first two years of CPC for attributed Medicare FFS beneficiaries: Yearly estimates for Colorado

	All Attributed Medicare Beneficiaries						High-Risk Attributed Medicare Beneficiaries					
	CPC practices' predicted mean	Comparison group practices predicted mean	CPC practices' predicted mean	Comparison group practices predicted mean	CPC practices' predicted mean	Comparison group practices predicted mean	CPC practices' predicted mean	Comparison group practices predicted mean	CPC practices' predicted mean	Comparison group practices predicted mean	CPC practices' predicted mean	Comparison group practices predicted mean
Quality of care (percentage)												
Among patients with diabetes—HbA1c test												
Baseline	73.4	72.9	—	—	—	—	68.3	67.2	—	—	—	—
Year 1	73.5	76.3	-3.3	2.2	-4%	0.137	70.7	76.5	-6.9	4.6	-9%	0.128
Year 2	77.4	76.2	0.7	3.6	1%	0.852	75.1	77.0	-3.1	4.2	-4%	0.462
Among patients with diabetes—lipid test												
Baseline	84.0	81.8	—	—	—	—	80.4	75.4	—	—	—	—
Year 1	83.2	81.4	-0.4	1.8	0%	0.82	81.0	78.9	-2.9	2.9	-4%	0.305
Year 2	82.9	79.3	1.4	1.8	2%	0.424	81.3	73.6	2.7	3.8	3%	0.472
Among patients with diabetes—eye exam												
Baseline	53.7	57.2	—	—	—	—	52.9	57.6	—	—	—	—
Year 1	55.4	56.5	2.3	2.8	4%	0.408	55.6	54.7	5.6	4.1	11%	0.172
Year 2	55.6	55.8	3.3*	1.9	6%	0.093	55.9	54.8	5.7*	3.5	11%	0.1
Among patients with diabetes—urine protein test												
Baseline	60.4	60.1	—	—	—	—	65.0	63.9	—	—	—	—
Year 1	61.1	58.5	2.4	2.8	4%	0.394	66.6	60.2	5.3**	2.6	9%	0.046
Year 2	63.9	60.4	3.2	2.7	5%	0.239	67.5	64.4	2.0	2.7	3%	0.446
Among patients with Ischemic vascular disease—lipid test												
Baseline	81.3	77.6	—	—	—	—	75.7	71.1	—	—	—	—
Year 1	79.3	75.9	-0.2	1.6	0%	0.905	76.2	72.6	-1.0	2.7	-1%	0.72
Year 2	76.9	73.5	-0.3	2.0	0%	0.861	72.8	68.7	-0.4	3.8	-1%	0.912

	All Attributed Medicare Beneficiaries						High-Risk Attributed Medicare Beneficiaries					
	CPC practices' predicted mean	Comparison group practices predicted mean	CPC practices' predicted mean	Comparison group practices predicted mean	CPC practices' predicted mean	Comparison group practices predicted mean	CPC practices' predicted mean	Comparison group practices predicted mean	CPC practices' predicted mean	Comparison group practices predicted mean	CPC practices' predicted mean	Comparison group practices predicted mean
Among patients with diabetes—all 4 tests performed												
Baseline	28.7	30.0	—	—	—	—	28.0	28.0	—	—	—	—
Year 1	30.0	29.4	2.0	2.1	7%	0.331	31.1	27.3	3.9	2.9	14%	0.177
Year 2	30.8	29.8	2.4	2.4	8%	0.324	31.7	29.3	2.4	3.0	8%	0.426
Among patients with diabetes—none of the 4 tests performed												
Baseline	6.3	6.9	—	—	—	—	6.6	6.7	—	—	—	—
Year 1	5.1	5.0	0.7	0.7	17%	0.312	5.1	3.6	1.6	1.8	47%	0.364
Year 2	4.7	5.3	0.0	1.0	0%	0.985	4.7	5.6	-0.8	1.0	-14%	0.449
Total number of observations (CPC and comparison) across all years: Patients with diabetes	50,191						16,610					
Total number of observations (CPC and comparison) across all years: Patients with Ischemic vascular disease	49,301						22,940					
Continuity of care (percentage)												
Percentage of PCP visits at attributed practice												
Preintervention	83.0	80.9	—	—	—	—	80.4	77.8	—	—	—	—
Postintervention	70.3	66.9	1.3	1.8	2%	0.474	68.7	66.0	0.1	2.1	0%	0.977
Percentage of all visits at attributed practice												
Preintervention	47.1	47.2	—	—	—	—	42.9	41.0	—	—	—	—
Postintervention	39.8	37.7	2.1*	1.2	6%	0.074	38.3	35.7	0.7	1.3	2%	0.589
Bice-Boxerman Index based on PCP visits												
Preintervention	74.8	72.5	—	—	—	—	72.4	70.2	—	—	—	—
Postintervention	68.6	63.6	2.8	2.1	4%	0.187	67.7	62.7	2.8	2.5	4%	0.267
Bice-Boxerman Index based on all visits												
Preintervention	34.5	34.4	—	—	—	—	31.1	29.4	—	—	—	—
Postintervention	32.8	31.4	1.4	1.0	4%	0.157	31.9	29.6	0.6	1.1	2%	0.614

	All Attributed Medicare Beneficiaries						High-Risk Attributed Medicare Beneficiaries					
	CPC practices' predicted mean	Comparison group practices predicted mean	CPC practices' predicted mean	Comparison group practices predicted mean	CPC practices' predicted mean	Comparison group practices predicted mean	CPC practices' predicted mean	Comparison group practices predicted mean	CPC practices' predicted mean	Comparison group practices predicted mean	CPC practices' predicted mean	Comparison group practices predicted mean
Total number of observations (CPC and comparison) across all years: Measures based on PCP visits	172,506						49,524					
Total number of observations (CPC and comparison) across all years: Measures based on all visits	237,602						63,570					
Transitional care and quality of care outcomes (annualized rate per 1,000 or percentage)												
Likelihood of 14-day followup visit												
Baseline	66.0%	65.3%	—	—	—	—	73.0%	71.5%	—	—	—	—
Year 1	65.7%	63.2%	2%	2%	3%	0.249	72.0%	69.1%	1%	2%	2%	0.436
Year 2	64.3%	63.4%	0%	1%	0%	0.875	71.4%	71.2%	-1%	2%	-2%	0.513
Total number of observations (CPC and comparison) across all years: Followup visit	117,794						58,060					
ACSC admissions												
Baseline	31	41	—	—	—	—	106	120	—	—	—	—
Year 1	42	52	-1	4	-1%	0.87	118	137	-6	16	-4%	0.729
Year 2	42	55	-4	4	-8%	0.34	114	142	-15	12	-11%	0.21
Total number of observations (CPC and comparison) across all years: ACSC admissions	535,173						120,914					
Likelihood of 30-day readmission												
Baseline	11.0%	11.0%	—	—	—	—	14.7%	15.5%	—	—	—	—
Year 1	12.1%	13.0%	-1%	1%	-7%	0.289	15.7%	15.6%	1%	1%	6%	0.554
Year 2	11.5%	12.8%	-1%*	1%	-10%	0.08	15.0%	16.7%	-1%	1%	-6%	0.496
Total number of observations (CPC and comparison) across all years: Readmissions	117,794						58,060					

	All Attributed Medicare Beneficiaries						High-Risk Attributed Medicare Beneficiaries					
	CPC practices' predicted mean	Comparison group practices predicted mean	CPC practices' predicted mean	Comparison group practices predicted mean	CPC practices' predicted mean	Comparison group practices predicted mean	CPC practices' predicted mean	Comparison group practices predicted mean	CPC practices' predicted mean	Comparison group practices predicted mean	CPC practices' predicted mean	Comparison group practices predicted mean
Likelihood of an ED revisit within 30 days of an outpatient ED visit												
Baseline	3.8%	4.2%	—	—	—	—	9.2%	10.5%	—	—	—	—
Year 1	4.0%	4.1%	0%	0%	7%	0.211	8.9%	8.3%	2%***	1%	27%	0.007
Year 2	4.4%	4.5%	0%	0%	6%	0.305	9.4%	9.2%	2%**	1%	21%	0.033
Total number of observations (CPC and comparison) across all years: ED revisit	535,173						120,914					

Source: Medicare claims data for the period October 2010–September 2014.

Note: Impact estimates and predicted means are regression adjusted for baseline patient characteristics (including HCC scores) and baseline practice characteristics. Each impact estimate is based on a difference-in-differences analysis and reflects the difference in the regression-adjusted average outcome for beneficiaries in CPC practices in the postintervention period compared to the preintervention period relative to the same difference over time for beneficiaries in matched comparison practices. For ED revisit, we also control for chronic conditions at baseline. For the readmissions and follow-up visits equations that are estimated at the discharge level, we also control for discharge-level risk factors.

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

FFS = fee-for-service; ACSC = ambulatory care sensitive condition; DME= durable medical equipment; ED = emergency department; PCP = primary care physician.

Table F.5. Regression-adjusted means and estimated difference-in-differences impact of CPC on expenditure and utilization measures during the first two years of CPC for attributed Medicare FFS beneficiaries: Yearly estimates for New Jersey

	All Attributed Medicare Beneficiaries						High-Risk Attributed Medicare Beneficiaries					
	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean
Total Medicare expenditures ($ per beneficiary per month)												
Without CPC care management fees												
Baseline	$691	$700	—	—	—	—	$1,518	$1,538	—	—	—	—
Year 1	$849	$902	-$45***	$16	-5%	0.004	$1,610	$1,696	-$67*	$39	-4%	0.094
Year 2	$914	$955	-$33*	$17	-3%	0.053	$1,666	$1,743	-$57	$43	-3%	0.188
Test whether year 1 and year 2 impacts are jointly significant	F = 4.568	*p*-val = 0.012					F = 1.635	*p*-val = 0.198				
With CPC care management fees												
Baseline	$691	$700	—	—	—	—	$1,518	$1,538	—	—	—	—
Year 1	$868	$902	-$26*	$16	-3%	0.095	$1,639	$1,696	-$37	$40	-2%	0.348
Year 2	$931	$955	-$15	$17	-2%	0.361	$1,696	$1,743	-$27	$43	-2%	0.532
Test whether year 1 and year 2 impacts are jointly significant	F = 1.44	*p*-val = 0.24					F = 0.471	*p*-val = 0.625				
Expenditures by type of service ($ per beneficiary per month)												
Inpatient												
Baseline	$215	$219	—	—	—	—	$541	$545	—	—	—	—
Year 1	$290	$319	-$26***	$9	-8%	0.006	$590	$625	-$30	$27	-5%	0.266
Year 2	$311	$337	-$22**	$11	-7%	0.043	$601	$653	-$48	$30	-7%	0.112
Physician												
Baseline	$293	$280	—	—	—	—	$505	$479	—	—	—	—
Year 1	$310	$304	-$7*	$4	-2%	0.093	$486	$472	-$12	$10	-2%	0.217
Year 2	$321	$306	$2	$4	1%	0.673	$488	$458	$3	$10	1%	0.757
Outpatient												
Baseline	$95	$96	—	—	—	—	$191	$187	—	—	—	—
Year 1	$107	$115	-$6*	$3	-5%	0.054	$190	$195	-$7	$9	-4%	0.431
Year 2	$119	$127	-$7	$6	-6%	0.23	$203	$199	$1	$11	1%	0.914

	All Attributed Medicare Beneficiaries						High-Risk Attributed Medicare Beneficiaries					
	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean
Skilled nursing facility												
Baseline	$46	$53	—	—	—	—	$154	$169	—	—	—	—
Year 1	$81	$93	-$6	$4	-6%	0.158	$194	$229	-$20*	$12	-9%	0.099
Year 2	$93	$107	-$7	$4	-7%	0.101	$212	$254	-$27*	$15	-11%	0.08
DME												
Baseline	$18	$20	—	—	—	—	$48	$53	—	—	—	—
Year 1	$19	$19	$2*	$1	11%	0.06	$41	$40	$6**	$3	17%	0.028
Year 2	$16	$17	$1	$2	7%	0.561	$36	$32	$9**	$4	34%	0.012
Hospice												
Baseline	$2	$3	—	—	—	—	$11	$15	—	—	—	—
Year 1	$15	$16	$1	$2	6%	0.681	$41	$44	$2	$6	5%	0.755
Year 2	$22	$23	$0	$4	1%	0.947	$56	$59	$1	$10	3%	0.886
Home health												
Baseline	$22	$28	—	—	—	—	$69	$89	—	—	—	—
Year 1	$28	$37	-$3**	$2	-10%	0.042	$67	$92	-$5	$4	-6%	0.221
Year 2	$32	$38	$0	$2	0%	0.946	$71	$88	$3	$6	5%	0.59
Service utilization (annualized rate per 1,000 beneficiaries)												
Hospitalizations												
Baseline	225	229	—	—	—	—	537	538	—	—	—	—
Year 1	278	297	-15*	8	-5%	0.064	576	601	-24	20	-4%	0.229
Year 2	287	300	-10	9	-3%	0.295	578	588	-9	18	-2%	0.616
Outpatient ED visits												
Baseline	314	325	—	—	—	—	567	586	—	—	—	—
Year 1	330	337	5	8	1%	0.528	564	559	24	23	4%	0.286
Year 2	343	350	4	8	1%	0.631	572	555	37*	19	7%	0.057
Total ED visits												
Baseline	472	491	—	—	—	—	978	1,011	—	—	—	—
Year 1	543	566	-5	11	-1%	0.664	1,040	1,066	7	30	1%	0.805
Year 2	565	582	2	12	0%	0.864	1,055	1,053	35	25	3%	0.163
Observation stays												
Baseline	33	26	—	—	—	—	69	52	—	—	—	—
Year 1	38	30	1	3	3%	0.687	76	54	4	6	6%	0.498
Year 2	43	37	-2	3	-5%	0.443	80	63	-1	6	-1%	0.935

	All Attributed Medicare Beneficiaries						High-Risk Attributed Medicare Beneficiaries					
	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean
Primary care visits in all settings												
Baseline	6,127	6,574	—	—	—	—	9,800	10,714	—	—	—	—
Year 1	7,369	8,380	-564***	205	-7%	0.006	11,338	12,719	-466	322	-4%	0.148
Year 2	7,403	8,068	-217	221	-3%	0.326	11,219	12,472	-338	454	-3%	0.457
Specialist visits in all settings												
Baseline	16,635	15,675	—	—	—	—	28,447	27,171	—	—	—	—
Year 1	17,151	16,887	-697***	168	-4%	<.001	26,899	26,553	-929**	395	-3%	0.019
Year 2	17,949	17,381	-392**	198	-2%	0.048	26,993	26,203	-486	403	-2%	0.228
Total number of observations (CPC and comparison) across all years	419,183						112,757					

Source: Medicare claims data for the period October 2011–September 2014.

Note: Impact estimates and predicted means are regression adjusted for baseline patient characteristics (including HCC scores) and baseline practice characteristics. Each impact estimate is based on a difference-in-differences analysis and reflects the difference in the regression-adjusted average outcome for beneficiaries in CPC practices in year 1 or year 2 compared to baseline relative to the same difference over time for beneficiaries in matched comparison practices.

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

FFS = fee-for-service; DME = durable medical equipment; ED=emergency department.

Table F.6. Regression-adjusted means and estimated difference-in-differences impact of CPC on selected quality-of-care process and outcome measures during the first two years of CPC for attributed Medicare FFS beneficiaries: Yearly estimates for New Jersey

	All Attributed Medicare Beneficiaries						High-Risk Attributed Medicare Beneficiaries					
	CPC practices' predicted mean	Comparison group practices predicted mean	CPC practices' predicted mean	Comparison group practices predicted mean	CPC practices' predicted mean	Comparison group practices predicted mean	CPC practices' predicted mean	Comparison group practices predicted mean	CPC practices' predicted mean	Comparison group practices predicted mean	CPC practices' predicted mean	Comparison group practices predicted mean
Quality of care (percentage)												
Among patients with diabetes—HbA1c test												
Baseline	86.2	82.0	—	—	—	—	81.1	78.2	—	—	—	—
Year 1	85.8	84.3	-2.7*	1.4	-3%	0.054	81.9	82.4	-3.5	2.3	-4%	0.129
Year 2	87.0	85.0	-2.2	1.9	-2%	0.267	84.6	84.9	-3.3	2.6	-4%	0.219
Among patients with diabetes—lipid test												
Baseline	87.7	87.1	—	—	—	—	85.4	87.8	—	—	—	—
Year 1	88.1	87.9	-0.5	1.0	-1%	0.621	85.9	87.8	0.5	1.7	1%	0.773
Year 2	91.4	89.0	1.8	3.2	2%	0.571	89.3	88.8	2.9	3.5	3%	0.416
Among patients with diabetes—eye exam												
Baseline	62.1	56.8	—	—	—	—	63.6	54.7	—	—	—	—
Year 1	62.8	57.5	0.0	1.5	0%	0.99	65.6	59.0	-2.3	3.0	-3%	0.43
Year 2	62.0	61.4	-4.7**	1.8	-7%	0.01	62.0	62.5	-9.4***	3.2	-13%	0.003
Among patients with diabetes—urine protein test												
Baseline	66.2	64.9	—	—	—	—	68.0	67.8	—	—	—	—
Year 1	70.8	66.7	2.7	1.8	4%	0.122	72.5	70.2	2.1	2.9	3%	0.474
Year 2	70.6	66.7	2.6	2.1	4%	0.212	72.4	66.6	5.6	3.5	8%	0.111
Among patients with Ischemic vascular disease—lipid test												
Baseline	87.3	85.3	—	—	—	—	86.0	84.5	—	—	—	—
Year 1	85.7	84.4	-0.7	1.5	-1%	0.665	83.8	83.0	-0.6	1.2	-1%	0.599
Year 2	86.8	84.6	0.1	2.0	0%	0.954	84.6	82.7	0.4	1.9	0%	0.832

	All Attributed Medicare Beneficiaries						High-Risk Attributed Medicare Beneficiaries					
	CPC practices' predicted mean	Comparison group practices predicted mean	CPC practices' predicted mean	Comparison group practices predicted mean	CPC practices' predicted mean	Comparison group practices predicted mean	CPC practices' predicted mean	Comparison group practices predicted mean	CPC practices' predicted mean	Comparison group practices predicted mean	CPC practices' predicted mean	Comparison group practices predicted mean
Among patients with diabetes—all 4 tests performed												
Baseline	40.0	35.6	—	—	—	—	40.7	37.7	—	—	—	—
Year 1	42.9	36.7	1.8	1.6	4%	0.275	45.1	39.2	2.9	2.3	7%	0.196
Year 2	42.6	40.5	-2.3	2.8	-5%	0.41	43.3	39.4	0.9	3.7	2%	0.816
Among patients with diabetes—none of the 4 tests performed												
Baseline	3.8	4.2	—	—	—	—	4.3	4.9	—	—	—	—
Year 1	3.7	3.7	0.3	0.5	10%	0.505	3.9	3.7	0.8	0.9	28%	0.376
Year 2	3.2	4.2	-0.7	0.8	-17%	0.401	3.5	4.0	0.1	1.5	2%	0.963
Total number of observations (CPC and comparison) across all years: Patients with diabetes	37,676						13,109					
Total number of observations (CPC and comparison) across all years: Patients with Ischemic vascular disease	48,147						25,589					
Continuity of care (percentage)												
Percentage of PCP visits at attributed practice												
Preintervention	86.2	83.2	—	—	—	—	83.5	80.7	—	—	—	—
Postintervention	76.8	72.4	1.4	1.7	2%	0.424	74.7	69.3	2.6	2.5	4%	0.3
Percentage of all visits at attributed practice												
Preintervention	40.4	41.1	—	—	—	—	32.9	34.0	—	—	—	—
Postintervention	34.3	34.7	0.4	1.1	1%	0.745	29.8	30.4	0.4	1.4	2%	0.751
Bice-Boxerman Index based on PCP visits												
Preintervention	80.9	77.1	—	—	—	—	78.6	75.6	—	—	—	—
Postintervention	76.6	73.0	-0.2	1.1	0%	0.838	75.6	72.4	0.1	1.3	0%	0.919
Bice-Boxerman Index based on all visits												
Preintervention	31.2	32.0	—	—	—	—	25.7	27.3	—	—	—	—
Postintervention	30.0	30.9	-0.1	0.6	0%	0.9	26.9	28.5	0.0	0.6	0%	0.994
Total number of observations (CPC and comparison) across all years: Measures based on PCP visits	150,782						47,524					

	All Attributed Medicare Beneficiaries						High-Risk Attributed Medicare Beneficiaries					
	CPC practices' predicted mean	Comparison group practices predicted mean	CPC practices' predicted mean	Comparison group practices predicted mean	CPC practices' predicted mean	Comparison group practices predicted mean	CPC practices' predicted mean	Comparison group practices predicted mean	CPC practices' predicted mean	Comparison group practices predicted mean	CPC practices' predicted mean	Comparison group practices predicted mean
Total number of observations (CPC and comparison) across all years: Measures based on All visits	193,592						57,618					
Transitional care and quality of care outcomes (annualized rate per 1,000 or percentage)												
Likelihood of 14-day followup visit												
Baseline	72.5%	73.0%	—	—	—	—	76.4%	76.7%	—	—	—	—
Year 1	72.6%	72.7%	0%	1%	1%	0.721	76.5%	78.3%	-1%	1%	-2%	0.282
Year 2	71.6%	73.9%	-2%*	1%	-2%	0.09	75.1%	78.3%	-3%*	2%	-4%	0.075
Total number of observations (CPC and comparison) across all years: Followup visit	94,808						53,682					
ACSC admissions												
Baseline	40	43	—	—	—	—	111	124	—	—	—	—
Year 1	61	66	-2	3	-3%	0.518	152	160	5	9	3%	0.615
Year 2	62	64	0	3	1%	0.898	152	154	11	9	8%	0.242
Total number of observations (CPC and comparison) across all years: ACSC admissions	419,183						112,757					
Likelihood of 30-day readmission												
Baseline	13.5%	13.4%	—	—	—	—	16.2%	16.1%	—	—	—	—
Year 1	15.0%	15.3%	0%	1%	-3%	0.72	19.0%	18.5%	0%	2%	2%	0.782
Year 2	14.7%	15.0%	0%	1%	-3%	0.684	18.2%	17.5%	1%	1%	4%	0.653
Total number of observations (CPC and comparison) across all years: Readmissions	94,808						53,682					

	All Attributed Medicare Beneficiaries						High-Risk Attributed Medicare Beneficiaries					
	CPC practices' predicted mean	Comparison group practices predicted mean	CPC practices' predicted mean	Comparison group practices predicted mean	CPC practices' predicted mean	Comparison group practices predicted mean	CPC practices' predicted mean	Comparison group practices predicted mean	CPC practices' predicted mean	Comparison group practices predicted mean	CPC practices' predicted mean	Comparison group practices predicted mean
Likelihood of an ED revisit within 30 days of an outpatient ED visit												
Baseline	3.0%	3.2%	—	—	—	—	6.4%	6.9%	—	—	—	—
Year 1	3.1%	3.1%	0%	0%	6%	0.288	6.3%	6.2%	1%	0%	9%	0.226
Year 2	3.4%	3.4%	0%	0%	6%	0.207	6.4%	6.2%	1%	1%	13%	0.231
Total number of observations (CPC and comparison) across all years:												
ED revisit	419,183						112,736					

Source: Medicare claims data for the period October 2010–September 2014.

Note: Impact estimates and predicted means are regression adjusted for baseline patient characteristics (including HCC scores) and baseline practice characteristics. Each impact estimate is based on a difference-in-differences analysis and reflects the difference in the regression-adjusted average outcome for beneficiaries in CPC practices in the postintervention period compared with the preintervention period relative to the same difference over time for beneficiaries in matched comparison practices. For ED revisit, we also control for chronic conditions at baseline. For the readmissions and follow-up visits equations that are estimated at the discharge level, we also control for discharge-level risk factors.

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

FFS = fee-for-service; ACSC = ambulatory care sensitive condition; DME = durable medical equipment; ED = emergency department; PCP = primary care physician.

Table F.7. Regression-adjusted means and estimated difference-in-differences impact of CPC on expenditure and utilization measures during the first two years of CPC for attributed Medicare FFS beneficiaries: Yearly estimates for New York

	All Attributed Medicare Beneficiaries						High-Risk Attributed Medicare Beneficiaries					
	CPC practices' predicted mean	Comparison group practices predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean
Total Medicare expenditures ($ per beneficiary per month)												
Without CPC care management fees												
Baseline	$624	$624	—	—	—	—	$1,364	$1,345	—	—	—	—
Year 1	$763	$782	-$19	$21	-2%	0.372	$1,436	$1,490	-$73	$55	-5%	0.19
Year 2	$826	$848	-$21	$18	-3%	0.242	$1,500	$1,520	-$38	$46	-2%	0.414
Test whether year 1 and year 2 impacts are jointly significant	F = 0.694	*p*-val = 0.501					F = 0.866	*p*-val = 0.422				
With CPC care management fees												
Baseline	$624	$624	—	—	—	—	$1,364	$1,346	—	—	—	—
Year 1	$782	$782	$0	$21	0%	0.995	$1,465	$1,490	-$44	$55	-3%	0.426
Year 2	$844	$848	-$3	$18	0%	0.849	$1,529	$1,519	-$9	$47	-1%	0.847
Test whether year 1 and year 2 impacts are jointly significant	F = 0.038	*p*-val = 0.963					F = 0.413	*p*-val = 0.662				
Expenditures by type of service ($ per beneficiary per month)												
Inpatient												
Baseline	$222	$208	—	—	—	—	$545	$508	—	—	—	—
Year 1	$286	$297	-$26*	$15	-8%	0.097	$579	$623	-$80*	$41	-12%	0.052
Year 2	$313	$322	-$23**	$10	-7%	0.02	$603	$606	-$39	$27	-6%	0.148
Physician												
Baseline	$237	$231	—	—	—	—	$415	$406	—	—	—	—
Year 1	$259	$244	$8**	$4	3%	0.038	$407	$390	$7	$8	2%	0.373
Year 2	$268	$258	$3	$4	1%	0.474	$411	$405	-$3	$8	-1%	0.681
Outpatient												
Baseline	$88	$90	—	—	—	—	$164	$164	—	—	—	—
Year 1	$99	$101	$0	$3	0%	0.924	$163	$158	$5	$7	3%	0.502
Year 2	$111	$112	$2	$3	2%	0.629	$180	$171	$9	$8	5%	0.249
Skilled nursing facility												
Baseline	$34	$42	—	—	—	—	$111	$120	—	—	—	—
Year 1	$61	$68	$2	$5	3%	0.668	$147	$154	$2	$12	1%	0.881
Year 2	$73	$84	-$3	$5	-3%	0.61	$168	$188	-$11	$16	-6%	0.496

	All Attributed Medicare Beneficiaries						High-Risk Attributed Medicare Beneficiaries					
	CPC practices' predicted mean	Comparison group practices predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean
DME												
Baseline	$19	$22	—	—	—	—	$51	$56	—	—	—	—
Year 1	$19	$22	$0	$1	-2%	0.693	$41	$46	$0	$2	-1%	0.81
Year 2	$16	$19	-$1	$1	-4%	0.588	$32	$37	-$1	$2	-3%	0.637
Hospice												
Baseline	$1	$2	—	—	—	—	$9	$11	—	—	—	—
Year 1	$11	$14	-$2	$3	-13%	0.574	$29	$34	-$4	$8	-10%	0.668
Year 2	$14	$15	$1	$3	4%	0.835	$33	$30	$5	$5	19%	0.271
Home health												
Baseline	$22	$29	—	—	—	—	$69	$81	—	—	—	—
Year 1	$28	$36	-$1	$1	-5%	0.284	$68	$83	-$2	$4	-3%	0.579
Year 2	$31	$38	-$1	$2	-2%	0.759	$73	$83	$2	$5	3%	0.599
Service utilization (annualized rate per 1,000 beneficiaries)												
Hospitalizations												
Baseline	248	228	—	—	—	—	586	535	—	—	—	—
Year 1	296	295	-19***	7	-6%	0.009	610	622	-62***	20	-9%	0.002
Year 2	302	303	-21***	7	-7%	0.003	599	592	-43**	21	-7%	0.04
Outpatient ED visits												
Baseline	389	389	—	—	—	—	708	701	—	—	—	—
Year 1	423	412	10	13	2%	0.442	722	668	46	30	7%	0.118
Year 2	453	427	25**	11	6%	0.025	773	704	62*	34	9%	0.065
Total ED visits												
Baseline	563	555	—	—	—	—	1,159	1,132	—	—	—	—
Year 1	646	642	-4	14	-1%	0.765	1,222	1,195	0	38	0%	0.992
Year 2	688	663	17	13	2%	0.185	1,275	1,201	47	42	4%	0.264
Observation stays												
Baseline	30	32	—	—	—	—	61	69	—	—	—	—
Year 1	39	43	-1	3	-2%	0.737	75	73	10	6	15%	0.101
Year 2	51	48	6	4	14%	0.121	94	87	15	10	20%	0.122
Primary care visits in all settings												
Baseline	7,552	7,377	—	—	—	—	11,551	11,636	—	—	—	—
Year 1	8,603	8,518	-90	138	-1%	0.515	12,252	12,773	-437	289	-3%	0.131
Year 2	8,443	9,203	-935***	315	-10%	0.003	12,283	13,576	-1208**	514	-9%	0.019

	All Attributed Medicare Beneficiaries						High-Risk Attributed Medicare Beneficiaries					
	CPC practices' predicted mean	Comparison group practices predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean
Specialist visits in all settings												
Baseline	15,760	14,072	—	—	—	—	27,183	23,228	—	—	—	—
Year 1	16,476	14,551	237	202	1%	0.24	26,020	22,497	-431	382	-2%	0.258
Year 2	16,920	15,295	-64	223	0%	0.775	25,499	22,568	-1024**	419	-4%	0.014
Total number of observations (CPC and comparison) across all years	346,248						94,667					

Source: Medicare claims data for the period October 2011–September 2014.

Note: Impact estimates and predicted means are regression adjusted for baseline patient characteristics (including HCC scores) and baseline practice characteristics. Each impact estimate is based on a difference-in-differences analysis and reflects the difference in the regression-adjusted average outcome for beneficiaries in CPC practices in year 1 or year 2 compared to baseline relative to the same difference over time for beneficiaries in matched comparison practices.

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

FFS = fee-for-service; DME = durable medical equipment; ED = emergency department.

Table F.8. Regression-adjusted means and estimated difference-in-differences impact of CPC on selected quality-of-care process and outcome measures during the first two years of CPC for attributed Medicare FFS beneficiaries: Yearly estimates for New York

	All Attributed Medicare Beneficiaries						High-Risk Attributed Medicare Beneficiaries					
	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean
Quality of care (percentage)												
Among patients with diabetes—HbA1c test												
Baseline	86.1	86.7	—	—	—	—	83.1	85.0	—	—	—	—
Year 1	86.5	82.7	4.4**	1.7	5%	0.012	85.3	80.3	6.9**	2.9	9%	0.018
Year 2	85.8	86.0	0.5	1.3	1%	0.712	84.5	83.9	2.5	2.3	3%	0.276
Among patients with diabetes—lipid test												
Baseline	90.0	89.6	—	—	—	—	87.5	86.7	—	—	—	—
Year 1	90.1	87.2	2.6**	1.2	3%	0.037	88.6	84.3	3.6**	1.7	4%	0.034
Year 2	88.4	88.6	-0.6	1.2	-1%	0.598	86.7	86.8	-0.9	2.0	-1%	0.663
Among patients with diabetes—eye exam												
Baseline	59.4	64.0	—	—	—	—	60.2	67.2	—	—	—	—
Year 1	60.1	63.7	1.0	1.8	2%	0.585	61.6	66.6	2.0	2.5	3%	0.439
Year 2	60.9	63.7	1.7	1.5	3%	0.272	62.0	63.9	5.0**	2.4	9%	0.036
Among patients with diabetes—urine protein test												
Baseline	58.9	57.0	—	—	—	—	61.1	62.7	—	—	—	—
Year 1	60.9	57.6	1.3	2.0	2%	0.51	63.8	59.2	6.2**	3.1	11%	0.043
Year 2	63.1	58.8	2.4	2.5	4%	0.335	63.7	61.9	3.4	3.1	6%	0.267
Among patients with Ischemic vascular disease— lipid test												
Baseline	87.5	85.3	—	—	—	—	85.1	82.5	—	—	—	—
Year 1	88.2	83.8	2.2**	1.0	3%	0.039	86.0	80.1	3.3*	1.7	4%	0.05
Year 2	85.2	81.4	1.5	1.2	2%	0.188	83.6	76.2	4.8***	1.7	6%	0.005

	All Attributed Medicare Beneficiaries						High-Risk Attributed Medicare Beneficiaries					
	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean
Among patients with diabetes—all 4 tests performed												
Baseline	35.0	35.4	—	—	—	—	35.2	39.3	—	—	—	—
Year 1	36.3	35.1	1.6	1.7	5%	0.34	37.4	34.9	6.6***	2.4	21%	0.006
Year 2	38.1	35.7	2.9	2.1	8%	0.164	38.5	36.1	6.5**	3.1	20%	0.037
Among patients with diabetes—none of the 4 tests performed												
Baseline	3.7	3.1	—	—	—	—	4.4	4.0	—	—	—	—
Year 1	3.5	4.4	-1.6**	0.7	-31%	0.019	3.0	4.0	-1.4	1.2	-33%	0.232
Year 2	3.4	3.5	-0.7	0.7	-18%	0.275	3.3	3.8	-1.0	1.3	-23%	0.438
Total number of observations (CPC and comparison) across all years: Patients with diabetes	34,522						12,589					
Total number of observations (CPC and comparison) across all years: Patients with Ischemic vascular disease	42,100						21,826					
Continuity of care (percentage)												
Percentage of PCP visits at attributed practice												
Preintervention	83.3	81.1	—	—	—	—	80.6	77.4	—	—	—	—
Postintervention	74.0	71.9	-0.1	1.2	0%	0.956	72.2	69.7	-0.8	1.1	-1%	0.491
Percentage of all visits at attributed practice												
Preintervention	42.9	46.3	—	—	—	—	35.9	40.0	—	—	—	—
Postintervention	36.5	40.1	-0.2	1.0	-1%	0.81	32.0	36.3	-0.2	0.8	-1%	0.837
Bice-Boxerman Index based on PCP visits												
Preintervention	75.5	74.0	—	—	—	—	73.0	70.5	—	—	—	—
Postintervention	69.9	69.1	-0.7	1.1	-1%	0.553	68.8	67.4	-1.0	1.2	-1%	0.419
Bice-Boxerman Index based on all visits												
Preintervention	31.8	33.7	—	—	—	—	26.3	28.7	—	—	—	—
Postintervention	29.9	31.9	-0.1	0.6	0%	0.822	26.4	29.0	-0.3	0.5	-1%	0.619
Total number of observations (CPC and comparison) across all years: Measures based on PCP visits	130,944						41,994					

	All Attributed Medicare Beneficiaries						High-Risk Attributed Medicare Beneficiaries					
	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean
Total number of observations (CPC and comparison) across all years: Measures based on all visits	158,344						48,672					
Transitional care and quality of care outcomes (annualized rate per 1,000 or percentage)												
Likelihood of 14-day followup visit												
Baseline	68.7%	69.5%	—	—	—	—	72.7%	74.2%	—	—	—	—
Year 1	68.8%	66.9%	3%**	1%	4%	0.032	72.0%	69.6%	4%**	2%	6%	0.011
Year 2	68.0%	67.9%	1%	1%	1%	0.486	71.0%	70.9%	2%	1%	2%	0.256
Total number of observations (CPC and comparison) across all years: Followup visit	80,936						46,446					
ACSC admissions												
Baseline	46	45	—	—	—	—	128	125	—	—	—	—
Year 1	64	66	-3	3	-4%	0.38	160	162	-6	9	-3%	0.51
Year 2	66	65	0	3	0%	0.971	157	150	4	9	3%	0.665
Total number of observations (CPC and comparison) across all years: ACSC admissions	346,248						94,667					
Likelihood of 30-day readmission												
Baseline	14.4%	14.0%	—	—	—	—	17.2%	17.1%	—	—	—	—
Year 1	16.3%	16.6%	-1%	1%	-4%	0.502	20.4%	20.5%	0%	1%	-1%	0.853
Year 2	16.1%	15.5%	0%	1%	1%	0.846	19.8%	18.1%	2%	2%	9%	0.285
Total number of observations (CPC and comparison) across all years: Readmissions	80,936						46,446					

	All Attributed Medicare Beneficiaries						High-Risk Attributed Medicare Beneficiaries					
	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean
Likelihood of an ED revisit within 30 days of an outpatient ED visit												
Baseline	4.1%	3.9%	—	—	—	—	8.8%	7.8%	—	—	—	—
Year 1	4.3%	3.9%	0%	0%	4%	0.482	8.4%	7.4%	0%	1%	1%	0.871
Year 2	4.7%	4.2%	0%	0%	8%	0.229	8.8%	7.6%	0%	1%	4%	0.642
Total number of observations (CPC and comparison) across all years:												
ED revisit	346,248						94,633					

Source: Medicare claims data for the period October 2010–September 2014.

Note: Impact estimates and predicted means are regression adjusted for baseline patient characteristics (including HCC scores) and baseline practice characteristics. Each impact estimate is based on a difference-in-differences analysis and reflects the difference in the regression-adjusted average outcome for beneficiaries in CPC practices in the postintervention period compared to the preintervention period relative to the same difference over time for beneficiaries in matched comparison practices. For ED revisit, we also control for chronic conditions at baseline. For the readmissions and follow-up visits equations that are estimated at the discharge level, we also control for discharge-level risk factors.

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

FFS = fee-for-service; ACSC = ambulatory care sensitive condition; DME = durable medical equipment; ED = emergency department; PCP = primary care physician.

Table F.9. Regression-adjusted means and estimated difference-in-differences impact of CPC on expenditure and utilization measures during the first two years of CPC for attributed Medicare FFS beneficiaries: Yearly estimates for Ohio/Kentucky

	All Attributed Medicare Beneficiaries						High-Risk Attributed Medicare Beneficiaries					
	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean
Total Medicare expenditures ($ per beneficiary per month)												
Without CPC care management fees												
Baseline	$620	$658	—	—	—	—	$1,413	$1,438	—	—	—	—
Year 1	$803	$813	$28*	$16	3%	0.08	$1,570	$1,515	$80**	$35	5%	0.024
Year 2	$839	$836	$41	$27	5%	0.123	$1,597	$1,499	$123***	$45	8%	0.007
Test whether year 1 and year 2 impacts are jointly significant	F = 1.767	*p*-val = 0.173					F = 4.582	*p*-val = 0.011				
With CPC care management fees												
Baseline	$620	$658	—	—	—	—	$1,413	$1,438	—	—	—	—
Year 1	$822	$812	$47***	$16	6%	0.003	$1,599	$,1515	$109***	$35	7%	0.002
Year 2	$857	$836	$59**	$27	7%	0.027	$1,627	$1,499	$153***	$45	10%	0.001
Test whether year 1 and year 2 impacts are jointly significant	F = 4.621	*p*-val = 0.011					F = 7.595	*p*-val = 0.001				
Expenditures by type of service ($ per beneficiary per month)												
Inpatient												
Baseline	$230	$247	—	—	—	—	$575	$583	—	—	—	—
Year 1	$322	$316	$22**	$11	7%	0.038	$663	$619	$51**	$24	8%	0.038
Year 2	$318	$311	$24	$17	8%	0.148	$639	$576	$71**	$28	13%	0.013
Physician												
Baseline	$198	$202	—	—	—	—	$365	$360	—	—	—	—
Year 1	$221	$215	$10***	$4	5%	0.007	$367	$335	$28***	$8	8%	<.001
Year 2	$226	$216	$14***	$5	6%	0.009	$360	$326	$29***	$8	9%	0.001
Outpatient												
Baseline	$106	$125	—	—	—	—	$200	$235	—	—	—	—
Year 1	$118	$134	$3	$4	2%	0.51	$199	$220	$15	$9	8%	0.105
Year 2	$131	$147	$3	$6	3%	0.598	$220	$244	$11	$10	5%	0.26
Skilled nursing facility												
Baseline	$31	$30	—	—	—	—	$96	$94	—	—	—	—
Year 1	$63	$71	-$9**	$4	-11%	0.029	$149	$163	-$15	$11	-9%	0.146
Year 2	$73	$74	-$2	$4	-2%	0.678	$165	$159	$4	$9	3%	0.641

	All Attributed Medicare Beneficiaries						High-Risk Attributed Medicare Beneficiaries					
	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean
DME												
Baseline	$22	$25	—	—	—	—	$63	$67	—	—	—	—
Year 1	$21	$23	$0	$1	2%	0.714	$47	$47	$4	$3	10%	0.103
Year 2	$19	$21	$0	$2	0%	0.987	$39	$38	$5	$4	16%	0.187
Hospice												
Baseline	$0	$0	—	—	—	—	$11	$11	—	—	—	—
Year 1	$16	$19	-$3	$2	-13%	0.164	$43	$48	-$5	$5	-9%	0.381
Year 2	$24	$26	-$3	$3	-12%	0.23	$59	$63	-$3	$6	-5%	0.59
Home health												
Baseline	$33	$29	—	—	—	—	$103	$87	—	—	—	—
Year 1	$42	$35	$3*	$2	8%	0.061	$102	$84	$3	$4	3%	0.519
Year 2	$49	$40	$5***	$2	12%	0.002	$114	$92	$6	$5	5%	0.213
Service utilization (annualized rate per 1,000 beneficiaries)												
Hospitalizations												
Baseline	280	302	—	—	—	—	671	693	—	—	—	—
Year 1	340	346	16	10	5%	0.12	703	704	21	22	3%	0.339
Year 2	333	343	12	13	4%	0.37	675	655	42	27	7%	0.113
Outpatient ED visits												
Baseline	473	477	—	—	—	—	872	829	—	—	—	—
Year 1	506	499	10	12	2%	0.383	845	820	-18	28	-2%	0.522
Year 2	534	548	-11	13	-2%	0.419	907	905	-40	31	-4%	0.194
Total ED visits												
Baseline	663	665	—	—	—	—	1,372	1,305	—	—	—	—
Year 1	754	741	15	15	2%	0.316	1,403	1,351	-15	38	-1%	0.697
Year 2	782	792	-8	15	-1%	0.616	1,451	1,408	-23	40	-2%	0.564
Observation stays												
Baseline	42	55	—	—	—	—	87	111	—	—	—	—
Year 1	54	61	6**	3	12%	0.043	106	114	16**	8	18%	0.037
Year 2	72	82	4	3	5%	0.222	135	155	4	11	3%	0.7
Primary care visits in all settings												
Baseline	6,548	6,917	—	—	—	—	10,472	10,742	—	—	—	—
Year 1	7,690	8,116	-58	163	-1%	0.724	11,704	11,800	174	291	1%	0.549
Year 2	7,735	80,23	80	142	1%	0.574	11,808	11,796	282	254	2%	0.268

	All Attributed Medicare Beneficiaries						High-Risk Attributed Medicare Beneficiaries					
	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean
Specialist visits in all settings												
Baseline	12,912	13,458	—	—	—	—	22,741	23,361	—	—	—	—
Year 1	13,849	13,981	414	267	3%	0.121	22,376	21,757	1239***	424	6%	0.004
Year 2	14,282	14,085	744**	318	6%	0.02	22,326	21,430	1515***	411	7%	<.001
Total number of observations (CPC and comparison) across all years	456,818						123,495					

Source: Medicare claims data for the period October 2011–September 2014.

Note: Impact estimates and predicted means are regression adjusted for baseline patient characteristics (including HCC scores) and baseline practice characteristics. Each impact estimate is based on a difference-in-differences analysis and reflects the difference in the regression-adjusted average outcome for beneficiaries in CPC practices in year 1 or year 2 compared to baseline relative to the same difference over time for beneficiaries in matched comparison practices.

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

FFS = fee-for-service; DME = durable medical equipment; ED = emergency department.

Table F.10. Regression-adjusted means and estimated difference-in-differences impact of CPC on selected quality-of-care process and outcome measures during the first two years of CPC for attributed Medicare FFS beneficiaries: Yearly estimates for Ohio/Kentucky

	All Attributed Medicare Beneficiaries						High-Risk Attributed Medicare Beneficiaries					
	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean
Quality of care (percentage)												
Among patients with diabetes—HbA1c test												
Baseline	89.6	84.8	—	—	—	—	87.4	82.1	—	—	—	—
Year 1	90.9	87.6	-1.4	1.1	-2%	0.194	90.1	84.4	0.4	1.6	0%	0.786
Year 2	91.7	87.7	-0.8	1.4	-1%	0.55	90.7	86.4	-0.9	1.9	-1%	0.621
Among patients with diabetes—lipid test												
Baseline	92.4	89.6	—	—	—	—	90.2	87.8	—	—	—	—
Year 1	91.9	90.2	-1.0	0.9	-1%	0.251	91.0	88.2	0.3	1.4	0%	0.806
Year 2	92.2	89.1	0.3	1.3	0%	0.813	90.5	87.2	0.9	1.7	1%	0.618
Among patients with diabetes—eye exam												
Baseline	51.9	52.1	—	—	—	—	52.4	52.0	—	—	—	—
Year 1	54.3	53.0	1.5	1.3	3%	0.276	55.1	51.6	3.1	2.8	6%	0.272
Year 2	54.0	53.1	1.1	2.0	2%	0.591	53.2	52.3	0.5	3.1	1%	0.884
Among patients with diabetes—urine protein test												
Baseline	65.8	65.5	—	—	—	—	68.8	69.2	—	—	—	—
Year 1	72.9	72.1	0.5	2.3	1%	0.841	76.1	71.8	4.7*	2.8	7%	0.094
Year 2	75.8	71.5	4.0	3.2	6%	0.218	77.8	74.6	3.6	2.7	5%	0.189
Among patients with Ischemic vascular disease—lipid test												
Baseline	82.4	80.8	—	—	—	—	78.1	76.2	—	—	—	—
Year 1	81.9	81.1	-0.7	1.2	-1%	0.584	79.0	75.1	2.1	2.3	3%	0.368
Year 2	80.0	79.7	-1.2	1.5	-1%	0.421	77.0	75.7	-0.6	2.3	-1%	0.787
Among patients with diabetes—all 4 tests performed												
Baseline	35.1	34.6	—	—	—	—	35.2	34.4	—	—	—	—
Year 1	40.4	38.5	1.4	1.7	4%	0.414	42.2	37.4	4.0	2.8	10%	0.152
Year 2	41.1	37.9	2.7	2.7	7%	0.325	40.5	37.9	1.8	3.1	5%	0.561

	All Attributed Medicare Beneficiaries						High-Risk Attributed Medicare Beneficiaries					
	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean
Among patients with diabetes—none of the 4 tests performed												
Baseline	3.2	4.2	—	—	—	—	3.2	4.3	—	—	—	—
Year 1	3.0	3.3	0.7	0.9	32%	0.44	2.9	4.0	-0.1	1.0	-2%	0.956
Year 2	2.7	4.0	-0.3	0.7	-9%	0.696	2.6	4.2	-0.4	0.6	-14%	0.495
Total number of observations (CPC and comparison) across all years: Patients with diabetes	57,428						20,963					
Total number of observations (CPC and comparison) across all years: Patients with Ischemic vascular disease	56,423						29,708					
Continuity of care (percentage)												
Percentage of PCP visits at attributed practice												
Preintervention	87.6	83.9	—	—	—	—	84.6	79.5	—	—	—	—
Postintervention	77.7	75.0	-1.2	1.2	-1%	0.339	75.6	71.3	-0.8	1.3	-1%	0.557
Percentage of all visits at attributed practice												
Preintervention	47.8	47.6	—	—	—	—	40.4	39.6	—	—	—	—
Postintervention	41.1	41.4	-0.5	0.8	-1%	0.576	36.5	35.5	0.3	0.9	1%	0.784
Bice-Boxerman Index based on PCP visits												
Preintervention	80.9	77.8	—	—	—	—	76.9	73.0	—	—	—	—
Postintervention	74.6	73.6	-2.1*	1.2	-3%	0.1	72.3	70.4	-2.0	1.3	-3%	0.112
Bice-Boxerman Index based on all visits												
Preintervention	35.1	35.9	—	—	—	—	28.3	28.9	—	—	—	—
Postintervention	32.6	34.0	-0.7	0.7	-2%	0.285	28.3	29.1	-0.3	0.8	-1%	0.736
Total number of observations (CPC and comparison) across all years: Measures based on PCP visits	182,956						58,236					
Total number of observations (CPC and comparison) across all years: Measures based on all visits	218,562						66,458					
Transitional care and quality of care outcomes (annualized rate per 1,000 or percentage)												
Baseline	62.4%	60.9%	—	—	—	—	66.4%	65.3%	—	—	—	—
Year 1	64.5%	64.7%	-2%	1%	-2%	0.228	68.3%	67.6%	0%	1%	-1%	0.758

	All Attributed Medicare Beneficiaries						High-Risk Attributed Medicare Beneficiaries					
	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean
Year 2	65.1%	64.1%	0%	2%	-1%	0.811	68.6%	66.7%	1%	2%	1%	0.653
Total number of observations (CPC and comparison) across all years: Followup visit	126,615						70,777					
ACSC admissions												
Baseline	56	56	—	—	—	—	155	156	—	—	—	—
Year 1	78	72	5*	3	7%	0.074	193	173	20**	9	11%	0.034
Year 2	74	74	0	3	0%	0.924	178	160	18*	10	12%	0.068
Total number of observations (CPC and comparison) across all years: ACSC admissions	456,818						123,495					
Likelihood of 30-day readmission												
Baseline	14.1%	14.5%	—	—	—	—	17.2%	17.9%	—	—	—	—
Year 1	15.9%	17.3%	-1%	1%	-6%	0.278	19.5%	21.0%	-1%	1%	-4%	0.462
Year 2	15.6%	15.2%	1%	1%	5%	0.224	18.8%	18.8%	1%	1%	4%	0.455
Total number of observations (CPC and comparison) across all years: Readmissions	126,615						70,777					
Likelihood of an ED revisit within 30 days of an outpatient ED visit												
Baseline	4.7%	4.8%	—	—	—	—	10.1%	9.9%	—	—	—	—
Year 1	4.9%	4.5%	1%**	0%	11%	0.041	9.6%	8.8%	1%	1%	7%	0.343
Year 2	5.3%	5.0%	0%**	0%	9%	0.036	10.0%	9.1%	1%	1%	7%	0.321
Total number of observations (CPC and comparison) across all years: ED revisit	456,818						123,449					

Source: Medicare claims data for the period October 2010–September 2014.

Note: Impact estimates and predicted means are regression adjusted for baseline patient characteristics (including HCC scores) and baseline practice characteristics. Each impact estimate is based on a difference-in-differences analysis and reflects the difference in the regression-adjusted average outcome for beneficiaries in CPC practices in the postintervention period compared to the preintervention period relative to the same difference over time for beneficiaries in matched comparison practices. For ED revisit, we also control for chronic conditions at baseline. For the readmissions and follow-up visits equations that are estimated at the discharge level, we also control for discharge-level risk factors.

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

FFS = fee-for-service; ACSC = ambulatory care sensitive condition; DME = durable medical equipment; ED = emergency department; PCP = primary care physician.

Table F.11. Regression-adjusted means and estimated difference-in-differences impact of CPC on expenditure and utilization measures during the first two years of CPC for attributed Medicare FFS beneficiaries: Yearly estimates for Oklahoma

	All Attributed Medicare Beneficiaries						High-Risk Attributed Medicare Beneficiaries					
	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean
Total Medicare expenditures ($ per beneficiary per month)												
Without CPC care management fees												
Baseline	$622	$622	—	—	—	—	$1,474	$1,472	—	—	—	—
Year 1	$729	$781	-$52***	$12	-6%	<.001	$1,433	$1,578	-$146***	$38	-9%	<.001
Year 2	$797	$803	-$6	$17	-1%	0.714	$1,517	$1,547	-$31	$52	-2%	0.552
Test whether year 1 and year 2 impacts are jointly significant	F = 10.647	*p*-val = 0					F = 7.59	*p*-val = 0.001				
With CPC care management fees												
Baseline	$622	$622	—	—	—	—	$1,474	$1,473	—	—	—	—
Year 1	$748	$781	-$33***	$12	-4%	0.005	$1,460	$1,578	-$119***	$38	-7%	0.002
Year 2	$814	$803	$11	$17	1%	0.534	$1,544	$1,547	-$4	$52	0%	0.935
Test whether year 1 and year 2 impacts are jointly significant	F = 5.685	*p*-val = 0.004					F = 5.436	*p*-val = 0.005				
Expenditures by type of service ($ per beneficiary per month)												
Inpatient												
Baseline	$218	$216	—	—	—	—	$559	$565	—	—	—	—
Year 1	$266	$297	-$33***	$8	-11%	<.001	$550	$644	-$87***	$27	-14%	0.001
Year 2	$293	$292	$0	$10	0%	0.988	$588	$592	$3	$35	1%	0.933
Physician												
Baseline	$177	$173	—	—	—	—	$334	$317	—	—	—	—
Year 1	$190	$189	-$2	$3	-1%	0.485	$315	$309	-$11	$8	-3%	0.175
Year 2	$199	$199	-$4	$4	-2%	0.264	$315	$310	-$12	$9	-4%	0.183
Outpatient												
Baseline	$111	$116	—	—	—	—	$217	$230	—	—	—	—
Year 1	$122	$128	-$1	$3	-1%	0.765	$197	$216	-$6	$8	-3%	0.462
Year 2	$140	$142	$3	$4	2%	0.486	$224	$245	-$7	$10	-3%	0.461
Skilled nursing facility												
Baseline	$26	$22	—	—	—	—	$85	$77	—	—	—	—
Year 1	$40	$46	-$10***	$3	-18%	0.003	$99	$116	-$25***	$8	-20%	0.003
Year 2	$48	$47	-$3	$3	-7%	0.326	$113	$116	-$11	$9	-9%	0.249

	All Attributed Medicare Beneficiaries						High-Risk Attributed Medicare Beneficiaries					
	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean
DME												
Baseline	$30	$28	—	—	—	—	$76	$74	—	—	—	—
Year 1	$28	$28	-$1	$1	-4%	0.222	$60	$60	-$1	$3	-2%	0.622
Year 2	$24	$23	$0	$1	0%	0.96	$50	$48	$1	$3	2%	0.738
Hospice												
Baseline	$3	$5	—	—	—	—	$18	$19	—	—	—	—
Year 1	$21	$24	-$1	$2	-6%	0.437	$55	$62	-$6	$6	-10%	0.273
Year 2	$29	$30	$0	$2	0%	0.957	$71	$70	$1	$6	2%	0.823
Home health												
Baseline	$57	$61	—	—	—	—	$185	$189	—	—	—	—
Year 1	$61	$69	-$4*	$2	-5%	0.07	$157	$172	-$10**	$5	-6%	0.043
Year 2	$65	$70	-$2	$3	-3%	0.494	$157	$167	-$6	$7	-4%	0.428
Service utilization (annualized rate per 1,000 beneficiaries)												
Hospitalizations												
Baseline	284	279	—	—	—	—	694	690	—	—	—	—
Year 1	328	341	-18**	7	-5%	0.013	684	728	-47**	24	-6%	0.048
Year 2	325	316	4	7	1%	0.523	651	641	6	30	1%	0.833
Outpatient ED visits												
Baseline	478	517	—	—	—	—	920	1,018	—	—	—	—
Year 1	505	573	-28**	12	-5%	0.014	876	1,070	-97***	29	-10%	0.001
Year 2	553	598	-6	12	-1%	0.617	935	1,080	-47	36	-5%	0.186
Total ED visits												
Baseline	651	686	—	—	—	—	1,385	1,481	—	—	—	—
Year 1	723	792	-35**	14	-5%	0.013	1,376	1,593	-121***	42	-8%	0.003
Year 2	769	807	-4	14	-1%	0.759	1,409	1,546	-41	49	-3%	0.401
Observation stays												
Baseline	61	55	—	—	—	—	128	124	—	—	—	—
Year 1	64	61	-3	3	-5%	0.377	118	130	-15	10	-12%	0.135
Year 2	79	67	6**	3	8%	0.035	141	137	1	9	1%	0.934
Primary care visits in all settings												
Baseline	6,878	6,835	—	—	—	—	11,375	11,042	—	—	—	—
Year 1	8,061	8,072	-55	172	-1%	0.751	12,059	11,956	-230	358	-2%	0.52
Year 2	7,787	7,689	55	196	1%	0.78	11,756	11,265	159	392	1%	0.686
Specialist visits in all settings												
Baseline	10,237	10,702	—	—	—	—	17,973	18,703	—	—	—	—
Year 1	10,827	11,463	-171	124	-2%	0.169	16,908	18,324	-685**	333	-4%	0.04
Year 2	11,300	11,715	50	155	0%	0.746	16,760	17,883	-393	325	-2%	0.226

	All Attributed Medicare Beneficiaries						High-Risk Attributed Medicare Beneficiaries					
	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean
Total number of observations (CPC and comparison) across all years	523,343						133,814					

Source: Medicare claims data for the period October 2011–September 2014.

Note: Impact estimates and predicted means are regression adjusted for baseline patient characteristics (including HCC scores) and baseline practice characteristics. Each impact estimate is based on a difference-in-differences analysis and reflects the difference in the regression-adjusted average outcome for beneficiaries in CPC practices in year 1 or year 2 compared to baseline relative to the same difference over time for beneficiaries in matched comparison practices.

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

FFS = fee-for-service; DME = durable medical equipment; ED = emergency department.

Table F.12. Regression-adjusted means and estimated difference-in-differences impact of CPC on selected quality-of-care process and outcome measures during the first two years of CPC for attributed Medicare FFS beneficiaries: Yearly estimates for Oklahoma

	All Attributed Medicare Beneficiaries						High-Risk Attributed Medicare Beneficiaries					
	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean
Quality of care (percentage)												
Among patients with diabetes—HbA1c test												
Baseline	57.9	68.9	—	—	—	—	54.5	65.8	—	—	—	—
Year 1	57.9	70.3	-1.4	1.6	-2%	0.378	54.9	67.4	-1.2	1.8	-2%	0.497
Year 2	60.5	68.0	3.6*	1.8	6%	0.054	56.4	67.7	0.0	1.9	0%	0.979
Among patients with diabetes—lipid test												
Baseline	69.5	73.2	—	—	—	—	65.8	69.5	—	—	—	—
Year 1	70.9	75.6	-1.1	1.1	-1%	0.334	66.9	73.8	-3.1	1.9	-4%	0.102
Year 2	69.6	73.6	-0.2	1.1	0%	0.849	65.3	73.2	-4.2**	1.7	-6%	0.016
Among patients with diabetes—eye exam												
Baseline	52.3	52.3	—	—	—	—	50.8	50.7	—	—	—	—
Year 1	54.1	57.1	-3.0	2.1	-5%	0.148	52.7	55.3	-2.7	2.2	-5%	0.213
Year 2	54.6	52.7	2.0	1.5	4%	0.19	54.4	51.8	2.5	2.1	5%	0.228
Among patients with diabetes—urine protein test												
Baseline	52.3	51.4	—	—	—	—	59.1	59.0	—	—	—	—
Year 1	54.2	55.9	-2.6	2.3	-5%	0.263	60.9	59.6	1.2	2.5	2%	0.633
Year 2	55.9	57.3	-2.3	2.2	-4%	0.305	61.5	62.7	-1.3	2.2	-2%	0.566
Among patients with Ischemic vascular disease— lipid test												
Baseline	69.3	72.6	—	—	—	—	65.6	70.1	—	—	—	—
Year 1	70.0	71.5	1.8	1.2	3%	0.133	66.9	70.1	1.3	1.6	2%	0.431
Year 2	67.5	69.7	1.0	1.3	2%	0.409	63.6	69.4	-1.3	1.9	-2%	0.489
Among patients with diabetes—all 4 tests performed												
Baseline	21.3	23.8	—	—	—	—	20.5	23.7	—	—	—	—
Year 1	21.4	29.6	-5.8***	2.1	-21%	0.007	21.1	28.3	-4.0*	2.1	-16%	0.054
Year 2	22.7	25.7	-0.5	1.6	-2%	0.758	21.7	25.4	-0.5	1.9	-2%	0.77

	All Attributed Medicare Beneficiaries						High-Risk Attributed Medicare Beneficiaries					
	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean
Among patients with diabetes—none of the 4 tests performed												
Baseline	10.4	9.1	—	—	—	—	10.0	8.0	—	—	—	—
Year 1	9.1	7.1	0.7	0.9	9%	0.414	8.7	7.0	-0.3	1.2	-4%	0.804
Year 2	9.1	7.8	0.0	0.8	0%	0.974	8.6	6.6	0.1	1.0	1%	0.937
Total number of observations (CPC and comparison) across all years: Patients with diabetes	69,651						24,924					
Total number of observations (CPC and comparison) across all years: Patients with Ischemic vascular disease	70,321						33,742					
Continuity of care (percentage)												
Percentage of PCP visits at attributed practice												
Preintervention	81.4	80.3	—	—	—	—	76.4	76.3	—	—	—	—
Postintervention	65.6	66.4	-1.8	1.7	-3%	0.284	61.9	63.5	-1.6	1.9	-2%	0.407
Percentage of all visits at attributed practice												
Preintervention	50.8	49.6	—	—	—	—	44.1	42.6	—	—	—	—
Postintervention	39.7	39.7	-1.2	1.1	-3%	0.29	35.9	35.5	-1.0	1.2	-3%	0.419
Bice-Boxerman Index based on PCP visits												
Preintervention	73.3	71.5	—	—	—	—	68.3	67.4	—	—	—	—
Postintervention	65.7	65.8	-1.9	1.4	-3%	0.173	63.1	63.6	-1.4	1.5	-2%	0.364
Bice-Boxerman Index based on all visits												
Preintervention	37.4	35.9	—	—	—	—	31.5	30.0	—	—	—	—
Postintervention	33.9	33.8	-1.3*	0.7	-4%	0.056	31.0	30.4	-0.8	0.8	-3%	0.264

	All Attributed Medicare Beneficiaries						High-Risk Attributed Medicare Beneficiaries					
	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean
Total number of observations (CPC and comparison) across all years: Measures based on PCP visits	187,104						54,816					
Total number of observations (CPC and comparison) across all years: Measures based on all visits	220,964						62,302					
Transitional care and quality of care outcomes (annualized rate per 1,000 or percentage)												
Likelihood of 14-day followup visit												
Baseline	59.3%	57.6%	—	—	—	—	63.5%	61.6%	—	—	—	—
Year 1	57.8%	57.0%	-1%	1%	-2%	0.411	61.6%	61.4%	-2%	1%	-2%	0.243
Year 2	58.2%	56.4%	0%	1%	0%	0.985	60.9%	61.1%	-2%	2%	-3%	0.217
Total number of observations (CPC and comparison) across all years: Followup visit	135,395						71,830					
ACSC admissions												
Baseline	58	56	—	—	—	—	170	163	—	—	—	—
Year 1	76	77	-3	3	-4%	0.392	193	195	-9	11	-4%	0.418
Year 2	77	72	3	3	4%	0.348	179	174	-3	9	-1%	0.773
Total number of observations (CPC and comparison) across all years: ACSC admissions	523,343						133,814					
Likelihood of 30-day readmission												
Baseline	13.7%	13.2%	—	—	—	—	17.2%	17.0%	—	—	—	—
Year 1	15.3%	16.0%	-1%	1%	-7%	0.129	18.9%	21.3%	-3%**	1%	-12%	0.021
Year 2	14.9%	14.5%	0%	1%	-1%	0.834	18.5%	18.4%	0%	1%	-1%	0.904
Total number of observations (CPC and comparison) across all years: Readmissions	135,395						71,826					
Likelihood of an ED revisit within 30 days of an outpatient ED visit												
Baseline	4.9%	5.1%	—	—	—	—	10.5%	11.1%	—	—	—	—
Year 1	4.6%	5.5%	-1%**	0%	-11%	0.039	9.1%	11.1%	-1%**	1%	-13%	0.018
Year 2	5.4%	6.0%	0%	0%	-6%	0.118	9.8%	11.7%	-1%**	1%	-12%	0.036

	All Attributed Medicare Beneficiaries						High-Risk Attributed Medicare Beneficiaries					
	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean
Total number of observations (CPC and comparison) across all years: ED revisit	523,343						133,731					

Source: Medicare claims data for the period October 2010–September 2014.

Note: Impact estimates and predicted means are regression adjusted for baseline patient characteristics (including HCC scores) and baseline practice characteristics. Each impact estimate is based on a difference-in-differences analysis and reflects the difference in the regression-adjusted average outcome for beneficiaries in CPC practices in the postintervention period compared to the preintervention period relative to the same difference over time for beneficiaries in matched comparison practices. For ED revisit, we also control for chronic conditions at baseline. For the readmissions and follow-up visits equations that are estimated at the discharge level, we also control for discharge-level risk factors.

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

FFS = fee-for-service; ACSC = ambulatory care sensitive condition; DME = durable medical equipment; ED = emergency department; PCP = primary care physician.

Table F.13. Regression-adjusted means and estimated difference-in-differences impact of CPC on expenditure and utilization measures during the first two years of CPC for attributed Medicare FFS beneficiaries: Yearly estimates for Oregon

	All Attributed Medicare Beneficiaries						High-Risk Attributed Medicare Beneficiaries					
	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean
Total Medicare expenditures ($ per beneficiary per month)												
Without CPC care management fees												
Baseline	$580	$570	—	—	—	—	$1,313	$1,307	—	—	—	—
Year 1	$680	$685	-$15	$14	-2%	0.282	$1,302	$1,293	$3	$41	0%	0.945
Year 2	$733	$745	-$22	$14	-3%	0.109	$1,385	$1,356	$23	$49	2%	0.643
Test whether year 1 and year 2 impacts are jointly significant	F = 1.353	*p*-val = 0.261					F = 0.148	*p*-val = 0.863				
With CPC care management fees												
Baseline	$580	$570	—	—	—	—	$1,314	$1,308	—	—	—	—
Year 1	$699	$684	$4	$14	1%	0.742	$1,330	$1,293	$31	$41	2%	0.453
Year 2	$751	$745	-$5	$14	-1%	0.737	$1,414	$1,357	$52	$49	4%	0.296
Test whether year 1 and year 2 impacts are jointly significant	F = 0.22	*p*-val = 0.803					F = 0.556	*p*-val = 0.575				
Expenditures by type of service ($ per beneficiary per month)												
Inpatient												
Baseline	$208	$200	—	—	—	—	$517	$505	—	—	—	—
Year 1	$251	$254	-$11	$9	-4%	0.212	$497	$513	-$29	$26	-5%	0.271
Year 2	$269	$269	-$8	$10	-3%	0.439	$532	$501	$19	$31	4%	0.529
Physician												
Baseline	$178	$180	—	—	—	—	$325	$334	—	—	—	—
Year 1	$183	$189	-$4	$5	-2%	0.4	$289	$293	$6	$13	2%	0.672
Year 2	$195	$199	-$1	$6	-1%	0.825	$310	$302	$18	$16	6%	0.257
Outpatient												
Baseline	$115	$106	—	—	—	—	$227	$211	—	—	—	—
Year 1	$126	$120	-$3	$4	-2%	0.394	$217	$201	$1	$8	0%	0.943
Year 2	$141	$142	-$10**	$4	-6%	0.022	$238	$228	-$6	$9	-2%	0.529
Skilled nursing facility												
Baseline	$31	$33	—	—	—	—	$95	$104	—	—	—	—
Year 1	$47	$48	$1	$3	2%	0.675	$118	$116	$11	$8	10%	0.195
Year 2	$50	$58	-$6**	$2	-10%	0.013	$117	$137	-$11	$8	-8%	0.208

	All Attributed Medicare Beneficiaries						High-Risk Attributed Medicare Beneficiaries					
	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean
DME												
Baseline	$25	$23	—	—	—	—	$69	$63	—	—	—	—
Year 1	$24	$22	$0	$1	1%	0.757	$57	$47	$4	$3	8%	0.124
Year 2	$20	$20	-$1	$1	-5%	0.332	$45	$41	-$2	$3	-3%	0.594
Hospice												
Baseline	$2	$5	—	—	—	—	$16	$22	—	—	—	—
Year 1	$22	$24	$1	$2	6%	0.45	$56	$54	$8	$5	17%	0.11
Year 2	$28	$29	$2	$2	9%	0.368	$68	$76	-$2	$10	-3%	0.861
Home health												
Baseline	$20	$21	—	—	—	—	$65	$67	—	—	—	—
Year 1	$26	$27	$1	$1	3%	0.533	$69	$69	$3	$4	4%	0.502
Year 2	$30	$30	$1	$1	4%	0.413	$75	$72	$5	$4	7%	0.202
Service utilization (annualized rate per 1,000 beneficiaries)												
Hospitalizations												
Baseline	219	208	—	—	—	—	527	508	—	—	—	—
Year 1	248	250	-13*	8	-5%	0.093	521	517	-14	21	-3%	0.489
Year 2	250	250	-10	9	-4%	0.239	511	488	4	30	1%	0.892
Outpatient ED visits												
Baseline	468	458	—	—	—	—	946	932	—	—	—	—
Year 1	484	491	-18	14	-3%	0.204	902	888	0	35	0%	0.999
Year 2	520	538	-29*	16	-5%	0.07	958	949	-4	48	0%	0.926
Total ED visits												
Baseline	597	579	—	—	—	—	1,303	1,278	—	—	—	—
Year 1	641	648	-25	18	-4%	0.154	1,272	1,255	-8	47	-1%	0.865
Year 2	681	698	-34*	21	-5%	0.099	1,324	1,301	-2	61	0%	0.972
Observation stays												
Baseline	42	39	—	—	—	—	99	89	—	—	—	—
Year 1	45	41	2	2	5%	0.337	97	82	5	9	5%	0.562
Year 2	55	50	3	4	6%	0.434	110	91	9	15	9%	0.543
Primary care visits in all settings												
Baseline	6,450	7,322	—	—	—	—	10,489	11,935	—	—	—	—
Year 1	7,095	8,313	-346**	160	-5%	0.031	10,339	12,450	-665**	302	-6%	0.028
Year 2	6,999	8,093	-222	195	-3%	0.256	10,353	11,827	-28	414	0%	0.946
Specialist visits in all settings												
Baseline	10,101	9,993	—	—	—	—	17,629	18,026	—	—	—	—
Year 1	10,380	10,401	-130	167	-1%	0.437	16,118	16,207	307	408	2%	0.452
Year 2	10,814	10,855	-149	166	-1%	0.37	16,336	16,107	625	456	4%	0.17

	All Attributed Medicare Beneficiaries						High-Risk Attributed Medicare Beneficiaries					
	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean
Total number of observations (CPC and comparison) across all years	599,998						149,095					

Source: Medicare claims data for the period October 2011–September 2014.

Note: Impact estimates and predicted means are regression adjusted for baseline patient characteristics (including HCC scores) and baseline practice characteristics. Each impact estimate is based on a difference-in-differences analysis and reflects the difference in the regression-adjusted average outcome for beneficiaries in CPC practices in year 1 or year 2 compared to baseline relative to the same difference over time for beneficiaries in matched comparison practices.

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

FFS = fee-for-service; DME = durable medical equipment; ED = emergency department.

Table F.14. Regression-adjusted means and estimated difference-in-differences impact of CPC on selected quality-of-care process and outcome measures during the first two years of CPC for attributed Medicare FFS beneficiaries: Yearly estimates for Oregon

	All Attributed Medicare Beneficiaries						High-Risk Attributed Medicare Beneficiaries					
	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean
Quality of care (percentage)												
Among patients with diabetes—HbA1c test												
Baseline	84.3	82.4	—	—	—	—	82.7	78.0	—	—	—	—
Year 1	86.7	81.1	3.8**	1.7	5%	0.029	86.0	77.7	3.6*	1.8	4%	0.053
Year 2	85.7	83.5	0.4	1.9	0%	0.851	85.5	79.8	1.0	2.6	1%	0.694
Among patients with diabetes—lipid test												
Baseline	86.0	86.4	—	—	—	—	82.6	83.8	—	—	—	—
Year 1	86.9	85.3	2.0*	1.1	2%	0.056	85.3	83.2	3.3*	1.8	4%	0.076
Year 2	86.6	84.8	2.3	1.7	3%	0.179	84.2	80.2	5.2**	2.6	7%	0.046
Among patients with diabetes—eye exam												
Baseline	54.7	54.2	—	—	—	—	53.5	55.9	—	—	—	—
Year 1	57.6	53.7	3.5*	2.1	6%	0.095	58.0	52.7	7.7***	3.0	15%	0.009
Year 2	58.7	56.8	1.5	1.8	3%	0.407	57.6	56.7	3.3	2.8	6%	0.232
Among patients with diabetes—urine protein test												
Baseline	62.9	70.3	—	—	—	—	67.0	72.2	—	—	—	—
Year 1	66.8	72.5	1.7	1.9	3%	0.352	69.4	75.1	-0.6	2.5	-1%	0.826
Year 2	71.7	75.2	3.9*	2.1	6%	0.062	75.2	74.9	5.5**	2.7	8%	0.044
Among patients with Ischemic vascular disease—lipid test												
Baseline	80.4	81.3	—	—	—	—	75.3	76.8	—	—	—	—
Year 1	79.6	81.0	-0.5	2.1	-1%	0.791	76.2	77.0	0.7	2.7	1%	0.806
Year 2	76.1	76.4	0.5	2.1	1%	0.798	72.0	74.3	-0.8	2.6	-1%	0.767
Among patients with diabetes—all 4 tests performed												
Baseline	32.5	36.8	—	—	—	—	33.0	38.7	—	—	—	—
Year 1	37.3	37.4	4.1**	2.0	12%	0.037	38.8	37.7	6.8**	3.2	21%	0.032
Year 2	39.5	41.3	2.4	1.9	7%	0.189	39.4	40.0	5.1*	2.6	15%	0.052

	All Attributed Medicare Beneficiaries						High-Risk Attributed Medicare Beneficiaries					
	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean
Among patients with diabetes—none of the 4 tests performed												
Baseline	4.8	5.0	—	—	—	—	5.2	5.7	—	—	—	—
Year 1	4.3	6.3	-1.7**	0.9	-28%	0.042	4.4	6.7	-1.8*	0.9	-30%	0.053
Year 2	3.7	5.1	-1.2*	0.6	-24%	0.076	3.8	5.9	-1.6	1.1	-30%	0.146
Total number of observations (CPC and comparison) across all years: Patients with diabetes	64,545						22,590					
Total number of observations (CPC and comparison) across all years: Patients with Ischemic vascular disease	51,991						25,912					
Continuity of care (percentage)												
Percentage of PCP visits at attributed practice												
Preintervention	80.7	77.7	—	—	—	—	78.4	74.2	—	—	—	—
Postintervention	65.6	64.6	-1.9	2.3	-3%	0.401	64.0	61.4	-1.5	3.1	-2%	0.623
Percentage of all visits at attributed practice												
Preintervention	48.1	49.2	—	—	—	—	43.9	44.8	—	—	—	—
Postintervention	38.2	39.5	-0.2	1.6	-1%	0.902	36.5	37.7	-0.3	1.9	-1%	0.86
Bice-Boxerman Index based on PCP visits												
Preintervention	70.7	67.6	—	—	—	—	68.4	63.9	—	—	—	—
Postintervention	62.4	62.3	-3.1**	1.5	-5%	0.041	61.5	61.6	-4.6***	1.5	-7%	0.003
Bice-Boxerman Index based on all visits												
Preintervention	35.8	36.3	—	—	—	—	32.0	32.3	—	—	—	—
Postintervention	32.4	33.6	-0.7	0.8	-2%	0.387	31.0	32.7	-1.5*	0.8	-4%	0.063
Total number of observations (CPC and comparison) across all years: Measures based on PCP visits	191,094						60,072					
Total number of observations (CPC and comparison) across all years: Measures based on All visits	250,296						73,698					

	All Attributed Medicare Beneficiaries						High-Risk Attributed Medicare Beneficiaries					
	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean
Transitional care and quality of care outcomes (annualized rate per 1,000 or percentage)												
Likelihood of 14-day followup visit												
Baseline	59.3%	62.8%	—	—	—	—	64.4%	69.2%	—	—	—	—
Year 1	58.2%	60.3%	1%	1%	2%	0.292	63.0%	66.4%	1%	2%	2%	0.335
Year 2	56.8%	60.9%	-1%	1%	-1%	0.643	61.6%	65.5%	1%	2%	2%	0.573
Total number of observations (CPC and comparison) across all years: Followup visit	126,491						66,018					
ACSC admissions												
Baseline	38	38	—	—	—	—	111	107	—	—	—	—
Year 1	51	49	2	3	3%	0.569	129	121	5	10	4%	0.626
Year 2	51	49	1	4	3%	0.698	128	116	9	12	7%	0.478
Total number of observations (CPC and comparison) across all years: ACSC admissions	599,998						149,095					
Likelihood of 30-day readmission												
Baseline	12.7%	13.0%	—	—	—	—	15.5%	16.5%	—	—	—	—
Year 1	12.8%	13.2%	0%	1%	0%	0.952	16.5%	16.5%	1%	1%	6%	0.528
Year 2	12.6%	13.9%	-1%	1%	-7%	0.311	15.6%	17.5%	-1%	2%	-6%	0.544
Total number of observations (CPC and comparison) across all years: Readmissions	126,491						66,018					
Likelihood of an ED revisit within 30 days of an outpatient ED visit												
Baseline	4.7%	4.6%	—	—	—	—	10.8%	10.3%	—	—	—	—
Year 1	4.7%	4.8%	0%	0%	-5%	0.425	9.8%	9.7%	0%	1%	-4%	0.54
Year 2	5.3%	5.5%	0%*	0%	-7%	0.072	10.7%	10.8%	-1%	1%	-6%	0.228

	All Attributed Medicare Beneficiaries						High-Risk Attributed Medicare Beneficiaries					
	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean	CPC practices' predicted mean	Comparison group practices' predicted mean
Total number of observations (CPC and comparison) across all years: ED revisit	599,998						149,095					

Source: Medicare claims data for the period October 2010–September 2014.

Note: Impact estimates and predicted means are regression adjusted for baseline patient characteristics (including HCC scores) and baseline practice characteristics. Each impact estimate is based on a difference-in-differences analysis and reflects the difference in the regression-adjusted average outcome for beneficiaries in CPC practices in the postintervention period compared to the preintervention period relative to the same difference over time for beneficiaries in matched comparison practices. For ED revisit, we also control for chronic conditions at baseline. For the readmissions and follow-up visits equations that are estimated at the discharge level, we also control for discharge-level risk factors.

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

FFS = fee-for-service; ACSC = ambulatory care sensitive condition; DME = durable medical equipment; ED = emergency department; PCP = primary care physician.

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APPENDIX G:

COMPARISON GROUP SELECTION

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This appendix describes the nonexperimental selection of the comparison group used to measure impacts. From a pool of potential comparison practices, we matched CPC practices in each CPC region to other practices in the same or a similar region that have observed and (where possible) unobserved characteristics similar to the ones selected for the initiative. For each CPC region, the pool of potential comparison practices contained (1) practices that applied to the model in that region but were not selected, along with (2) practices from comparable external regions that were similar to CPC regions. We included the first group of nonselected practices in the potential comparison practice pool because they had expressed the same willingness to participate in the initiative as the selected practices and were therefore likely to share the same motivation (an unobserved characteristic) to provide enhanced primary care to beneficiaries. Additionally, being located in the same region as the CPC practices, the nonselected practices are subject to the same regional conditions as the CPC practices and would therefore help account for regional factors that could affect outcomes. A typical evaluation would not choose for its comparison group practices that had applied to CPC but were not selected. However, in this case, using non-selected applicants should not introduce selection bias because CMS chose practices according to an application score based on criteria that were observable and objective (such as whether they were meaningful users of electronic health records, their previous experience with practice transformation or the patient-centered medical home (PCMH) model; and the proportion of their patients covered by participating payers), and did not select practices based their pre-CPC outcomes nor on subjective criteria. Second, we could ensure the within-region practices chosen for the comparison group offered comparable values for the limited measures that CMS considered from applications that might be related to subsequent performance—meaningful use of electronic health records (EHRs) and PCMH recognition.

The second group of practices—those in the external comparison regions—help us develop a sufficiently large pool of potential comparison practices as well as to capture the status quo in the absence of the intervention in a representative set of regions that are similar to the CPC regions. The goal of propensity score matching was to select the best available matches for each CPC practice; a larger pool of potential comparisons yields better matches as well as ensures a sufficient sample of matched comparison practices even after discarding candidates that do not match well to any CPC practice. Further, including in the potential comparison practice pool both nonselected practices from the same CPC region as well as other practices from external comparison regions leads to a sample of matched comparison practices or a counterfactual that represents *similar* practices in *multiple* regions that share the same broad regional characteristics, instead of constraining the comparison practice pool to a single region for each CPC region.

We identified the potential comparison practices *within* each CPC region that had applied but had not been selected, using practice applications to CPC and information from CMMI about how CMMI scored and selected practices. We excluded from the pool practices that were eligible to apply because they are located within a CPC region, but who had not done so. We believe these practices are systematically different than practices that chose to apply in terms of their motivation to transform care.

To identify potential comparison practices in *the external regions*, we undertook a two-step process. First, we identified comparison regions for each CPC region, based on geographic proximity, the application score CMMI assigned the region in the selection process, and the

primary care landscape. Second, within each of the external comparison regions, we defined a set of *potential* comparison practices.

For propensity score matching, the full pool of potential comparison practices includes both unselected applicants from the same region who met eligibility requirements, along with practices in the external regions. We detail our approach below.

A. Identifying external comparison regions

In the first step, we identified comparison areas. To maximize the face validity of our approach, we sought to select comparison regions that were in close geographic proximity to the CPC regions. We chose neighboring states for the four statewide CPC regions (Oregon, Colorado, Arkansas, and New Jersey). For the Hudson Valley-Capital District region (New York), we selected both a within-state region[1] and regions from neighboring states. We selected a within-state region for each of the two other CPC regions that cover only a portion of a state (greater Tulsa region in Oklahoma and the Cincinnati-Dayton region in Ohio and Kentucky). To ensure similarly motivated payers in the comparison areas, we sought to select as comparison regions only states or areas within a state that also applied to CPC but were not selected. Even though these regions were not selected, they are presumably closer to CPC regions in terms of payer interest than regions in which the payers were not interested or motivated enough to apply to CPC. In some cases, additional regions that did not have any payers that applied to CPC were included to supplement the nonselected applicant regions, because there were too few practices located in the nonselected applicant regions to form a useful comparison group. Also, we ruled out states or areas that are participating in CMS's MAPCP demonstration, because many of the practices are already receiving a somewhat similar primary care intervention.

We also considered a variety of other factors in selecting comparison regions, including those listed in Table G.1.

Table G.1. Factors and data sources for selecting comparison regions

Factor	Data source
Whether region applied to CPC	CMMI, 2012
Number of primary care practices in a state	SK&A, 2010
Practice size	SK&A, 2010
PCMH activity in state	NCQA, 2011
Whether a state had other ongoing CMS demonstrations or initiatives, such as the Duals demonstration or the Medicaid Health Home Demonstration	CMMI, 2012
Percentage of practices in state with EHR system	Robert Wood Johnson Foundation, 2011
State-level information on rates of hospital discharges (medical and surgical) and mortality	Dartmouth Access Health Care, 2010

[1] Within-state comparison regions will facilitate the analysis of Medicaid data, because Medicaid programs vary by state.

CMMI reviewed our proposed comparison regions before we selected final regions. We describe the final selected external comparison regions below.

Arkansas (a statewide region) has Tennessee as its comparison region. Tennessee is the only statewide region neighboring Arkansas in which payers applied to CPC. Compared with Arkansas, Tennessee has a similar proportion of small practices and comparable levels of EHR use.

For **Colorado (a statewide region),** the comparison regions include Utah, New Mexico, and Kansas. We chose Utah for its geographic proximity and the presence of advanced primary care practices (especially in the Salt Lake City region). Also, Utah has a similar mix of small and large practices. Kansas, another neighboring state of Colorado, has a similar mix of small and large practices as well as similar rates of EHR use as Colorado, and it includes a region with payers that applied to CPC that was not selected. Finally, the two regions that applied to CPC in New Mexico are included in the comparison region pool for Colorado.

The **New Jersey region** and the **New York (Capital District-Hudson Valley region)** shared potential comparison region areas that included Connecticut and western and central New York. We chose Connecticut because payers there applied to CPC and it is geographically proximate to both New York and New Jersey. It also has a similar mix of small and large practices, similar levels of PCMH activity, and high EHR use rates. Likewise, the areas of western and central New York are geographically proximate to the CPC regions in New York and New Jersey and are similar in terms of the mix of practice locations in rural versus urban areas.

The comparison region for the **Cincinnati-Dayton region of Ohio and Kentucky** includes the other counties in Ohio that were not part of CPC (many of which included payers that applied to CPC). By using the rest of Ohio for the comparison region, we ensure that both the CPC and comparison practices are similar in terms of state-level initiatives. Similarly, the proposed comparison region for the greater Tulsa region of Oklahoma are the other counties in Oklahoma with payers that applied but were not selected for CPC.

For **Oregon**, we chose Idaho and Washington as comparison regions. Idaho is the only other statewide region neighboring Oregon with payers that applied to CPC. However, because Idaho alone did not contain an adequate number of suitable comparison practices for Oregon, we chose Washington as an additional comparison region. Compared with Oregon, Washington has a similar proportion of large practices, as well as similar levels of PCMH activity and EHR use.

B. Identifying the pool of potential comparison practices

Within each of the external comparison regions, we defined a set of *potential* comparison practices using a roster of primary care practice sites and the physicians who practiced in them.[2]

[2] Physician records included NPIs provided by SK&A, a marketing organization that collects this information directly from practices and updates its files on an ongoing basis. The TINs and NPIs were used by ARC to attribute beneficiaries to potential comparison practices in the same way that they were attributed to CPC practices.

We used Medicare claims data to determine the corresponding tax identification number (TIN) used by the physicians in the practice.

Because practices selected for CPC had to meet certain eligibility criteria imposed by CMS, potential comparison practices that had applied from within the CPC region but had not been selected and practices from the matched external comparison regions would ideally be screened using these same criteria (Table G.2). Therefore, where possible, we used the exact criteria or an approximation of the criteria for screening comparison practices. However, some criteria could not be applied for practices in the external regions, because data were not available.

Table G.2. Eligibility criteria for CPC practices

Eligibility criteria CMS used to select practices to participate in CPC	Criteria the evaluation applied for inclusion as a potential comparison practice
Application solicited practices composed predominantly of primary care practitioners (in specialties of family medicine, internal medicine, general practice or geriatric medicine)	Potential comparison practices must have at least one physician in the practice that specializes in family medicine, internal medicine, general practice, or geriatric medicine; percentage of practitioners with primary care specialty was also used as a matching variable
Number of assigned Medicare beneficiaries ≥ 120	Applied similar criteria (number of assigned Medicare beneficiaries ≥100)[a]
Application-reported annual revenue per practitioner of $200,000+ (among all Medicare and non-Medicare patients)	Criterion not applied because data were not available for comparison practices in external regions, and CMMI did not apply strictly in the selection process
At least 50 percent of Medicare charges were for primary care E&M codes	Criterion not applied because it was not applied strictly by CMMI in the selection process
Application-reported practice revenue was greater than 50 percent from participating payers	Criterion not applied because CMMI did not apply criterion strictly in the selection process, and the criterion is not applicable to external comparison practices.
Employer identification number must be recognized in CMS systems	TIN and physician identifiers (NPIs) are in claims data
Cannot be in Medicare shared savings program	ARC excluded potential comparison practices using the same criteria used for CPC practices

[a] We used a threshold of 100 attributed Medicare beneficiaries for comparison practices because our analysis of Medicare claims data found that some CPC practices had between 100 and 120 attributed Medicare beneficiaries.

For each region, we were able to identify a pool of more than 400 potential comparison practices (Table G.3), far more than the 66 to 75 CPC practices in each region. Thus, this pool was large enough to find suitable matches for CPC practices.

C. Selecting comparison practices from the pool of potential comparison practices

We used propensity score matching (PSM) to select from the pool of potential comparison practices. PSM selects comparison practices based on a summary score encapsulating a number of matching characteristics rather than requiring a match on each characteristic. In other words, PSM facilitates the task of matching CPC and comparison practices by aggregating into a single score information contained in a range of matching variables.[3]

Table G.3 shows the number of potential comparison practices and number of CPC practices in each region. (We included in the matching the 497 practices that were participating in CPC in March 2013.)

Table G.3. Number of practices in CPC and comparison regions

		Potential Comparison practices		
		In CPC region	In external region	
CPC region	Number of CPC practices	Number of nonselected practices in the CPC region applied and eligible for CPC	Comparison region	Total number of eligible primary care practices in external comparison region
Arkansas	69	32	Tennessee	870
Colorado	74	67	Utah, Kansas, and selected counties in New Mexico	684
New Jersey	70	96	Western and central New York and Connecticut	771
New York (Hudson Valley-Capital District)	74	26	Connecticut and western and central New York	482
Ohio/Kentucky (Greater Cincinnati)	75	75	Remaining counties in Ohio	1,401
Oklahoma (Greater Tulsa)	68	32	Remaining counties in Oklahoma	410
Oregon	67	61	Idaho and Washington	846

[3] Matching practices on a range of variables using a single summary score is advantageous, because it would be virtually impossible to find a comparison practice with the identical values of each variable for each treatment practice. Of course, if a comparison practice does match a treatment practice on every variable included in the propensity score model, the two practices would have identical propensity scores. In other words, propensity score matching does not rule out the possibility of exact matching on some or all matching variables simultaneously, but it does not require it.

The propensity score matching approach helps alleviate concerns about selection bias by ensuring equivalence before the CPC intervention (at baseline) between the CPC and matched comparison groups on variables used in the matching process. However, matching still relies on *observed* characteristics; therefore, it cannot address bias arising from *unobserved* or unmeasured baseline characteristics. Past studies have shown that impact estimates based on a matched comparison group design often deviate from those obtained from an experimental evaluation (considered the gold standard) of the same intervention (Smith and Todd 2005; Peikes et al. 2008). In other words, PSM may not entirely eliminate selection bias in a nonexperimental evaluation, especially when the CPC practices volunteered to receive the intervention, and it can even yield results with the wrong sign. However, when implemented carefully using the best practices recommended in the literature, PSM can be effective in addressing selection bias concerns to a large extent (Rubin 2001; Dehejia and Wahba 2002; Dehejia 2005; Shadish, Clark, and Steiner 2008). Hence, in the absence of randomization, PSM remains one of the best approaches for designing a nonexperimental evaluation.[4]

The PSM steps involved in selecting the matched comparison practices from the pool of potential comparison practices for the CPC evaluation included:

1. Assembling data on matching variables for CPC and potential comparison practices,
2. Using propensity score matching to narrow down the potential comparison practices and obtain matched comparison practices for CPC practices in each CPC region, and
3. Performing diagnostic tests to assess the matched comparison group.

Step 1: Assembling data on matching variables for CPC and potential comparison practices

Table G.4 shows the data sources and the variables included in matching. The practice-level variables from the claims data were constructed by averaging across all beneficiaries attributed to the practice.

Step 2: Using propensity score matching to narrow down the potential comparison practices and obtain matched comparison practices for CPC practices in each CPC region

Once the data were assembled and a file containing information on each CPC and potential comparison practice was created, we estimated the propensity score model using as covariates the variables described in Table G.4. Specifically, we estimated a logit model with a binary

[4] Additionally, the proposed difference-in-differences approach for estimating impacts on claims-based outcome measures, whereby we compare the change over time in an outcome for beneficiaries in treatment practices to the change for beneficiaries in matched comparison practices, nets out any pre-existing differences in levels between treatment and comparison practices at baseline that were not accounted for by propensity score matching—provided they would not have changed over time in the absence of CPC. We will also test whether there were pre-existing differences in trends between CPC and comparison practices. The difference-in-differences analysis together with propensity score matching therefore helps eliminate biases due to unobserved differences in practice characteristics that do not change over time. However, the difference from external comparison regions leads to a sample of matched comparison practices or a counterfactual that represents *similar* practices in-difference approach is not possible for analyses of survey outcomes, because a pre-CPC survey could not be conducted.

dependent variable for participation status, one for CPC practices and zero for potential comparison practices. The predicted probabilities from this model, estimated separately by region, are the propensity scores used to match practices. Notably, PSM does not necessarily match each CPC practice to a comparison practice (or practices) with identical characteristics; rather, by matching on the score, the method finds a *group* of comparison practices that is on average comparable to the *group* of CPC practices. The propensity scores are functions of practice characteristics, region characteristics, and characteristics of the practice's attributed Medicare beneficiaries.

Our PSM model prioritized matching CPC and comparison practices based on key characteristics. Within the practice characteristics, we focused on ensuring that the comparison practices matched the CPC practices especially well on two variables: (1) the meaningful use of EHRs and (2) designation as a patient-centered medical home.[5] This approach reflects the importance of those two variables for face validity as well as CMS's selection of CPC practices from eligible applicants. To ensure an exact CPC-comparison group match in each region on meaningful use, which we deemed the most important practice characteristic given the heavy reliance by CMS on this factor when selecting the CPC practices, we used it for stratification; in one region (Colorado), we also stratified by medical home status.[6] Stratification on a given characteristic means that only the potential comparison practices with that characteristic are eligible to be selected as matches for practices with that characteristic, and the propensity score model is estimated separately within each stratum.

For practices' patient characteristics, we include in the model the distribution of the mean HCC score for the Medicare patients attributed to that practice and their prevalence of chronic conditions such as diabetes, to ensure that the selected comparison practices serve a similar mix of patients as CPC practices. We also included variables in the propensity score model reflecting the practice's beneficiaries' distribution of service use and expenditures, to ensure that the two research groups would have comparable baseline values of these key outcomes.

Within the family of PSM methods, we implemented a technique called "full matching" to form matched sets that contain one CPC and multiple comparison practices or one comparison and multiple CPC practices. A "match" for a given CPC practice was identified whenever the propensity score for the potential comparison practice fell within a pre-specified range around the CPC practice's propensity score. The important benefit of full matching is that it achieves maximum bias reduction on observed matching variables, and subject to this constraint, it maximizes the size of the comparison sample. Full matching also varies the number of comparison practices selected for each CPC practice. For example, CPC practices with a combination of characteristics that were difficult to match had relatively fewer available comparison practices with similar characteristics; thus, these practices were included in matched

[5] We could consider only PCMH recognitions that were available for both CPC practices and non-CPC practices. Thus, we included NCQA recognition in all regions and state recognition in regions for which information on state recognition was available for both CPC and non-CPC practices.

[6] We did not stratify on medical-home status in every region, because stratifying by one measure makes it more difficult to achieve balance on other characteristics. Therefore, we stratified on medical-home status only where it was otherwise difficult to obtain a similar percentage of recognized medical homes in the treatment and comparison groups.

sets that contained (say) two CPC practices and one comparison practice. On the other hand, CPC practices that were easier to match were each matched to multiple comparisons so as to maximize the size of the analytic sample and increase statistical power. For the easy-to-match cases, we allowed as many as five comparison matches for a single CPC practice. For practices that were difficult to match, we allowed a comparison practice to serve as the match for two CPC practices. Comparison practices were weighted by the ratio of CPC to comparison practices; for example, if five comparison practices were matched to one CPC practice, each of those comparison practices would receive a weight of one-fifth. In most regions, we did not allow comparison practices to serve as the match for more than two CPC practices due to concerns about a heavily weighted comparison practice possibly not responding to the survey, and to the adverse effect that large weights have on statistical precision and power.

Matching was generally performed separately by region. The process involved (1) estimating a propensity score model using all CPC and all potential comparison practices in the region; (2) calculating CPC-comparison differences along the propensity score; (3) stratifying on meaningful use of EHRs; and (4) implementing the full matching algorithm, which finds the collection of matched sets whose sum of propensity score differences is the smallest among all possible matches.

Step 3: Performing diagnostic tests

The diagnostic tests included calculating the difference between the CPC and the selected comparison group in the weighted mean values of each of the matching variables, the statistical significance of those differences, and the overall Chi-squared test statistic that tests the joint CPC-comparison difference among all matching variables. If the matching diagnostics were not satisfactory, we revised the matching in two ways. First, we allowed a given comparison practice to serve as a match for as many as three CPC practices in Oregon (instead of our usual cap of two), because the CPC practices were generally much less similar to potential comparisons. This increased ratio allowed the matching algorithm to effectively select comparison groups with comparable values of key characteristics to the CPC groups, particularly meaningful use of EHRs and whether the practice was a recognized medical home. Second, for some regions, we implemented stratification on medical-home designation (in addition to stratifying on EHR meaningful use) to ensure the CPC group and selected comparison group had comparable proportions of medical homes.

To obtain the best possible matches for the New York and New Jersey regions, we took advantage of their geographic proximity by considering Connecticut and the non-CPC areas of New York jointly as potential comparisons for both regions (along with the nonselected applicants in these regions). We first constructed two subpools within the comparison regions: one that was most similar to the New York CPC region, and one that was most similar to the New Jersey CPC region. We then used these subpools to conduct separate matching for the New York and New Jersey regions using the same process described for other regions.

As part of our diagnostics, we produced tables (Tables G.5 through G.11) showing two types of results: (1) means for the potential comparison, CPC, and selected comparison groups and (2) differences between the CPC group means and the weighted means for the selected comparison group for all variables and distributions used in the matching process, and tests of statistical significance. Table G.12 shows the overall Chi-square test, which indicates the likelihood of

observing a set of differences on the characteristics used that is as large as what was observed if the CPC and comparison practices in the matched sample were equivalent on all the matching characteristics indicated. Thus, a value of $p = 0.40$ for the Chi-squared test suggests that there is a 40 percent chance of observing CPC-comparison differences as large as were observed on the set of matching variables in this sample of patients if the matched comparison practices were truly equivalent to the set of CPC group practices. In a typical hypothesis test, we reject the null hypothesis of equivalence only if $p < 0.05$—that is, it is highly unlikely that the two populations are equivalent on these dimensions. Here, however, because we do not want to falsely conclude that the two groups are equivalent when they are not, we strive for a p that is as large as possible, and always more than 0.15—that is, given the observed differences, it is well within the realm of possibility that the two groups are equivalent. Table G.12 also shows the final numbers of selected practices as well as the ratio of CPC to selected comparison practices in each matched set. For example, a ratio of 2:1 means that there were two CPC practices matched to one comparison practice.

The unweighted counts of practices in the accompanying tables reflect the number of practices (CPC and comparison) we selected through propensity score matching in each region. Our final sample includes 908 comparison practices; 658 came from external regions and 250 practices came from internal regions.

Table G.4. Propensity score matching variables and data sources

Matching variable	Data source
Practice characteristics	
Number of Medicare or Medicaid meaningful users of EHRs in the practice	CMS, 2012
Number of primary care clinicians (physicians, nurse practitioners, physician assistants)	SK&A, 2012
Percentage of clinicians at practice with primary care specialty	SK&A, 2012
NCQA or state medical home recognition status	NCQA, CPC application data, Oklahoma Sooner Care data, 2012
Whether the practice is owned by a larger organization	SK&A, 2012
Characteristics of practices' attributed Medicare beneficiaries	
Number of attributed Medicare beneficiaries	Medicare claims data, May 2010 through April 2012
Distribution of Medicare expenditures of practices' attributed beneficiaries	Medicare claims, May 2010 through April 2012
Distribution of number of hospitalizations of practices' attributed beneficiaries	Medicare claims, May 2010 through April 2012
Distribution of HCC scores of practices' attributed beneficiaries	Medicare claims and enrollment data, May 2010 through April 2012
Distribution of number of physician services received by practices' attributed beneficiaries	Medicare claims data, May 2010 through April 2012
Demographic mix of attributed patients (percentage of practice in age, race, and gender categories)	Medicare EDB, May 2010 through April 2012
Percentage of practice's attributed patients that is dually eligible for Medicaid	Medicare EDB, May 2010 through April 2012
Percentage of practice's attributed Medicare beneficiaries with selected chronic conditions (diabetes, cancer, chronic obstructive pulmonary disease, kidney disease, Alzheimer's, heart disease)	Medicare claims data, May 2010 through April 2012
Characteristics of practice's geographic location	
Median income of county	Area Resource File, 2009
Whether in medically underserved area	HRSA, 2009
Whether in urban area	Area Resource File, 2009
Medicare Advantage penetration rate of county	Area Resource File, 2009

Table G.5. Matching results for CPC practices in Arkansas with comparison group practices from nonselected applicants in Arkansas and external region practices in Tennessee

Variable name	Potential comparison group mean	Selected comparison group mean	CPC group mean	Difference between means of CPC and selected comparison group	*p*-value
Practice characteristics (percentage, unless noted)					
Has Medicare meaningful EHR users as of June 2012	47	64	64	0	1.000
Is state- or NCQA-recognized medical home by fall 2012	9	9	9	-1	0.900
Employs one clinician (MD or NP/PA according to SK&A)	40	34	26	-8	0.290
Employs two or three clinicians (MD/NP/PA according to SK&A)	26	27	32	5	0.560
Employs four or five clinicians (MD/NP/PA according to SK&A)	13	15	16	1	0.940
Employs six or more clinicians (MD/NP/PA according to SK&A)	20	23	26	3	0.740
Number of clinicians at practice (SK&A)[a]	4.5	5.1	3.9	-1.2	0.320
Percentage of practices' clinicians with primary care specialty (SK&A)	96	97	96	0	0.880
Is owned by larger organization (defined by SK&A data)	25	30	35	5	0.570
Log (household income in county 2009) (Area Resource file)	10.6	10.6	10.6	0.0	0.470
Medicare Advantage penetration rate in 2009 (Area Resource file)	14.5	13.1	12.1	-1.0	0.310
Located in a medically underserved area (2009 HRSA data)	47	44	43	0	0.970
Percentage of county that is urban (2009 Area Resource File)	55	55	53	-1	0.740
Characteristics of beneficiaries attributed to practices between May 2010 and April 2012					
Count of attributed Medicare beneficiaries[a]	777	971	819	-151	0.360
Log (number of attributed Medicare beneficiaries)	6.18	6.34	6.38	0.04	0.800
Percentage of the practice's patients who are dually eligible for Medicaid	25	23	24	1	0.600
Percentage male	40	41	40	0	0.790
Percentage age 50 to 64	16	16	17	1	0.530
Percentage age 65 to 74	42	43	42	-1	0.240
Percentage age 75 to 84	25	25	25	-1	0.540
Percentage age 85 or older	8	7	8	0	0.660
Percentage white	89.2	89.1	90.6	1.5	0.467
Percentage black	9.7	9.9	7.8	-2.1	0.316

Variable name	Potential comparison group mean	Selected comparison group mean	CPC group mean	Difference between means of CPC and selected comparison group	*p*-value
Percentage Asian	0.2	0.2	0.2	0.0	0.401
Percentage Native American	0.1	0.1	0.4	0.3	0.091*
Percentage Hispanic	0.2	0.2	0.5	0.3	0.189
Percentage other	0.5	0.4	0.5	0.0	0.552
Unknown race	0.1	0.1	0.1	0.0	0.114
HCC Score–mean	1.04	1.02	0.99	-0.03	0.280
Original Medicare entitlement reason is age	71	71	69	-2	0.350
Percentage of beneficiaries with diabetes	29	28	26	-2	0.040
Percentage of beneficiaries with cancer	8	8	7	0	0.510
Percentage of beneficiaries with chronic obstructive pulmonary disease	15	15	14	-1	0.270
Percentage of beneficiaries with chronic kidney disease	15	14	12	-2	0.050*
Percentage of beneficiaries with Alzheimer's	12	10	11	1	0.690
Percentage of beneficiaries with congestive heart failure	16	17	15	-1	0.330
Annualized Medicare expenditures and service use January 2010 through February 2012 among beneficiaries attributed between May 2010 and April 2012					
Inpatient hospital visits–mean	0.30	0.29	0.30	0.01	0.630
Emergency department visits–mean	0.69	0.64	0.67	0.03	0.490
Number of physician services received–mean	24.41	23.94	23.32	-0.62	0.390
Log of total Medicare expenditures–mean	8.90	8.86	8.85	-0.01	0.850
Average total Medicare Part A and B expenditures[a]	7,643	7,283	7,158	-126	0.690

[a] This version of the measure is included on the Table for descriptive purposes but was not included in the Chi-square test reported on Table G.12.

*Indicates *p*-value for difference between CPC practices and selected comparison practices is less than 0.1.

Table G.6. Matching results for CPC practices in Colorado with Comparison group practices from nonselected applicants in Colorado and external region practices in Kansas, New Mexico, and Utah

Variable name	Potential comparison group mean	Selected comparison group mean	CPC group mean	Difference between means of CPC and selected comparison group	*p*-value
Practice characteristics (percentage, unless noted)					
Has Medicare meaningful EHR users as of June 2012	71	92	92	0	1.000
Is state- or NCQA-recognized medical home by fall 2012	10	28	28	0	1.000
Employs one clinician (MD or NP/PA according to SK&A)	16	8	11	3	0.620
Employs two or three clinicians (MD/NP/PA according to SK&A)	31	36	31	-5	0.510
Employs four or five clinicians (MD/NP/PA according to SK&A)	20	16	27	11	0.170
Practice has six or more clinicians (MD/NP/PA according to SK&A)	34	39	31	-8	0.360
Number of clinicians at practice (SK&A)[a]	5.9	5.9	5.3	-0.6	0.560
Percentage of practices' clinicians with primary care specialty (SK&A)	95	94	95	1	0.840
Owned by larger organization (defined by SK&A data)	51	54	61	7	0.440
Log (household income in county 2009) (Area Resource file)	10.9	10.9	11.0	0.1	0.230
Medicare Advantage penetration rate in 2009 (Area Resource file)	24.0	24.8	28.3	3.5	0.110
Located in a medically underserved area (2009 HRSA data)	8	6	4	-2	0.580
Percentage of county that is urban (2009 Area Resource File)	78	76	80	3	0.410
Characteristics of beneficiaries attributed to practices between May 2010 and April 2012					
Count of attributed Medicare beneficiaries[a]	728	672	558	-114	0.370
Log (number of attributed Medicare beneficiaries)	6.07	6.13	6.10	-0.04	0.810
Percentage of the practice's patients who are dually eligible for Medicaid	16	14	12	-2	0.230
Percentage male	42	41	43	1	0.320
Percentage age 50 to 64	13	13	13	0	0.710
Percentage age 65 to 74	45	46	49	3	0.090*
Percentage age 75 to 84	26	27	25	-1	0.270
Percentage age 85 or older	9	9	8	-1	0.400
Percentage white	93.7	94.0	95.3	1.3	0.195
Percentage black	2.7	2.6	1.4	-1.2	0.109

Variable name	Potential comparison group mean	Selected comparison group mean	CPC group mean	Difference between means of CPC and selected comparison group	*p*-value
Percentage Asian	0.7	0.5	0.5	-0.1	0.583
Percentage Native American	0.2	0.1	0.1	0.0	0.666
Percentage Hispanic	1.5	1.4	1.4	-0.1	0.866
Percentage other	1.0	1.1	1.1	0.0	0.797
Unknown race	0.2	0.2	0.2	0.1	0.192
HCC Score–mean	0.95	0.93	0.89	-0.04	0.120
Original Medicare entitlement reason is age	81	82	85	2	0.160
Percentage of beneficiaries with diabetes	23	22	19	-3	0.000*
Percentage of beneficiaries with cancer	8	9	9	0	1.000
Percentage of beneficiaries with chronic obstructive pulmonary disease	11	11	10	-1	0.080
Percentage of beneficiaries with chronic kidney disease	12	12	11	-1	0.570
Percentage of beneficiaries with Alzheimer's	8	8	7	-1	0.380
Percentage of beneficiaries with congestive heart failure	11	11	9	-2	0.010*
Annualized Medicare expenditures and service Use January 2010 through February 2012 among beneficiaries attributed between May 2010 and April 2012					
Inpatient hospital visits–mean	0.24	0.24	0.22	-0.03	0.080*
Emergency department visits–mean	0.57	0.56	0.50	-0.06	0.150
Number of physician services received–mean	22.34	22.28	22.09	-0.19	0.760
Log of total Medicare expenditures–mean	8.84	8.84	8.79	-0.04	0.290
Average total Medicare Part A and B expenditures[a]	7,244	7,082	6,814	-269	0.410

[a] This version of the measure is included on the Table for descriptive purposes but was not included in the Chi-square test reported on Table G.12.

*Indicates *p*-value for difference between CPC practices and selected comparison practices is less than 0.1.

Table G.7. Matching results for CPC practices in New Jersey with comparison group practices from nonselected applicants in New Jersey and New York and external region practices in western and central New York and Connecticut

Variable name	Potential comparison group mean	Selected comparison group mean	CPC group mean	Difference between means of CPC and selected comparison group	*p*-value
Practice characteristics (percentage, unless noted)					
Has Medicare meaningful EHR users as of June 2012	57	90	90	0	1.000
Is state- or NCQA-recognized medical home by fall 2012	25	37	39	1	0.320
Has one clinician (MD or NP/PA according to SK&A)	26	22	31	10	0.210
Has two or three clinicians (MD/NP/PA according to SK&A)	31	26	30	4	0.620
Has four or five clinicians (MD/NP/PA according to SK&A)	20	29	19	-11	0.160
Has six or more clinicians (MD/NP/PA according to SK&A)	23	23	20	-3	0.650
Number of clinicians at practice (SK&A)[a]	4.7	5.2	3.6	-1.5	0.090*
Percentage of practices' clinicians with primary care specialty (SK&A)	88	93	96	3	0.270
Owned by larger organization (defined by SK&A data)	38	45	40	-5	0.570
Log (household income in county 2009) (Area Resource file)	11.1	11.1	11.2	0.1	0.030*
Medicare Advantage penetration rate in 2009 (Area Resource file)	0.2	0.1	0.1	-1.4	0.020*
Located in a medically underserved area (2009 HRSA data)	6	3	4	1	0.820
Percentage of county that is urban (2009 Area Resource File)	85	85	91	6	0.030*
Characteristics of beneficiaries attributed to practices between May 2010 and April 2012					
Count of attributed Medicare beneficiaries[a]	595	681	594	-87	0.330
Log (number of attributed Medicare beneficiaries)	6.01	6.20	6.12	-0.08	0.550
Percentage of the practice's patients who are dually eligible for Medicaid	16	13	12	-1	0.810
Percentage male	40	40	38	-2	0.270
Percentage age 50 to 64	13	12	12	0	0.900
Percentage age 65 to 74	42	44	43	-1	0.570
Percentage age 75 to 84	29	29	29	0	0.870
Percentage age 85 or older	11	11	12	1	0.620
Percentage white	87.2	90.7	87.8	-2.9	0.225

Variable name	Potential comparison group mean	Selected comparison group mean	CPC group mean	Difference between means of CPC and selected comparison group	*p*-value
Percentage black	8.3	4.8	6.3	1.5	0.400
Percentage Asian	0.8	0.7	1.1	0.3	0.238
Percentage Native American	0.1	0.0	0.0	0.0	0.572
Percentage Hispanic	1.7	1.7	2.8	1.1	0.314
Percentage other	1.5	1.6	1.7	0.1	0.594
Unknown race	0.3	0.4	0.3	-0.1	0.011*
HCC score–mean	1.06	1.01	1.06	0.06	0.130
Original Medicare entitlement reason is age	81	84	84	0	0.780
Percentage of beneficiaries with diabetes	32	31	33	1	0.500
Percentage of beneficiaries with cancer	10	10	11	0	0.680
Percentage of beneficiaries with chronic obstructive pulmonary disease	12	11	11	0	0.770
Percentage of beneficiaries with chronic kidney disease	14	13	15	2	0.230
Percentage of beneficiaries with Alzheimer's	10	9	10	1	0.550
Percentage of beneficiaries with congestive heart failure	14	13	14	2	0.130
Annualized Medicare expenditures and service Use January 2010 through February 2012 among beneficiaries attributed between May 2010 and April 2012					
Inpatient hospital visits–mean	0.26	0.22	0.24	0.02	0.290
Emergency department visits–mean	0.56	0.50	0.49	-0.01	0.750
Number of physician services received–mean	28.03	27.01	29.59	2.57	0.020*
Log of total Medicare expenditures–mean	8.96	8.90	8.96	0.07	0.210
Average total Medicare Part A and B expenditures[a]	8,120	7,484	8,265	781	0.210

[a] This version of the measure is included on the Table for descriptive purposes but was not included in the Chi-square test reported on Table G.12.

*Indicates *p*-value for difference between CPC practices and selected comparison practices is less than 0.1.

Table G.8. Matching results for CPC practices in New York (Hudson Valley-Capital District region) with comparison group practices from nonselected applicants in New York and New Jersey and external region practices in Connecticut and New York

Variable name	Potential comparison group mean	Selected comparison group mean	CPC group mean	Difference between means of CPC and selected comparison group	*p*-value
Practice characteristics (percentage, unless noted)					
Has Medicare meaningful EHR users as of June 2012	42	81	81	0	1.000
Is state- or NCQA-recognized medical home by fall 2012	27	35	35	1	0.940
Has one clinician (MD or NP/PA according to SK&A)	26	15	18	2	0.760
Has two or three clinicians (MD/NP/PA according to SK&A)	31	31	39	9	0.320
Has four or five clinicians (MD/NP/PA according to SK&A)	18	21	15	-6	0.360
Has six or more clinicians (MD/NP/PA according to SK&A)	25	33	28	-4	0.570
Number of clinicians at Practice (SK&A)[a]	4.8	6.2	4.9	-1.2	0.440
Percentage of practices' clinicians with primary care specialty (SK&A)	94	94	94	0	0.920
Owned by larger organization (defined by SK&A data)	38	53	43	-10	0.240
Log (household income in county 2009) (Area Resource file)	10.9	10.9	11.0	0.1	0.000*
Medicare Advantage penetration rate in 2009 (Area Resource file)	26.5	29.8	21.6	-8.2	0.000*
Located in a medically underserved area (2009 HRSA data)	5	4	7	3	0.510
Percentage of county that is urban (2009 Area Resource File)	74	73	77	4	0.360
Characteristics of beneficiaries attributed to practices between May 2010 and April 2012					
Count of attributed Medicare beneficiaries[a]	465	524	533	9	0.890
Log (number of attributed Medicare beneficiaries)	5.83	5.92	6.07	0.15	0.230
Percentage of the practice's patients who are dually eligible for Medicaid	16	16	13	-3	0.090*
Percentage male	40	41	40	-1	0.630
Percentage age 50 to 64	13	14	13	-1	0.150
Percentage age 65 to 74	40	38	40	2	0.130
Percentage age 75 to 84	29	29	29	1	0.340
Percentage age 85 or older	11	11	11	0	0.780
Percentage white	93.1	93.8	91.6	-2.2	0.126

Variable name	Potential comparison group mean	Selected comparison group mean	CPC group mean	Difference between means of CPC and selected comparison group	*p*-value
Percentage black	4.4	3.8	5.2	1.4	0.157
Percentage Asian	0.5	0.5	0.6	0.1	0.515
Percentage Native American	0.1	0.1	0.0	0.0	0.082*
Percentage Hispanic	0.6	0.5	1.0	0.5	0.281
Percentage other	1.0	1.1	1.2	0.2	0.380
Unknown race	0.3	0.3	0.3	0.0	0.383
HCC score–mean	1.03	1.04	1.04	0.00	0.960
Original Medicare entitlement reason is age	78	76	79	3	0.070*
Percentage of beneficiaries with diabetes	31	30	30	0	0.880
Percentage of beneficiaries with cancer	10	10	10	0	0.350
Percentage of beneficiaries with chronic obstructive pulmonary disease	12	13	12	-1	0.330
Percentage of beneficiaries with chronic kidney disease	13	13	13	0	0.730
Percentage of beneficiaries with Alzheimer's	9	10	9	-1	0.420
Percentage of beneficiaries with congestive heart failure	13	13	13	0	0.850
Annualized Medicare expenditures and service use January 2010 through February 2012 among beneficiaries attributed between May 2010 and April 2012					
Inpatient hospital visits–mean	0.24	0.24	0.25	0.02	0.270
Emergency department visits–mean	0.54	0.55	0.54	-0.01	0.850
Number of physician services received–mean	25.65	24.93	27.2	2.29	0.020*
Log of total Medicare expenditures–mean	8.81	8.79	8.86	0.07	0.120
Average total Medicare Part A and B expenditures[a]	6,961	6,847	7,325	478	0.240

[a] This version of the measure is included on the Table for descriptive purposes but was not included in the Chi-square test reported on Table G.12.

*Indicates *p*-value for difference between CPC practices and selected comparison practices is less than 0.1.

Table G.9. Matching results for CPC practices in Ohio/Kentucky (Cincinnati-Dayton region) with comparison group practices from nonselected applicants and external region practices in Ohio

Variable name	Potential comparison group mean	Selected comparison group mean	CPC group mean	Difference between means of CPC and selected comparison group	*p*-value
Practice characteristics (percentage, unless noted)					
Has Medicare meaningful EHR users as of June 2012	26	100	100	0	1.000
Is state- or NCQA-recognized medical home by fall 2012	6	49	57	8	0.320
Has one clinician (MD or NP/PA according to SK&A)	40	13	11	-3	0.610
Has two or three clinicians (MD/NP/PA according to SK&A)	35	51	39	-12	0.150
Has four or five clinicians (MD/NP/PA according to SK&A)	13	16	33	17	0.030*
Has six or more clinicians (MD/NP/PA according to SK&A)	12	20	17	-3	0.650
Number of clinicians at practice (SK&A)[a]	3.8	4.9	4.6	-0.3	0.480
Percentage of practices' clinicians with primary care specialty (defined by SK&A)	95	95	93	-2	0.280
Owned by larger organization (defined by SK&A data)	27	53	57	4	0.630
Log (household income in county 2009) (Area Resource file)	10.7	10.8	10.8	0.0	0.810
Medicare Advantage penetration rate in 2009 (Area Resource file)	26	27	27	0	0.990
Located in a medically underserved area (2009 HRSA data)	8	0	0	0	1.000
Percentage of county that is urban (2009 Area Resource File) [a]	74.0	86.4	86.7	0.4	0.880
Characteristics of beneficiaries attributed to practices between May 2010 and April 2012					
Count of attributed Medicare beneficiaries[a]	391	564	595	31	0.660
Log (number of attributed Medicare beneficiaries)	5.68	6.05	6.18	0.13	0.240
Percentage of the practice’s patients who are dually eligible for Medicaid	24	14	14	0	0.980
Percentage male	42	41	41	0	0.920
Percentage age 50 to 64	15	13	13	0	0.620
Percentage age 65 to 74	39	44	44	0	0.670
Percentage age 75 to 84	27	28	27	-1	0.550
Percentage age 85 or older	10	10	9	-1	0.360
Percentage white	90.5	93.9	93.6	-0.3	0.856

Variable name	Potential comparison group mean	Selected comparison group mean	CPC group mean	Difference between means of CPC and selected comparison group	*p*-value
Percentage black	7.9	4.7	5.0	0.3	0.830
Percentage Asian	0.4	0.4	0.4	0.0	0.817
Percentage Native American	0.0	0.0	0.0	0.0	0.842
Percentage Hispanic	0.3	0.2	0.1	-0.1	0.177
Percentage other	0.6	0.6	0.6	0.1	0.510
Unknown race	0.2	0.2	0.2	0.0	0.776
HCC Score–mean	111	103	102	-2	0.430
Original Medicare entitlement reason is age	73	80	80	-1	0.650
Percentage of beneficiaries with diabetes	33	29	29	0	0.670
Percentage of beneficiaries with cancer	8	9	9	0	0.640
Percentage of beneficiaries with chronic obstructive pulmonary disease	17	13	13	0	0.550
Percentage of beneficiaries with chronic kidney disease	16	16	15	0	0.550
Percentage of beneficiaries with Alzheimer's	10	9	8	-1	0.180
Percentage of beneficiaries with congestive heart failure	16	14	13	-0.01	0.320
Annualized Medicare expenditures and service use January 2010 through February 2012 among beneficiaries attributed between May 2010 and April 2012					
Inpatient hospital visits–mean	0.32	0.30	0.28	-0.02	0.080
Emergency department visits–mean	0.78	0.62	0.60	-0.01	0.670
Number of physician services received–mean	24.03	24.35	23.51	-0.84	0.170
Log of total Medicare expenditures–mean	8.95	8.91	8.87	-0.03	0.250
Average total Medicare Part A and B expenditures[a]	8,059	7,578	7,237	-340	0.150

[a] This version of the measure is included on the Table for descriptive purposes but was not included in the Chi-square test reported on Table G.12.

*Indicates *p*-value for difference between CPC practices and selected comparison practices is less than 0.1.

Table G.10. Matching results for CPC practices in Oklahoma (Greater Tulsa Region) with comparison group practices from nonselected applicants and external region practices in Oklahoma

Variable name	Potential comparison group mean	Selected comparison group mean	CPC group mean	Difference between means of CPC and selected comparison group	*p*-value
Practice characteristics (percentage, unless noted)					
Has Medicare meaningful EHR users as of June 2012	36	50	50	0	1.000
Is state- or NCQA-recognized medical home by fall 2012	42	49	47	-2	0.830
Has one clinician (MD or NP/PA according to SK&A)	25	19	19	0	0.981
Has two or three clinicians (MD/NP/PA according to SK&A)	29	27	31	4	0.624
Has four or five clinicians (MD/NP/PA according to SK&A)	24	33	32	0	0.974
Has six or more clinicians (MD/NP/PA according to SK&A)	22	21	18	-4	0.573
Number of clinicians at practice (SK&A)[a]	4.6	4.6	4.2	-0.4	0.635
Percentage of practices' clinicians with primary care specialty (SK&A)	89	93	91	-2	0.529
Owned by larger organization (defined by SK&A data)	55	74	74	0	1.000
Log (household income in county 2009) (Area Resource file)	10.6	10.6	10.7	0.0	0.078*
Medicare Advantage penetration rate in 2009 (Area Resource file)	16	19	23	4	0.008*
Located in a medically underserved area (2009 HRSA data)	23	23	15	-8	0.143
Percentage of county that is urban (2009 Area Resource File)	70.4	68.6	72.1	3.5	0.493
Characteristics of beneficiaries attributed to practices between May 2010 and April 2012					
Count of attributed Medicare beneficiaries[a]	686	782	657	-125	0.211
Log (number of attributed Medicare beneficiaries)	6.12	6.32	6.22	-0.10	0.465
Percentage of the practice's patients who are dually eligible for Medicaid	20	18	20	1	0.616
Percentage male	41	41	40	-1	0.478
Percentage age 50 to 64	16	14	16	2	0.090*
Percentage age 65 to 74*	45	45	44	-1	0.533
Percentage age 75 to 84	25	26	24	-2	0.147
Percentage age 85 or older	7	7	7	0	0.937
Percentage white	85.9	85.8	84.1	-1.7	0.543
Percentage black	4.5	4.4	4.1	-0.3	0.784

Variable name	Potential comparison group mean	Selected comparison group mean	CPC group mean	Difference between means of CPC and selected comparison group	*p*-value
Percentage Asian	0.8	0.5	0.4	-0.1	0.746
Percentage Native American	7.7	8.2	10.4	2.2	0.446
Percentage Hispanic	0.4	0.3	0.3	0.0	0.875
Percentage other	0.6	0.6	0.5	-0.1	0.535
Unknown race	0.1	0.1	0.1	0.0	0.899
HCC Score–mean	100	99	98	-1	0.702
Original Medicare entitlement reason is age	75	76	74	-2	0.274
Percentage of beneficiaries with diabetes	30	30	29	-1	0.618
Percentage of beneficiaries with cancer	8	8	7	0	0.187
Percentage of beneficiaries with chronic obstructive pulmonary disease	15	14	13	-1	0.262
Percentage of beneficiaries with chronic kidney disease	14	14	14	0	0.821
Percentage of beneficiaries with Alzheimer's	9	8	8	0	0.618
Percentage of beneficiaries with congestive heart failure	15	15	14	-1	0.105
Annualized Medicare expenditures and service use January 2010 through February 2012 among beneficiaries attributed between May 2010 and April 2012					
Inpatient hospital visits–mean	0.29	0.30	0.29	0.00	0.905
Emergency department visits–mean	0.67	0.63	0.62	-0.01	0.820
Number of physician services received–mean	21.93	21.69	22.26	0.57	0.442
Log of total Medicare expenditures–mean	8.91	8.89	8.87	-0.02	0.640
Average total Medicare Part A and B expenditures [a]	7,679	7,398	7,337	-60	0.850

[a] This version of the measure is included on the Table for descriptive purposes but was not included in the Chi-square test reported on Table G.12.

*Indicates *p*-value for difference between CPC practices and selected comparison practices is less than 0.1.

Table G.11. Matching results for CPC practices in Oregon with comparison group practices from nonselected applicants in Oregon and external region practices in Idaho and Washington

Variable name	Potential comparison group mean	Selected comparison group mean	CPC group mean	Difference between means of CPC and selected comparison group	*p*-value
Practice characteristics (percentage, unless noted)					
Has Medicare meaningful EHR users as of June 2012	43	72	72	0	1.000
Is state- or NCQA-recognized medical home by fall 2012	20	46	61	15	0.010*
Has one clinician (MD or NP/PA according to SK&A)	7	6	3	-3	0.530
Has two or three clinicians (MD/NP/PA according to SK&A)	20	24	18	-6	0.450
Has four or five clinicians (MD/NP/PA according to SK&A)	23	19	28	10	0.300
Has six or more clinicians (MD/NP/PA according to SK&A)	51	52	51	-1	0.920
Number of clinicians at practice (SK&A)[a]	12.0	9.8	8.5	-1.26	0.600
Percentage of practices' clinicians with primary care specialty (SK&A)	88	90	93	3	0.380
Owned by larger organization (defined by SK&A data)	71	72	76	4	0.630
Is critical access hospital	0.03	0.03	0.03	0.00	1.000
Log (household income in county 2009) (Area Resource file)	10.8	10.8	10.8	0.0	0.340
Medicare Advantage penetration rate in 2009 (Area Resource file)	39	39	48	9	0.000*
Located in a medically underserved area (2009 HRSA data)	18	22	9	-13	0.090*
Percentage of county that is urban (2009 Area Resource File)	80	80	83	3	0.270
Characteristics of beneficiaries attributed to practices between May 2010 and April 2012					
Count of attributed Medicare beneficiaries[a]	806	682	707	24	0.860
Log (number of attributed Medicare beneficiaries)	6.27	6.10	6.26	0.16	0.330
Percentage of the practice's patients who are dually eligible for Medicaid	18	19	19	0	0.970
Percentage male	44	45	43	-1	0.250
Percentage age 50 to 64	14	15	16	1	0.530
Percentage age 65 to 74	44	43	43	0	0.890
Percentage age 75 to 84	26	25	24	-1	0.460
Percentage age 85 or older	10	10	11	1	0.390
Percentage white	94.4	95.0	93.2	-1.8	0.169

Variable name	Potential comparison group mean	Selected comparison group mean	CPC group mean	Difference between means of CPC and selected comparison group	*p*-value
Percentage black	1.3	1.2	2.4	1.2	0.264
Percentage Asian	1.3	1.1	1.3	0.2	0.443
Percentage Native American	0.6	0.6	0.6	0.0	0.785
Percentage Hispanic	0.6	0.6	0.8	0.2	0.210
Percentage other	1.5	1.3	1.5	0.2	0.284
Percentage unknown race	0.2	0.2	0.3	0.0	0.734
HCC score–mean	1.00	0.99	0.97	-0.01	0.680
Original Medicare entitlement reason is age	79	77	77	0	0.970
Percentage of beneficiaries with diabetes	26	26	24	-2	0.070*
Percentage of beneficiaries with cancer	9	8	8	0	0.990
Percentage of beneficiaries with chronic obstructive pulmonary disease	10	10	9	-1	0.140
Percentage of beneficiaries with chronic kidney disease	15	15	15	0	0.600
Percentage of beneficiaries with Alzheimer's	9	9	9	0	0.850
Percentage of beneficiaries with congestive heart failure	12	12	12	0	0.650
Annualized Medicare expenditures and service use January 2010 through February 2012 among beneficiaries attributed between May 2010 and April 2012					
Inpatient hospital visits–mean	0.22	0.21	0.21	0.00	0.880
Emergency department visits–mean	0.58	0.58	0.58	0.00	0.950
Number of physician services received–mean	21.19	21.53	20.21	-1.33	0.050*
Log of total Medicare expenditures–mean	8.78	8.77	8.75	-0.02	0.630
Average total Medicare Part A and B expenditures[a]	6,841	6,575	6,416	-160	0.570

[a] This version of the measure is included on the Table for descriptive purposes but was not included in the Chi-square test reported on Table G.12.

*Indicates *p*-value for difference between CPC practices and selected comparison practices is less than 0.1.

Table G.12. Matching details and diagnostics

	Arkansas	New York (Capital District-Hudson Valley)	Oregon	Colorado	New Jersey	Ohio/Kentucky (Cincinnati-Dayton)	Oklahoma (Greater Tulsa)
Matching Details and Diagnostics							
Chi-squared statistic	35	40	38	32	42	25	30
Chi-squared *p*-value	0.454	0.267	0.321	0.570	0.187	0.859	0.672
Number of Matched Sets in Which the Ratio of CPC Practices to Matched Comparison Practices Is:							
3.1	0	0	11	0	0	0	0
2:1	12	21	1	19	19	22	14
1:1	17	18	12	17	18	5	19
1:2	0	1	0	1	0	1	1
1:3	0	1	0	1	0	0	0
1:4	1	2	1	0	2	4	0
1:5	27	10	19	17	12	21	20
Number of Potential External Comparison Region Practice Sites	870	482	846	684	771	1,401	410
Number of Potential Internal Comparison Region Practice Sites	32	26	61	67	96	75	32
Number of CPC Practices	69	74	67	74	70	75	68
Number of Matched Comparison Practices from External Region	143	87	76	85	46	114	107
Number of Matched Comparison Practices from Internal Region	25	15	47	41	59	36	28
Total CPC and Comparison Practice Sites (Unweighted)	**237**	**176**	**190**	**222**	**175**	**225**	**203**
Total CPC and Comparison Practice Sites (Weighted)	**138**	**148**	**134**	**148**	**140**	**150**	**136**

Our approach achieved comparison groups in each region that have similar characteristics to the CPC groups. Some differences in individual characteristics are statistically significant due to the large sample sizes and small variance across practices but are small in magnitude. Others, most often the Medicare Advantage penetration rate and the income of the county, show slightly bigger differences, most likely reflecting the different regions. Our planned use of regression analyses to estimate program effects should be sufficient to control for the influence of any of these modest remaining differences between the CPC and comparison groups.

APPENDIX H:

IMPACTS METHODS: MODEL ESTIMATION, SAMPLE, AND MEASURES SPECIFICATION

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This appendix describes the estimation approach, analysis sample, and outcome measures used in the impact analysis. Our analytic approach for claims-based measures uses difference-in-differences (DD) regressions to compare trends in outcomes over time before CPC (that is, the preperiod) and after CPC (the postperiod, or the time after CPC began) for the patients attributed to CPC practices and those attributed to comparison practices. DD models net out any preexisting differences between CPC and comparison practices at baseline that were not accounted for by propensity-score matching—provided they would not have changed over time in the absence of CPC. Hence, the DD analysis together with propensity-score matching should help eliminate biases due to unobserved differences in practice characteristics that do not change over time.

In the second annual report to CMS, we estimate annual impacts separately for the first two years of CPC. Here we describe our approach to the annual impact analysis in detail. Our quarterly reports to CMS estimate quarterly impacts using a similar approach, but with quarterly instead of annual observations on outcomes.

For the annual impact analysis, we use a DD approach with treatment effects varying by year, that is, we obtain annual impact estimates for each postintervention year included in the model. Let A_t denote a year for t = 1, 2, … T_e, where T_e is the most recent postintervention year included in the sample. In estimating annual impacts, we include data for beneficiaries in CPC and matched comparison practices for the year immediately preceding the start of CPC and for as many postintervention years for which data are available for an annual report to CMS (Table H.1).

Table H.1. Time period (year) definitions for the annual impact analysis: An illustration up to the second postintervention year

Calendar period	Description	Time period (*t*) in the regression model
October 2011 – September 2012	Preintervention year	1
October 2012 – September 2013	First postintervention year	2
October 2013 – September 2014	Second postintervention year	3

Note: To ensure consistency in the impact analysis, we assume an October 2012 start date for all CPC regions, although the intervention actually started in November 2012 for five CPC regions: New York's Capital District-Hudson Valley region, New Jersey, Colorado, Oregon, and Ohio and Kentucky's Cincinnati-Dayton region.

All four preintervention quarters, that is, the year immediately preceding the start of CPC, serve as the reference or omitted category for obtaining the DD impact estimates; that is, the impact estimate in any postintervention year is the CPC-comparison difference in an outcome in the postintervention year minus the average CPC-comparison difference across the preintervention year. Our main estimation approach, therefore, relies on using a separate time dummy for each postintervention year and its interactions with the treatment (CPC) indicator (Equation [1]).

$$(1)\quad Y_{ijt} = \alpha + \beta.X_{ijt} + \mu.P_{jt} + \tau.treatment_{ijt} + \sum_{t=2}^{T_e} \gamma_t.A_t + \sum_{t=2}^{T_e} \theta_t.treatment_{ijt}.A_t + \varepsilon_{ijt}$$

Y = outcome variable for patient i, in practice j, in year t

X = vector of patient-level controls measured in the preintervention period, such as demographics (age categories, race categories, gender), variables capturing Medicare and Medicaid eligibility (original reason for Medicare eligibility, dual status), and hierarchical condition category (HCC) score.

P = vector of practice-level controls measured in the preintervention period. It includes practice characteristics such as patient-centered medical home status; whether any clinicians in a practice meet CMS's meaningful use criteria for electronic health records (EHRs); practice size categories, as measured by the number of clinicians (physicians, nurse practitioners, and physician assistants); having multiple specialties; ownership by a larger organization; and characteristics of the county where the practice is located, including the Medicare Advantage penetration rate, median household income, percentage urban, and its status as a medically underserved area (MUA).

treatment = binary indicator of treatment status or of being in a CPC practice.

A_t = year (time) indicators, going from the first postintervention year in the data ($t = 2$) to the last postintervention year ($t = T_e$) included in the model, with the preintervention year ($t = 1$) serving as the reference category. The coefficients in these year dummies capture changes experienced by the comparison group in each postintervention year relative to the preintervention year. Note that instead of using a linear time trend, the use of year dummies allows for a more flexible specification where no assumption of linearity is imposed.

ε_{ijt} = the idiosyncratic error term.

The model, therefore, separately estimates a coefficient on the treatment indicator (τ), which is the CPC-comparison difference in an outcome in the preintervention year, coefficients on the time dummies (γ_t) capturing postintervention changes in the comparison group over time, and the DD impact estimates, that is, the coefficients on the $treatment_{ijt}.A_t$ interactions explained in the next subsection. Thus, we are essentially measuring impacts as the (regression-adjusted) change in outcomes in a postintervention year relative to the preintervention year for the treatment group patients minus changes in outcomes for patients of the matched comparison practices for the same postintervention year.

A. Interpretation of the interaction terms in the equation

The set of interaction terms ($\theta_t.treatment_j.A_t$) captures CPC-comparison differences for each postintervention year relative to the average treatment-comparison difference in the preintervention year. θ_t are the year-specific impact estimates that capture whether the

intervention made a difference to an outcome of interest during the postintervention period.[7] By estimating Equation (1) for the annual impact analysis, we obtain DD estimates for each year of CPC as well as predicted means for pre- and postintervention periods, by treatment status. Table H.2 shows how the regression-adjusted CPC and comparison means and DD impact estimates are obtained from Equation (1) above for the preintervention year and for each postintervention year. These impact estimates and adjusted means, by treatment status, are presented in the annual reports to CMS.[8]

Table H.2. CPC and comparison group means for outcomes based on the DD analysis in Equation (1): A stylized representation

Year	Comparison group mean	CPC group mean	Difference in CPC-comparison means	DD impact estimate
Preintervention year [reference period]	α	$\alpha + \tau$	τ	N/A
First postintervention year (A_2)	$\alpha + \gamma_2$	$\alpha + \tau + \gamma_2 + \theta_2$	$\tau + \theta_2$	θ_2
Second postintervention year (A_3)	$\alpha + \gamma_3$	$\alpha + \tau + \gamma_3 + \theta_3$	$\tau + \theta_3$	θ_3

Note: To highlight the key coefficients in the equation above, we exclude the coefficients on beneficiary characteristics and the practice characteristics in the expressions for the CPC and comparison group means in this table, especially since those are differenced out from the final DD estimates.

B. Control variables in the model

The model controls for both patient and practice characteristics measured at baseline, that is, before the start of CPC (Table H.3).

Controlling for the same practice characteristics that were used in matching CPC and comparison practices at baseline ensures that any remaining imbalance in those matching variables was accounted for in generating the DD impact estimates. Note, however, that we cannot control for any inherent, unmeasured differences between the CPC and matched comparison practices or account for practice characteristics that vary over time if those characteristics are potentially affected by the intervention.

[7] As explained in greater detail below, we follow an *intent-to-treat* approach and hold patients' attribution status fixed at the first practice they are attributed to in the postintervention period. This applies to both treatment and comparison patients, unless the patients die, lose Medicare FFS eligibility, or move out of the CPC region, in which case we stop following them. Also, for patients initially attributed to matched comparison practices, a change in attribution from a comparison to a treatment practice is incorporated in the sample beginning with the quarter in which that switch happens. This is explained in greater detail in section D.

[8] In a separate specification, we also estimate the average impact over the entire postintervention period by including a single time dummy for all postintervention years together and its interaction with the treatment indicator.

Table H.3. Patient- and practice-level control variables for the DD regressions

Domain	Variables
Patient-level control variables measured before the start of CPC	

Demographics	Age categories
	  <65 (reference category)
	  65–74
	  75–84
	  ≥85
	Race categories
	  White (reference category)
	  Black
	  American Indian/Alaskan native
	  Other
	Gender (binary indicator for male)

Original reason for Medicare eligibility	Eligibility categories
	  Age (reference category)
	  Disability only
	  ESRD only or ESRD with disability

Dual eligibility	Indicator for dual status (whether enrolled in Medicaid)
Risk score	HCC score (continuous variable, based on 2012 scores for postintervention years and on 2011 scores for the preintervention year; missing score imputed using the average HCC score) Indicator for whether HCC score was imputed
Practice-level control variables measured before the start of CPC	

Characteristics of the practice	Clinician (physician or NP/PA) count categories
	  1
	  2–3
	  4–5
	  ≥6
	Has NCQA or state medical home recognition (binary indicator)
	Presence of any clinician in the practice who meets CMS's criteria for meaningful use of EHRs (binary indicator)
	Having multiple specialties (binary indicator)
	Ownership by a medical group or health system (binary indicator)

Characteristics of the practice's county	Medicare Advantage penetration rate (continuous) Median household income (continuous) Percentage urban (continuous) Whether in an MUA (binary indicator)

EHR = electronic health record; ESRD = end-stage renal disease; HCC = hierarchical condition category; MUA = medically underserved area; NCQA = National Committee for Quality Assurance; NP = nurse practitioner; PA = physician assistant.

We estimate the equations above separately for each outcome of interest, accounting for the clustering of standard errors at the practice level. The same model is used for obtaining both region-specific and pooled impact estimates across all seven CPC regions. For estimating differential impacts for subgroups of patients defined by risk quartiles based on HCC score, we estimate separate models for patients in each risk quartile, especially those in the highest risk quartile.

For Medicare expenditures with and without care management fees and for the continuity of care measures (described in section E), we estimate a linear regression. For the service utilization outcomes (hospitalizations, emergency department [ED] visits, ambulatory care-sensitive conditions [ACSC] admissions, physician visits), which are measured as utilization counts per 1,000 beneficiaries per year, we use maximum likelihood models that are appropriate for count variables. Specifically, to account for overdispersion in utilization counts, we use negative binomial models for utilization outcomes such as physician visits, and to account for both overdispersion and the large percentage of zeroes (beneficiaries with no utilization during a year), we use a zero-inflated negative binomial model for service utilization outcomes that have a large percentage of zeroes, such as hospitalizations and ED visits.[9] For modeling the likelihood of an unplanned readmission within 30 days following a discharge, the likelihood of a followup visit within 14 days of a discharge, and the likelihood of an ED revisit within 30 days of an outpatient ED visit, we use separate logistic regressions.[10] We also use logistic regressions for the binary quality-of-care measures for patients with diabetes and ischemic heart disease included in the annual analysis.

All regressions control for patient characteristics in the preintervention period, such as demographics (age categories, race categories, gender), variables capturing Medicare and Medicaid eligibility (original reason for Medicare eligibility, dual status), and HCC score. In addition, in the readmission and followup visit equations, we control for certain discharge-level factors, specifically indicators for 31 condition categories identified in inpatient episodes of care during the 12 months prior to the index admission as well as those present at admission. We do not control for diagnoses that may have been a complication of care during the index admission. We also control for indicators for the specialty cohort to which the principal diagnosis or procedure associated with the index discharge belonged. The four cohorts for which we include indicator variables in the model, with one serving as the reference category, are (1) medicine, (2) surgery, (3) cardiorespiratory or cardiovascular, and (4) neurology.[11] For the ED revisit model, which is estimated at the patient level, we additionally control for 24 baseline chronic condition indicators, defined by applying the claims-based Chronic Conditions Warehouse algorithm on Medicare claims. As mentioned above, standard errors are adjusted for practice-level clustering in all models.

[9] The zero-inflated negative binomial model relies on the assumption that the excessive zeroes are generated by a separate process from the count values, and that the excessive zeroes can be independently modeled using a binary outcome model, such as a logit model.

[10] Medicare readmission rate calculations on the Hospital Compare website by CMS have in the past included all readmissions, not just unplanned readmissions. However, in the future, only unplanned readmissions will be reported there.

[11] The 31 condition categories include a range of diagnoses or risk factors, such as severe infection, metastatic cancer/acute leukemia, diabetes mellitus, end-stage liver disease, drug and alcohol disorders, congestive heart failure, chronic obstructive pulmonary disease, ulcers, cardiorespiratory failure or cardiorespiratory shock, acute renal failure, transplants, hip fracture/dislocation, and more. Our approach is based on reviewing standard models in the literature for risk-adjusting the likelihood of readmission, although it differs from other models in that we do not estimate a separate readmission equation for each of the specialty cohorts, given our goal of estimating the impact of the intervention on the risk of unplanned readmission versus estimating a risk-adjusted readmission rate for each cohort.

C. Weighting

For each patient in each year, we calculate fractional eligibility weights that capture the share of months eligible during the year, defined as months alive and enrolled in Part A and Part B Medicare with Medicare as primary payer and months not in a Medicare health maintenance organization (HMO) or Medicare Advantage. For patients in the comparison group, the eligibility weight is multiplied by a practice-level matching weight to obtain a composite final weight. This matching weight for each comparison group practice is obtained by multiplying the base practice-level matching weight, which adjusts for the number of comparison practices matched to each CPC practice, by the ratio of the average number of CPC patients in the matched set to the number of patients in that comparison practice, based on baseline attribution. Constructing a practice-level matching weight in this manner ensures that the weighted number of CPC patients in a matched set is equal to the weighted number of comparison patients across all comparison practices in that same matched set. For patients in the CPC group, only the eligibility weight is needed, since the matching weight is one. Regressions that have a continuous, claims-based measure as the dependent variable incorporate these final composite weights for CPC and comparison patients in each year. Binary outcome measures in the annual impact analysis, such as quality-of-care outcomes for patients with diabetes or ischemic heart disease, incorporate only the matching weight. Similarly, the regressions for the likelihood of readmission and for the likelihood of 14-day followup visits, which are at the discharge level with each index discharge having a 30-day or 14-day followup or exposure period, incorporate only the matching weight (the same applies for the regression for ED revisit that is estimated at the patient level).

D. Patient sample

Our analysis is based on an intent-to-treat approach applied to the quarterly lists of patients attributed to CPC and comparison practices; that is, any patients who are attributed to a practice (CPC or comparison) during any of the postintervention quarters (or year) remain in our sample during all subsequent postintervention quarters (or years), as long as they meet the eligibility criteria (alive and enrolled in Part A and Part B Medicare with Medicare as the primary payer and not in an HMO). The patient sample for the annual analysis is simply an aggregate of the quarterly samples for the pre- and postintervention periods. For instance, any patient who appears in the sample for one or more postintervention quarters in the quarterly analysis is included in the samples for both the pre- and postintervention years in the annual analysis. We follow outcomes in the annual analysis from the month corresponding to the first quarter of Medicare eligibility in the preintervention period and from the month corresponding to the first quarter of attribution in the postintervention period.

During the postintervention period, the sample changes slightly from one year to another as a result of new patients being attributed to practices and some previously attributed patients dropping out due to death, joining a Medicare Advantage plan, or losing Medicare eligibility. Also, this approach accommodates the possibility of patients switching practices during the postintervention period, with clear criteria for dealing with specific cases, based on the intent-to-treat analysis approach. These criteria are described below.

For patients initially attributed to CPC practices, we follow an intent-to-treat rule of once in treatment, always in treatment, and followed till the end of the initiative, unless the patient dies,

loses Medicare fee-for-service (FFS) eligibility, or moves out of the CPC region, in which case we will stop following that patient. For example, if patients are attributed to a CPC practice in the first two program quarters but are attributed to a matched comparison practice in the third program quarter, we continue to keep them aligned with the CPC practice they were originally attributed to in subsequent quarters and years, as long as they meet the Medicare enrollment criteria. Similarly, patients who were attributed to a CPC practice in the first two program quarters but not attributed to either a CPC or a comparison practice from the third program quarter onwards continue to be in our CPC group sample for all subsequent program quarters or years, and aligned with the same CPC practice they were originally attributed to, as long as they are alive, enrolled in Medicare FFS, and in the same CPC region. If patients switch from one CPC practice to another CPC practice, we once again hold their attribution status fixed at the first CPC practice to which they were attributed. In contrast, if patients die, lose Medicare FFS eligibility, or move out of a CPC region without being attributed to any other practice, we truncate their observation at the end of the last year when they met all eligibility criteria.

For patients attributed to matched comparison practices, we incorporate a change in attribution from a comparison to a CPC practice in the sample beginning with the year in which that switch happens. Finally, for patients who switch from one comparison practice to another comparison practice or from a comparison practice to not being attributed, we hold attribution status fixed at the comparison practice where the patients were originally attributed (as in the case of CPC patients), as long as they are alive, enrolled in Medicare FFS, and in the same comparison region.

We do not run attribution separately for the *preintervention* period. Instead, we look back to them for the same sample of patients who were attributed during the postintervention periods. For instance, if for a particular annual report, we have data for two postintervention years, the sample of patients during the preintervention year is an aggregate of *all* patients attributed to CPC or matched comparison practices during the postintervention years. Patients' practice affiliation during the preintervention year is based on their actual practice affiliation (the practice to which they were first attributed) during the demonstration period, as long as they were eligible for Medicare in the preintervention period. Hence, the sample of patients during the preintervention year is composed of all CPC and comparison beneficiaries attributed to practices during the postintervention period, up to the most recent postintervention year included in the model, and limited to those who were also enrolled in Medicare FFS during the preintervention year.

We prefer this approach of creating the baseline sample of patients for the preintervention year based on patient assignments during the postintervention years. This avoids the costly and time-intensive option of replicating the attribution algorithm for both CPC and matched comparison practices during each of the four preintervention quarters we include in our model, and it allows us to follow a similar set of patients over time from the pre- to the postintervention periods.

A potential issue in defining the preintervention sample using the cumulative patient samples from the postintervention period is that Medicare expenditures register an upward shift in the postintervention years due to the well-documented high average expenditures during the last six months before death. Since the patient sample in the preintervention year is composed of

patients who are actually attributed during the postintervention period, no deaths occur during the preintervention period. Consequently, average expenditures are lower during the preintervention year. Note, however, that this is unlikely to be a major concern, because any increase in expenditures due to high end-of-life costs are likely to occur for both the CPC and comparison patients, unless the intervention has a significant impact on lowering mortality or improving survival among CPC group patients, which should be reflected in the expenditure impact estimates. The DD estimates for the impact of the initiative should remain valid.

E. Measures specification

In this section, we define the key measures used in this report. Table H.4 shows which measures were used in the annual impact analysis.

Table H.4. Medicare claims-based outcome measures for second annual report to CMS

Medicare expenditures and service use
Total Medicare expenditures (with and without care management fees) per beneficiary per month
Total Medicare expenditures, by service category (inpatient, outpatient, physician, DME, SNF, home health, hospice) per beneficiary per month
Physician expenditures, by PCP versus specialist visits (subcategory of physician expenditures) per beneficiary per month
Number of hospitalizations per 1,000 beneficiaries per year
Number of ED visits per 1,000 beneficiaries per year
Number of outpatient ED visits per 1,000 beneficiaries per year
Number of observation stays per 1,000 beneficiaries per year
Number of PCP visits per 1,000 beneficiaries per year
Number of specialist visits per 1,000 beneficiaries per year
Diabetes quality of care – lipid testing (yes/no)
Diabetes quality of care – HbA1c testing (yes/no)
Diabetes quality of care – eye exam (yes/no)
Diabetes quality of care – urine protein testing (yes/no)
Diabetes quality of care – all four tests received (yes/no)
Diabetes quality of care – none of the four tests received (yes/no)
Ischemic heart disease quality of care – lipid testing (yes/no)
Continuity of care measures
Continuity of care: Percentage of primary care visits at attributed practice
Continuity of care: Percentage of all office visits at attributed practice
Continuity of care: Bice-Boxerman Index based on primary care visits
Continuity of care: Bice-Boxerman Index based on all office visits
Quality-of-care outcome measures
Number of ACSC admissions per 1,000 beneficiaries per year
Likelihood of an unplanned readmission within 30 days of a hospital discharge
Likelihood of a follow-up visit within 14 days of a hospital discharge
Likelihood of an ED revisit within 30 days of an outpatient ED visit

DME = durable medical equipment; ED = emergency department; SNF = skilled nursing facility; PCP = primary care physician.

Medicare FFS expenditures per month for all services (excluding Part D prescription drugs) this reporting period excluding care management fees. Total FFS Medicare expenditures per month for Part A and Part B covered services during a pre- or postintervention year. The expenditure measure includes Medicare payments only, excluding third-party and beneficiary liability payments.

Medicare FFS expenditures per month for all services (excluding Part D prescription drugs) this reporting period including care management fees. Total FFS Medicare expenditures per month for Part A and Part B covered services plus the CPC Medicare fee-for-services care management fees, which were set to average $20 per beneficiary per month during the first two years of CPC ($8 per beneficiary per month in the lowest risk quartile, $11 for beneficiaries in the second risk quartile, $21 for beneficiaries in the third risk quartile, and $40 for beneficiaries in the highest risk quartile). The actual average amount paid for the research sample by CMS is less because some patients are no longer attributed to the practice but are still in the sample.

Medicare FFS expenditures per month, by service category. Total claims-based Medicare expenditures per month broken down by type of Part A or Part B service (inpatient, outpatient, physician, home health, skilled nursing facility [SNF], hospice, and durable medical equipment [DME]).

Physician expenditures per month, by type of visit. Expenditures per month on physician visits in all settings broken down by primary care physician versus specialist visit (for the codes used to define primary and specialist visits, see Tables H.5 and H.6).

Table H.5. Primary care physician health care financing administration specialty codes

01 = General practice	08 = Family practice
11 = Internal medicine	37 = Pediatric medicine
38 = Geriatric medicine	84 = Preventive medicine
50 = Nurse practitioner	97 = Physician assistant
89 = Certified clinical nurse specialist	

Table H.6. Specialty physician health care financing administration specialty codes

02 = General surgery	03 = Allergy/immunology
04 = Otolaryngology	05 = Anesthesiology
06 = Cardiology	07 = Dermatology
10 = Gastroenterology	13 = Neurology
14 = Neurosurgery	16 = Obstetrics/gynecology
18 = Ophthalmology	19 = Oral surgery (dentists only)
20 = Orthopedic surgery	22 = Pathology
24 = Plastic and reconstructive surgery	25 = Physical medicine and rehabilitation
26 = Psychiatry	28 = Colorectal surgery
29 = Pulmonary disease	30 = Diagnostic radiology
33 = Thoracic surgery	34 = Urology
39 = Nephrology	40 = Hand surgery

41 = Optometry	44 = Infectious disease
46 = Endocrinology	48 = Podiatry
66 = Rheumatology	70 = Multispecialty clinic or group practice
76 = Peripheral vascular disease	77 = Vascular surgery
78 = Cardiac surgery	81 = Critical care (intensivists)
82 = Hematology	83 = Hematology/oncology
85 = Maxillofacial surgery	86 = Neuropsychiatry
90 = Medical oncology	91 = Surgical oncology
92 = Radiation oncology	93 = Emergency medicine
98 = Gynecologist/oncologist	

Hospital admissions per 1,000 patients per year. This is the annualized hospitalization rate per 1,000 patients of all admissions reported in the inpatient file for that year. Transfers between facilities are counted as a single admission. Multiple claims for acute admissions from traditional acute care and critical access hospitals that represent transfers between hospitals are combined into a single record, so that they count as one admission.

Hospital admissions for ambulatory care-sensitive conditions per 1,000 patients per year. Expenditures on a subset of hospital admissions based on the definition developed by the Agency for Healthcare Research and Quality (AHRQ) of potentially avoidable hospitalizations for ACSCs, defined as conditions for which timely, high-quality outpatient care can often prevent complications or more serious disease. AHRQ originally developed these measures as area-level indicators of adequacy of access to primary care, but we use them only to identify hospitalizations that are potentially preventable based on admission diagnosis codes. Whereas AHRQ excludes any hospitalizations that involve a transfer to one or more subsequent facilities, we include these stays in our calculation but focus only on the claim for the first facility.

We count patients as having a preventable hospitalization if the diagnosis on their claim is any of the following: diabetes related (short-term complications, long-term complications, uncontrolled diabetes, and rate of lower extremity amputation), congestive heart failure (CHF), chronic obstructive pulmonary disease (COPD) in asthma or older adults, coronary artery disease (CAD, including angina without procedure, hypertension, hospitalization for acute myocardial infarction [AMI], hospitalization for acute stroke, combined AMI or stroke), dehydration, bacterial pneumonia, or urinary tract infection.

ED visits per 1,000 patients per year. This measure is the annualized number of ED visits and observation stays per 1,000 patients. It includes visits that lead to a hospitalization.

Outpatient ED visits. This measure is the annualized number of ED visits and observation stays per 1,000 patients that do not lead to hospitalization. Visits that do not lead to a hospitalization are identified in the outpatient department file using revenue center line items equal to 045X or 0981 (emergency room care), 0762 (treatment or observation room), or 0760 (treatment or observation room—general classification). A visit is counted as an observation stay if it is longer than 8 hours and less than 48 hours and has a corresponding current procedural terminology (CPT) code of G0378, hospital observation services per hour. If the procedure code on the line item of the ED claims equals 70000 through 79999 or 80000 through 89999, it is

excluded (to exclude claims in which only radiological or pathology/laboratory services were provided).

Observation stays per 1,000 patients per year. This measure is a subset of the outpatient ED visits or ED visits that did not lead to a hospital admission. Specific codes used to identify observation stays are described above.

Number of PCP visits in all settings per 1,000 patients per year. This measure is the number of visits to primary care physicians (defined in Table H.5), including nurse practitioners (NPs), clinical nurse specialists (CNSs), and physician assistants (PAs), as defined by Health Care Financing Administration (HCFA) specialty codes, per 1,000 patients per year.

Number of specialist visits in all settings per 1,000 patients per year. This measure is the number of visits to specialists, as defined by HCFA specialty codes (see Table H.6 for a list of codes), per 1,000 patients per year.

Likelihood of 30-day hospital readmission. For calculating the 30-day readmission rate, we used a slightly different time period definition than for the other measures. We looked at all eligible inpatient discharges during the last month of the previous year and the first 11 months of the current year, and calculated the proportion of these index discharges that were followed by an unplanned hospitalization within 30 days of the discharge.

Eligible index discharges for calculating the readmission rate include index discharges for patients who were enrolled in Medicare FFS, discharged from nonfederal acute care hospitals, alive at the time of discharge, and not transferred to another acute care facility. The eligible index discharges include patients discharged to nonacute care settings. Index discharges do not include admissions to Prospective Payment System–exempt cancer hospitals, admissions for patients without at least 30 days of postdischarge enrollment in FFS Medicare, admissions for patients discharged against medical advice, admissions for primary psychiatric diagnoses, admissions for rehabilitation, and admissions for medical treatment of cancer. The readmission rate counts all *unplanned* readmissions that arise from acute clinical events requiring urgent rehospitalization within 30 days of discharge.

Likelihood of 14-day followup visit after a discharge. We used a similar approach to identify the denominator of index discharges for 14-day followup visit as we used for 30-day readmissions, with two notable exceptions: (1) requiring that beneficiaries are also Part B eligible, given the followup in an outpatient setting; and (2) looking 14 days out instead of 30 to see whether the beneficiary had a readmission following an index discharge. More specifically, the measure was defined as follows: we included all patients who had an index discharge (with the denominator exceptions noted above) and followed them for 14 days postdischarge to determine whether they had a followup visit with a primary care or specialist physician, excluding those who had a readmission during that two-week period. We only excluded discharges followed by a *planned* readmission.

Followup clinician office visits were identified using the following evaluation and management (E&M) codes from Part B physician files: 99201–99205; 99211–99215; 99241–99245; 99304–99310, 99315–99316, 99318; 99324–99328; 99334–99337 and 99339–99340;

99341–99345; 99347–99350; 99441–99443; 99374–99380; and the following federally qualified health center revenue center codes: 521–522.

Likelihood of 30-day ED revisit. The ED revisit measure identifies whether an outpatient visit to the emergency department, where the patient was treated and discharged to home/self-care, was followed by another visit to the emergency department within 30 days. The measure is defined at the patient level for the preintervention year as well as each postintervention year.

Continuity of care measures. We defined continuity of care measures over a two-year pre- and a two-year postintervention period—using beneficiaries attributed to CPC and comparison practices in the first program quarter. One measure is based on the proportion of visits made by the beneficiary to the practice he or she was attributed to out of all visits made during a two-year period. We used two variants of this measure:

Percentage of primary care visits at attributed practice. This measure is the proportion of office-based E&M visits to primary care physicians, NPs, PAs, and CNSs at the attributed practice out of all such visits in a year.

Percentage of all office visits at attributed practice. This measure is the proportion of office-based E&M visits to primary care physicians, specialists, and NPs, PAs, and CNSs at the attributed practice out of all such visits in a year.

We constructed a second continuity of care measure, based on applying the principle of the Bice-Boxerman Index (BBI), which is a measure of market concentration. In our case, this is a measure of how concentrated (or dispersed) a patient's visits are across all providers (including the CPC practice treated as a single provider) he or she saw over a time period. For instance, out of a total of 10 visits:

- if he or she made all visits to a single provider, the BBI is 1 (perfect continuity)
- if he or she made 1 visit to each of 10 providers, the BBI is 0 (zero continuity)
- if he or she made 5 visits to each of 2 providers, the BBI is 0.44.

We used two variants of this measure: (1) BBI based on primary care visits; and (2) BBI based on all office visits.

For all four continuity of care measures, we constructed the total number of office-based E&M primary care physician visits and office-based E&M specialist visits, respectively. We used the primary care and specialty codes listed in Tables H.5 and H.6, respectively, to identify these visits, and the codes listed in Table H.7 to define if a visit is office-based.

Table H.7. CPT codes to define office-based E&M visits

	Qualifying CPT codes
Office/Outpatient visit E&M	99201–99205 99211–99215

Quality-of-care process measures. We used HEDIS measures and defined them on an annual basis—for the pre- and postintervention years—using patients attributed to CPC practices over the postintervention period who had certain chronic conditions, namely diabetes and ischemic vascular disease. We used seven measures:

1. **Diabetes quality of care–lipid testing.** Percentage of patients ages 18–75 who had diabetes and had an LDL-C screening in the year.
2. **Diabetes quality of care–HbA1c testing.** Percentage of patients ages 18–75 who had diabetes and had a hemoglobin A1c test in the year.
3. **Diabetes quality of care–eye exam.** Percentage of patients ages 18–75 who had diabetes and had an eye exam in the year.
4. **Diabetes quality of care–urine protein testing**. Percentage of patients ages 18–75 who had diabetes and had a urine protein testing in the year.
5. **Composite diabetes quality of care–whether a patient had all four tests (all four are equal to one).** This measure is the percentage of patients ages 18–75 who had diabetes and had all four exams or tests described in measures (1) through (4).
6. **Composite diabetes quality of care–whether a patient had none of the four tests (all four are equal to zero).** This measure is the percentage of patients ages 18–75 who had diabetes and had none of the four exams or tests described in measures (1) through (4).
7. **Ischemic vascular disease (IVD) quality of care–lipid testing.** The percentage of patients 18 years of age and older who had a diagnosis of ischemic vascular disease during the measurement year and the year prior to the measurement year and who had a complete lipid profile during the measurement year.

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APPENDIX I:

SENSITIVITY TESTS

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This appendix reports results from a range of sensitivity tests that we conducted to check the robustness of our key findings from the impact analysis. As noted in Chapter 7, our sensitivity tests showed remarkable robustness of the results to varying assumptions about modeling, sample composition, and comparison group strategies (Table I.1). The only exceptions to this robustness were the following:

- When we used the log of actual Medicare expenditures as the dependent variable, which reduces the effect of high cost cases, the year 1 CPC-wide estimate was only -0.2% and not statistically significant (compared to -2% and statistically significant in our primary analysis), and the year 2 estimate was 1% and not statically significant (compared to -1% and not statistically significant in our primary analysis). Because CPC practices prioritize delivering care management to costly patients, we believe that comparing the two groups on the log of costs probably understates the true results of CPC—the effective downweighting of high cost cases in the estimated overall group means for CPC and comparison group cases implies that the greater number of patients with high actual costs in the comparison group leads to more downweighting for that group and a smaller difference between the two groups in percentage terms. This belief was supported by examination of the differences in the distribution of costs for CPC and comparison patients, which showed slightly lower proportions of CPC patients in each of the cost categories above the mean. The change due to shifting to the logarithmic form was not due to the effects of a small number of outliers.
- Our analysis that compared CPC practices to "internal comparison practices"—those within the same region that had applied to CPC but were not selected—showed that CPC had favorable, statistically significant effects in both years. We examined the internal set of comparison practices because they shared a similar level of motivation as CPC practices to transform, in the sense that they applied to the initiative; internal comparison practices are also subject the same market factors as CPC practices. However, selected CPC practices might be expected to have better outcomes (including lower Medicare expenditures) than non-CPC practices because CMS chose for the program those applicants that it considered to have the most well-developed practice features at the time of application. Thus, the estimated effects based on comparison of CPC practices to only the internal comparison practices might be biased toward being more favorable than the true effects of CPC. However, in this sensitivity test, the practice's application score (which CMS assigned at the time the practice applied to the initiative and used to select the "best" programs in terms of meaningful use status (a measure of their health information technology use) and PCMH status)[12] was associated with slightly *higher* (but not statistically significant) risk-adjusted Medicare expenditures among attributed Medicare beneficiaries. Thus, the internal comparisons may actually be a valid counterfactual, despite the potential for selection bias. In a variation on this sensitivity test, we rematched CPC practices with only those internal comparison practices that had been previously selected using propensity score matching in

[12] CMS selected practices to participate in CPC based in large part on their application score. The score gave a practice up to 530 points for use of health information technology, up to 80 points for the percent of practice revenue from participating payers, up to 70 points for PCMH recognition, and up to 35 points for participation in the prior three years in QI or practice transformation activities (e.g., quality improvement organization activities, Regional Extension Centers, or local or national learning collaboratives). The application score did not include any pre-CPC costs, service use, or patient outcomes. CMS also weighed some other factors such as geographic and patient diversity in its final selections.

our primary analysis. Under this approach, we used new weights that account for the fact that CPC practices were compared against internal comparisons only. In this analysis, we did not control for the application score (because we wanted to compare results from an analysis using internal comparisons to an analysis using external comparisons, and the external comparison practices do not have an application score). The results, once again, showed that CPC had favorable, statistically significant effects in both years, and these effects were larger in magnitude compared to the sensitivity test described above (that compared CPC to all non-selected internal comparison practices while controlling for the application score). Thus, it is unlikely that the contamination of CPC internal comparison practices (due to spillover of CPC) is muting the overall findings.

- Conversely, we rematched CPC practices with only the matched external comparison practices, defining a new matched comparison group with external comparisons only and a new set of matching weights. Under this approach, the new matching weights account for the fact that CPC practices are being matched and compared against external comparisons only. Results from this analysis with practice-level rematching of CPC to only external comparison practices showed small and statistically insignificant effects in both years, with the direction of the effects being favorable. This alternative was intended to assess the likelihood of potential confounding due to CPC's possible influence on practices in the comparison group that were located in the CPC region. Since estimates from this alternative were smaller than those from our main model (and impact estimates were larger when CPC practices were compared to practices within CPC regions rather than compared to practices outside CPC regions), it appears that there is little or no contamination of CPC internal comparison practices (due to spillover of CPC) that is muting the overall findings.

- Finally, rather than matching practices, we used a matching strategy that matched *individuals* attributed to CPC practices to *individuals* in external comparison areas only. Because practice characteristics are ignored in this analysis, comparison group beneficiaries are more likely to come from an average practice than from practices that have a meaningful EHR user or are medical homes. In this analysis, results were similar to those described in the sensitivity test described above that relied on practice-level matching of external practices; that is, estimates were not statistically significant, though in this variant, the estimates were small and unfavorable.

Table I.1. Estimates of the CPC-wide effect on Medicare expenditures without fees under alternative approaches

Approach	Motivation	Y1 impact estimate	Y2 impact estimate
Main analysis (difference-in-differences ordinary least squares regression model, using one observation for baseline year, where patients attributed to CPC practices in any post-CPC quarter were compared to patients attributed to matched comparison practices drawn from both CPC regions and external regions)		-15**	-8

Approach	Motivation	Y1 impact estimate	Y2 impact estimate
Varying difference-in-differences approaches			
Use postperiod only observation and preperiod control variables (rather than separate postperiod and preperiod observations)	Controls directly for individual prior service use	-17**	-11*
Use two-year baseline (instead of one year)	Controls for longer preperiod trend	-13	-6
Varying sample composition			
Follow only patients attributed in quarter 1 (rather than including beneficiaries that were attributed for the first time in later quarters)	Removes any effects that might be due to changes in sample composition over time	-15**	-5
Varying definition of comparison group			
Using internal comparison group only, compare selected applicants to originally matched nonselected applicants while controlling for CPC application score	Controls for changes in market over time by using only internal market and reduces selection bias by using only applicants and controlling for application score	-15**	-13**
Using internal comparison group only, compare selected applicants to rematched nonselected applicants	Controls for changes in market over time by using only internal market and reduces selection bias by rematching CPC practices to nonselected applicants only and using a new set of matching weights	-27***	-22**
Comparing to beneficiaries in external comparison group only, using patient-level matching (rather than practice-level matching)	By using only external markets, removes potential spillover effects of CPC; because practice-level characteristics are ignored, individuals are more likely to come from average practices rather than practices that were more likely to have been PCMHs and be meaningful users	2	12
Using external comparison group only, compare CPC practices to rematched external comparison practices	By using only rematched practices from external practices (along with new matching weights), removes potential spillover effects of CPC	-8	-1
Varying model specification			
Practice fixed effects	Removes time-invariant unobserved variable bias	-16**	-7
GLM with log link	Handles skewed expenditure distribution	-12*	-10
Trimmed costs at 98th percentile	Reduces influence of high-cost cases	-9*	-7
Percentage impacts calculated from main model (not a sensitivity test)	Calculates impacts in % terms to be comparable to log cost results	-2%	-1%
Log costs	Reduces influence of high-cost cases	-0.2%	1%
Bayesian estimates	Uses alternative specification for error term to account for nonindependence of practices within region (random effects model)	-13**	-7

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

GLM= generalized linear model; PCMH = patient-centered medical home.

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APPENDIX J:

SUPPLEMENTARY TABLES FOR THE ANALYSIS LINKING PRACTICE TRANSFORMATION TO REDUCTIONS IN HOSPITALIZATIONS

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This appendix contains tables that accompany Chapter 8. That chapter examines what types of transformation in the delivery and organization of primary care among CPC practices—as reported in CPC's annual survey of practices—were linked to reduced hospitalization rates after CPC began.

Table J.1 presents risk-adjusted estimates from a regression of change in hospitalization rates on region- and practice-level patient characteristics.

Table J.2 provides a crosswalk of CPC Milestones and modified PCMH-A domains and items.

Table J.3 presents bivariate regression estimates of the relationship between changes in the modified PCMH-A and the risk-adjusted change in hospitalization rates. This table presents only the non-statistically significant estimates for the individual items (22 of the 37 items), as well as the estimates for the seven domains and the overall modified PCMH-A score. The statistically significant estimates for the remaining 15 items are reported in Chapter 8, Table 8.1.

Table J.4 presents the correlations between changes in the seven PCMH-A domains and the overall modified PCMH-A score from baseline to PY2014.

Table J.1. Risk-adjusted estimates from a regression of change in hospitalization rates on characteristics of the practice's county and patients

Risk factor	Coefficient (*p*-value)
Characteristics of the practice's county	
Percent covered by Medicare Advantage	0.000
	(0.845)
Median household income	0.000***
	(0.001)
Percentage urban	-0.001*
	(0.079)
Whether in a medically underserved area	0.004
	(0.890)
Practice-level patient characteristics	
Percentage of beneficiaries:	
<65 years (reference category)	
65 – 74 years	-0.292*
	(0.066)
75 – 84 years	-0.077
	(0.856)
85+ years	-0.383
	(0.458)
Percentage male	0.099
	(0.484)
Percentage of beneficiaries:	
White (reference category)	
Black	0.066
	(0.732)
American Indian/Alaskan native	0.071
	(0.463)
Other (includes Asian or Pacific Islander, Hispanic, other/unknown)	0.495
	(0.145)
Average HCC score	-0.078
	(0.420)
Percentage dual	-0.249
	(0.299)
Percentage with original reason for Medicare entitlement	
Age (reference category)	
Disability only and ESRD	-0.043
	(0.915)
R-squared	0.08

Source: Mathematica analysis of FFS Medicare claims data. Baseline variables used to risk adjust practices' change in hospitalization rates come from data from the Medicare EDB, CMS's HCC scores, SK&A, NCQA, the Area Resource File, and HRSA.

Notes: Regression estimates are based on the three-quarters of practices (N=362) with the largest number of attributed Medicare FFS patients. Ordinary least squares was used to generate estimates. Each row represents the estimated coefficient on the risk factor. *p*-values are in parentheses under each regression coefficient.

*** Statistically significant at the 0.01 level; * significant at the 0.10 level.

Table J.2. Crosswalk between CPC Milestones and modified PCMH-A domains and items

CPC Milestone	Modified PCMH-A Domain	Modified PCMH-A Item
Risk-stratified care management	Continuity of care	Patients are assigned to specific provider panels and panel assignments are routinely used for scheduling purposes and are continuously monitored to balance supply and demand
	Planned care for chronic conditions and preventive care	Registries on individual patients are available to practice teams and routinely used for pre-visit planning and patient outreach, across a comprehensive set of diseases and risk states
		Comprehensive, evidence-based guidelines on prevention or chronic illness treatment guide the creation of individual-level patient reports for care teams to use at the time of visits
		Non-physician practice team members perform key clinical service roles that match their abilities and credentials
		Visits are organized to address both acute and planned care needs. Tailored guideline-based information is used in team huddles to ensure all outstanding patient needs are met at each encounter
		Medication reconciliation is regularly done for all patients and documented in the patient's medical record
	Risk-stratified care management	Registry or panel-level data are regularly available to assess and manage care for practice populations, across a comprehensive set of diseases and risk states
		Care plans are developed collaboratively, include self-management and clinical management goals, are routinely recorded, and guide care at every subsequent point of service
		Standard method or tool(s) to stratify patients by risk level is available, consistently used to stratify all patients, and is integrated into all aspects of care delivery
		Clinical care management services for high-risk patients are systematically provided by care managers functioning as members of the practice team
	Patient and caregiver engagement	Feedback to practice from patient and family caregiver council is consistently used to guide practice improvements and measure system performance as well as care interactions at the practice level
		Self-management support is provided by members of the practice team trained in patient empowerment and problem-solving methodologies
	Coordination of care across the medical neighborhood	Behavioral health services are readily available from behavioral health specialists who are onsite members of the care team or who work in an organization with which the practice has a referral protocol or agreement
Access and continuity	Access to care	Appointment systems are flexible and can accommodate customized visit lengths, same day visits, scheduled follow-up, and multiple provider visits
		Communicating with the practice team through email, text messaging, or accessing a patient portal is generally available, and patients are regularly asked about their communication preferences for email, text messaging, or use of a patient portal
		Patient after-hours access to a physician, PA/NP, or nurse is available via the patient's choice of email or phone directly with the practice team or a provider who has real-time access to the patient's electronic medical record
	Continuity of care	Patients encouraged to see paneled provider and practice team by the practice team and it is a priority in appointment scheduling, and patients usually see their own provider or practice team

CPC Milestone	Modified PCMH-A Domain	Modified PCMH-A Item
Patient experience	Patient and caregiver engagement	Feedback to practice from patient and family caregiver council is consistently used to guide practice improvements and measure system performance as well as care interactions at the practice level
		Patient comprehension of verbal and written materials is assessed and accomplished by translation services or multi-lingual staff, and training staff in health literacy and communication techniques (such as closing the loop) assuring that patients know what to do to manage conditions at home
		Assessing patient and family values and preferences is systematically done and incorporated in planning and organizing care
		Test results and care plans are systematically communicated to patients in a variety of ways that are convenient to patients
	Continuous improvement driven by data	Reports of patient care experiences and care processes or outcomes are routinely provided as feedback to practice teams, and transparently reported externally to patients, other teams, and external agencies
Use data to guide quality improvement	Planned care for chronic conditions and preventive care	Reminders to providers include general notification of the existence of a chronic illness and specific information for the team about guideline adherence at the time of individual patient encounters
	Coordination of care across the medical neighborhood	Practice knows total cost to payers of medical care for all patients
		Linking patients to supportive community-based resources is accomplished through active coordination between the health system, community service agencies, and patients and accomplished by a designated staff person
	Continuous improvement driven by data	Practice hiring and training processes support and sustain improvements in care through training and incentives focused on rewarding patient centered care
		QI activities are conducted by practice teams supported by a QI infrastructure with meaningful involvement of patients and their families
		Performance measures are comprehensive—including clinical, operational, and patient experience measures—and available for this practice site and individual providers, and fed back to individual providers
		Quality improvement (QI) activities are based on a proven improvement strategy and used continuously in meeting organizational goals
		Staff, resources, and time for QI activities are all fully available in the practice
		Responsibility for conducting QI activities is shared by all staff, from leadership to team members, and is made explicit through protected time to meet and specific resources to engage in QI

CPC Milestone	Modified PCMH-A Domain	Modified PCMH-A Item
Care coordination across the medical neighborhood	Coordination of care across the medical neighborhood	Tracking of patient referrals to specialists is consistently done for all patients
		Patients in need of specialty care, hospital care, or supportive community-based resources obtain needed referrals to partners with whom the practice has a relationship, relevant information is communicated in advance, and timely follow-up after the visit occurs
		Transmission of patient information when patients referred to other providers is consistently done and always contains a complete set of clinical information (e.g., medication list, problem list, allergy list, advance directives)
		Practice follow-up with patients seen in ER or hospital is done routinely because the primary care practice has arrangements in place with the ER and hospital to both track these patients and ensure that follow-up is completed within a few days
		Receipt of information about patients from hospitals and ERs in community consistently occurs in less than 24 hours after the event
Shared decision making	Patient and caregiver engagement	Involving patients in decision-making and care is systematically supported by practice teams trained in decision making techniques

Source: Mathematica analysis of CPC Milestone definitions and the modified PCMH-A module of the PY2014 CPC practice survey.

Table J.3. Bivariate regression estimates of relationships between changes in modified PCMH-A items and risk-adjusted change in hospitalization rates that are not statistically significant

Modified PCMH-A domain/item	Baseline mean	Mean change between baseline and Year 2	Risk-adjusted change in hospitalizations with a one point increase in the domain/item score (in percentage points)		
			Bivariate estimate		Controlling for baseline domain/item score
			Coefficient (*p*-value)	R-squared	
Overall modified PCMH-A score	**6.45**	**2.29**	**-1.15 ** (0.02)**	**0.02**	**-1.08 (0.12)**
Access to care domain	**6.96**	**2.61**	**-0.64 (0.12)**	**0.01**	**-0.57 (0.22)**
Alternate types of contact with the practice team	4.14	4.64	-0.06 (0.79)	0.00	-0.03 (0.90)
Continuity of care domain	**9.29**	**0.76**	**-0.21 (0.58)**	**0.00**	**-0.78 (0.18)**
Reports of patient care experiences (e.g., CAHPS survey) and care processes or outcomes	4.51	3.12	-0.15 (0.51)	0.00	-0.22 (0.47)
Patient assignment to providers	8.91	0.97	-0.12 (0.72)	0.00	-0.27 (0.58)
Patients are encouraged to see their paneled provider and practice team	9.63	0.57	-0.16 (0.64)	0.00	-0.83 (0.11)
Planned care for chronic conditions and preventive care domain	**7.66**	**1.46**	**-1.00 ** (0.01)**	**0.02**	**-1.01 * (0.07)**
Registries—either integrated in the EHR or free-standing—on individual patients	5.35	3.00	-0.29 (0.16)	0.01	-0.57 * (0.05)
Comprehensive, evidence-based guidelines on prevention or chronic illness treatment	7.53	1.39	-0.07 (0.80)	0.00	-0.04 (0.93)
Reminders to providers	7.57	1.27	-0.38 (0.14)	0.01	-0.04 (0.92)

Modified PCMH-A domain/item	Baseline mean	Mean change between baseline and Year 2	Risk-adjusted change in hospitalizations with a one point increase in the domain/item score (in percentage points)		
			Bivariate estimate		Controlling for baseline domain/item score
			Coefficient (*p*-value)	R-squared	
Risk-stratified care management domain	**4.58**	**5.09**	**-0.38 (0.17)**	**0.01**	**-0.77 (0.17)**
A standard method or tool(s) to stratify patients by risk level	3.60	6.01	0.00 (1.00)	0.00	-0.29 (0.48)
Clinical care management services for high-risk patients	4.81	5.78	-0.34 (0.10)	0.01	-0.01 (0.99)
Care plans are developed collaboratively	6.24	2.15	-0.27 (0.26)	0.00	-0.14 (0.70)
Patient and caregiver engagement domain	**6.59**	**1.26**	**-0.67 * (0.05)**	**0.01**	**-0.44 (0.35)**
Patient comprehension of verbal and written materials	6.38	1.29	-0.05 (0.84)	0.00	0.05 (0.88)
Test results and care plans	8.68	0.64	-0.34 (0.29)	0.00	0.09 (0.82)
Feedback to the practice from patient and family caregiver council	5.51	0.61	-0.14 (0.40)	0.00	-0.07 (0.72)
Coordination of care across the medical neighborhood domain	**6.63**	**1.44**	**-0.97 ** (0.04)**	**0.01**	**-0.56 (0.35)**
Follow-up by the primary care practice with patients seen in the Emergency Room (ER) or hospital	7.16	2.77	-0.22 (0.39)	0.00	-0.09 (0.83)
Receipt of information about patients from hospitals and emergency departments in my community	6.75	1.87	-0.11 (0.67)	0.00	-0.15 (0.70)

Modified PCMH-A domain/item	Baseline mean	Mean change between baseline and Year 2	Risk-adjusted change in hospitalizations with a one point increase in the domain/item score (in percentage points)		
			Bivariate estimate		Controlling for baseline domain/item score
			Coefficient (*p*-value)	R-squared	
Patients in need of specialty care, hospital care, or supportive community-based resources	8.44	0.81	-0.03 (0.94)	0.00	0.51 (0.25)
Behavioral health (mental health and chemical dependency) services	5.81	0.96	-0.22 (0.35)	0.00	0.02 (0.93)
When this practice refers patients to other providers, transmission of patient information	8.58	1.06	-0.37 (0.25)	0.00	-0.08 (0.86)
Referral relationships with medical and surgical specialists	7.08	-1.00	-0.23 (0.27)	0.00	-0.11 (0.64)
Continuous improvement driven by data domain	**5.78**	**2.31**	**-0.49 (0.13)**	**0.01**	**-0.23 (0.60)**
Quality improvement (QI) activities are conducted	4.97	2.62	-0.22 (0.37)	0.00	0.03 (0.92)
Performance measures are comprehensive	7.03	2.30	-0.10 (0.67)	0.00	-0.20 (0.56)
Staff, resources, and time for quality improvement activities	5.41	1.93	-0.29 (0.26)	0.00	-0.04 (0.91)

Source: Mathematica analysis of FFS Medicare claims data and the PCMH-A module of the PY2012 and PY2014 practice surveys. Baseline practice-level variables used to risk adjust practices' change in hospitalization rates come from data from the Medicare EDB, CMS's HCC scores, SK&A, NCQA, the Area Resource File, and HRSA. For descriptions of items, see Appendix Table D.1.

Notes: Regression estimates are based on the 362 practices with the largest numbers of attributed Medicare FFS patients. Ordinary least squares was used to generate estimates. Each row represents the estimated coefficient on the change in domain/item score from two separate regressions: (1) a regression of the percentage change in hospitalizations on the change in domain/item score and (2) a regression of the percentage change in hospitalizations on the change in domain/item score controlling for the baseline domain/item score. Means and regression coefficients for domains are in bold. *p*-values are in parentheses under each regression coefficient.

** Statistically significant at the 0.05 level; * significant at the 0.10 level.

Table J.4. Coefficients of correlation among the change in the seven PCMH-A domains and the change in overall modified PCMH-A score between baseline and PY2014 among CPC practices

	Access to care domain	Continuity of care domain	Planned care for chronic conditions and preventive care domain	Risk-stratified care management domain	Patient and caregiver engagement domain	Coordination of care domain	Continuous improvement driven by data domain	Overall modified PCMH-A score
Access to care domain	1							
Continuity of care domain	0.13 (0.01)	1						
Planned care for chronic conditions and preventive care domain	0.26 (<.0001)	0.21 (<.0001)	1					
Risk-stratified care management domain	0.24 (<.0001)	0.16 (0.00)	0.58 (<.0001)	1				
Patient and caregiver engagement domain	0.13 (0.01)	0.20 (0.00)	0.62 (<.0001)	0.53 (<.0001)	1			
Coordination of care domain	0.25 (<.0001)	0.12 (0.02)	0.49 (<.0001)	0.41 (<.0001)	0.62 (<.0001)	1		
Continuous improvement driven by data domain	0.24 (<.0001)	0.19 (0.00)	0.60 (<.0001)	0.52 (<.0001)	0.59 (<.0001)	0.56 (<.0001)	1	
Overall modified PCMH-A score	0.42 (<.0001)	0.27 (<.0001)	0.82 (<.0001)	0.79 (<.0001)	0.81 (<.0001)	0.72 (<.0001)	0.81 (<.0001)	1

Source: Mathematica analysis of the PCMH-A module of the baseline and PY2014 CPC practice surveys.

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