

The “Medical Neighborhood” Advanced Alternative Payment Model (AAPM) Environmental Scan

12/7/18

I. Overview

The purpose of this environmental scan is to provide members of the Physician-Focused Payment Model Technical Advisory Committee (PTAC) with background information on the context for the “Medical Neighborhood” Advanced Alternative Payment Model (AAPM), and the associated Patient-Centered Specialty Practice (PCSP) Recognition Program, which was proposed by The American College of Physicians (ACP) and The National Committee for Quality Assurance (NCQA) in November 2018.

The scan focuses on five topics:

1. Specialty referrals and care coordination between primary care physicians (PCPs) and specialists
2. Medicare payment policy affecting specialty referral and care coordination
3. Existing and proposed specialty alternative payment models
4. The problems in care delivery resulting from current patterns in specialty referral, care coordination, and communication
5. Results from similar models

Appendix A includes additional information on the questions addressed in this scan, search terms, and sources used to identify the research summarized below.

Specialty referrals and care coordination between PCPs and specialists

Medicare Referral Patterns. Referrals of Medicare beneficiaries from PCPs to specialists have been increasing, with about 1 in 10 visits to a PCP resulting in a specialist referral in 2009 compared to 1 in 20 just 10 years earlier (MedPAC, 2018; Barnett, 2012). Patient complaints that lead to referrals stem most often from problems related to vision (21 percent), gynecology (18 percent), gastrointestinal (18 percent), orthopedics (16 percent), dermatology (15 percent), and cardiology (15 percent) (Delaronde, 2017).

There is high regional variability in the likelihood of seeing a specialist for common illnesses that are typically managed by both PCPs and specialists, and this variation is not associated with beneficiary health status (Clough, et al., 2016). Individual PCPs also vary significantly in their referral rates, with some more than five times more likely to make referrals than others (Mehrotra, et al., 2011). There are many reasons for this variation, including the fact that many PCPs rely on their clinical judgment rather than guidelines when making referrals, and specialist access is not the same for all patient groups (Delaronde, 2017).

Care Coordination. One mechanism used to improve communication and care coordination between PCPs and specialists is the implementation of care compacts, which are formalized agreements between PCPs and specialists that delineate referral protocols, care transition expectations, and care management responsibilities. Peikes, Anglin, and colleagues (2018) found that of those practices participating in CMMI’s Comprehensive Primary Care Initiative (CPCI) demonstration,¹ only 41 percent established care compacts with specialists. Primary care practices that established care compacts most often did so with specialists in the fields of cardiology (chosen by 64 percent of practices), gastroenterology (49 percent), orthopedic surgery (43 percent), behavioral health (39 percent), and obstetrics/gynecology (34 percent).

Based on qualitative data obtained from 21 CPCI practices implementing care compacts, agreements were typically established with the specialists to whom they most frequently made referrals, with whom they had good relationships, who were in the same health system, and who used the same EHR. Some of the challenges in implementing care compacts mentioned by a few practices included: a lack of engagement from specialists due in part to the fact that current Fee for Service (FFS) payment incentives do not encourage specialists to engage with primary care providers; agreeing on how information should flow between practices; and data-sharing across different electronic health record (EHR) systems.

NCQA PCSP Recognition. The medical neighborhood model (MNM) would require specialists to achieve recognition as NCQA PCSPs. Currently, there are 424 NCQA recognized PCSP sites, with a total of 2,269 unique clinicians. The majority of practices are small, with an average of fewer than 4.5 clinicians per practice site. There is no publicly available information about the geographic location of these practice sites and the extent to which they are located in the same geographic areas as the Comprehensive Primary Care Plus (CPC+) practices. Finally, estimates of net costs and value to practices are not fully understood (Ward, 2017), so it is unclear whether and how rapidly the number of practice sites that are NCQA PCSP recognized might increase.

CPC+ Participation. Frazee, et al. (2018), identified 264 CPC+ practices as of January 1, 2017. This study found that the CPC+ model attracted small practices, and most were owned by a health system. However, although a diverse set of practices joined the program, practices in areas with higher income and educational levels and lower use of inpatient services were more likely to join. This pattern may exacerbate disparities in vulnerable populations’ access to advanced primary care medical home models such as CPC+ and any NCQA PCSP specialty groups that might participate in the proposed Medical Neighborhood Model.

¹ The proposed “Medical Neighborhood Model” (MNM) builds on the Center for Medicare and Medicaid Services’ (CMS’) Comprehensive Primary Care Plus (CPC+) model and could apply to any specialists to whom Medicare beneficiaries in that model are referred. Evaluation results are not yet available for CPC+, so we report results from CPC+’s predecessor, the Comprehensive Primary Care Initiative (CPCI) evaluation.

Medicare payment policy issues affecting specialty referral and care coordination

Medicare Physician Fee Schedule for Chronic Care Management Services. The Medicare Physician Fee Schedule (PFS) currently covers the following care management services for FFS beneficiaries with multiple chronic conditions:

- management of transitions between and among health care providers and settings, including referrals to other clinicians
- follow-up after an emergency department (ED) visit, or facility discharge
- creation and exchange of continuity of care documents with other practitioners and providers
- use of a certified EHR (CEHRT)
- comprehensive care management and care planning (MLN, 2016)

Accountable Care Organizations (ACOs). ACOs are potentially well positioned to address the Medicare FFS population's care coordination needs. By assuming shared savings and shared risk collectively under a global budget, PCPs in an ACO share the consequences of each other's referral decisions (Meyers et al., 2010; Song et al., 2014). To date, ACOs have focused on primary care to improve outcomes for high-cost patients with conditions such as diabetes, congestive heart failure, and chronic obstructive pulmonary disease (COPD) through enhanced care coordination and chronic disease management. They have been slower to engage other specialists. Specialists are still advantaged by FFS, and financial incentives for ACO participation are relatively weak, making it more difficult to engage specialists in ACOs and for ACO-affiliated PCPs to work with them on improved referral and care coordination processes (Resnick et al., 2018).

Proposed Condition-Specific Alternative Payment Models (APMs) for Specialists. The American Academy of Neurologists (AAN), the American College of Rheumatologists (ACR), and the American Gastroenterological Association (AGA) have proposed frameworks for condition-specific APMs. These include the Patient-Centered Headache Care Payment (PCHCP),² rheumatoid arthritis-specific APM, as well as bundled payments for colonoscopy (Brill et al., 2014) and GERD (Vaezi et al., 2016). These proposed APMs have not yet been implemented or evaluated.

One concern is barriers to specialist participation in APMs. In [a letter to the CMS](#), the ACR identified barriers to participation by subspecialists in an APM. Many of these barriers stem from the fact that rheumatologists often have relatively small practices, leading to increased financial risk for providers. A statement to the U.S. House of Representatives written by the American Society for Gastrointestinal Endoscopy (2018) highlighted two areas impeding

² The Patient-Centered Headache Care Payment (PCHCP) was submitted by the American Academy of Neurologists (AAN) to the Physician-Focused Payment Model Technical Advisory Committee (PTAC) for consideration in November 2017.

physician movement toward value-based care, including: 1) the lack of Advanced APM opportunities for physician specialists, and 2) the federal physician self-referral law or Stark Law, which prohibits physicians from independent contracting involving shared savings or other nontraditional payment arrangements for fear of violating the law.

Problems in care delivery resulting from current patterns in specialty referral and care coordination

Quality and patient safety. Appropriate specialty referrals are critical because under-referral can lead to patients not getting needed care, whereas over-referral can increase risks via exposure to medically unnecessary procedures and unnecessary costs. Additionally, poor communication and referral-related care coordination result in quality and safety problems, including: patients' increased risk for delayed, redundant, or unnecessary testing; inadequate treatment; and diminished self-care (Davidow, et al., 2018). Fragmentation of care increases with the number of physicians a patient sees, resulting in poor continuity and coordination of care for patients, which is also associated with more preventable hospitalizations, complications of chronic illness, and higher costs per episode of inpatient care (Song, et al., 2014).

Patient experience. Increased use of specialists was not associated with a corresponding increase in satisfaction with care (or positive care experience) or perceived health status (MedPAC, 2018). Yet, Medicare beneficiaries report difficulty obtaining certain specialty referrals including dermatology, orthopedics, and psychiatry (MedPAC, 2018).

Spending. Increased use of specialists was associated with a considerable increase in spending, without a corresponding increase in satisfaction with care or perceived health status (MedPAC, 2018). Because of Medicare's statute (to cover all medically necessary services that are delivered by any provider willing to meet Medicare's criteria), Medicare does not have the authority to develop provider networks or to credential providers, tools private payers use to control referrals and thereby reduce cost (MedPAC, 2018). However, ACOs are a mechanism by which Medicare can hold providers accountable for the full spectrum of beneficiary care including referrals (MedPAC, 2018).

Health information technology. In 2015, approximately 90 percent of office-based physicians have an EHR. About 50 percent have a basic EHR and about 80 percent have a CEHRT that meets specific meaningful use requirements. PCPs have significantly greater uptake of CEHRTs compared other specialists, with 74 percent of specialists having a CEHRT in 2014. However, in 2014 only 33 percent of physicians with CEHRT shared information with external providers or unaffiliated hospitals (Jamoom, et al., 2016). Lack of EHRs and health information exchange capability was a barrier to care compacts and better coordination between PCPs and specialists even among CPCI practices that met federal criteria for meaningful use of EHRs.

eConsults are a-synchronous exchanges between PCPs and specialists designed for use in place of a referral for an in-person evaluation by the specialist. They are a promising health information technology (IT) application for integrated health systems with aligned financial incentives and defined populations to manage problems of lower clinical complexity and for those questions that do not require in-person evaluation. It has been demonstrated that an electronic referral process can improve access to care, clarity of the consult question, and improve PCP satisfaction with the referral system (Gleason, et al., 2017).

Quality reporting in CPCI practices and other key specialties. A barrier to better care coordination between PCPs and specialists is the lack of availability of eQMs and the burden of quality reporting requirements. For example, over the course of the CPCI demonstration, the number of electronic clinical quality measures (eQMs) practices were required to collect and perform continuous quality improvement (CQI) on increased from one to three (Peikes, Anglin, et al., 2018). With respect to eQMs for specialists, we identified advances being made in eQMs in rheumatology but not in neurology or gastroenterology (Tonner, et al., 2017; Robeznieks, 2018). Many more qualified clinical data registries (QCDRs) have been approved by CMS since 2017 for use by specialists in value-based payment models. However, while EHR-based care coordination measures have been developed, they are rapidly evolving, and it is unclear whether and which CMMI demonstrations have used them and to what affect (AHRQ, 2014).

Results from Similar Models

Evidence for the NCQA'S PCSP Certification. Because NCQA's PCSP recognition is relatively new, there is little evidence on the effect of the certification on care coordination, quality, and patient experience of care (Ward, et al., 2017).

Similar Medicare Models:

CPCI practices. The final evaluation of the CPCI program found that there were few sizable or statistically significant effects on claims-based, quality-of-care outcomes or process measures such as delivery of evidence-based care for diabetes care and IVD, transitional care, and continuity of care (Peikes, Anglin, et al., 2018). Additionally, there was no clear pattern among the few statistically significant findings. However, qualitative results from this evaluation show that CPCI practices indicated in interviews that they had improved the referral tracking process and their sharing of patient information with specialists since participating in CPCI (Peikes, Anglin, et al., 2018). Relative to comparison practices, CPCI practices saw 2 percent lower growth in outpatient ED visits over the course of the initiative (Peikes, Dale, et al., 2018).

The Multi-Payer Advanced Primary Care Practice (MAPCP) Demonstration. In the MAPCP model, which ended in 2016, participating state agencies were responsible for aligning several aspects of their medical home program across multiple insurers, including Medicare, Medicaid, and commercial insurers. These aspects included care management fees, medical home activity

requirements, quality standards, and payment incentives. The final evaluation found mixed results across demonstration states, with little evidence of improvement in access to care and care coordination. Two of eight states achieved statistically significant net Medicare savings relative to comparison groups, with Michigan accounting for the largest share. Only one of eight demonstration states (Rhode Island) saw an increase in primary care visits relative to comparison groups, and in two states (Vermont and North Carolina) specialist visits decreased relative to the control groups. Finally, one demonstration state (Michigan) saw a significant reduction in 30-day unplanned readmissions (Nichols, et al., 2017).

Medicare ACOs. In the first year of the Blue Cross Blue Shield of Massachusetts Alternative Quality Contract, a commercial ACO-like arrangement, decreases in spending were driven by referrals to care settings with lower prices (Song, et al., 2011). In contrast, decreases in Medicare spending for beneficiaries in Pioneer ACOs relative to their comparison populations were related to significant reductions in utilization in a range of care settings (Nyweide, et al., 2015). Overall, these results were consistent with other research showing that patients in Medicare ACOs tend to report some improvements in the timeliness of their care and clinicians' knowledge of a patient's use of specialists, with otherwise no decrements in access (Nyweide et al., 2015).

Additionally, reducing leakage to outside specialists in an effort to improve care coordination and quality as well as to reduce cost is viewed by some as a key strategy for ACOs to improve quality and reduce cost. McWilliams and colleagues (2014) determined that 66.7 percent of specialist office visits were provided outside of assigned ACOs. A more recent study found that, between 2010 and 2014, leakages of specialty care changed minimally in the MSSP, suggesting that efforts to reduce leakage were largely ineffective, although MSSP participation was associated with decreases in new specialty visits among primary care-oriented ACOs (Lewis, et al., 2018). These findings are supported by Dupree et al. (2014), who suggest that early ACOs have largely not engaged some high-cost specialists like surgeons, instead focusing on care coordination and reducing hospital admissions and readmissions. Additionally, qualitative data suggest that early ACOs rely on "soft" approaches to direct referrals to specialists deemed to provide high-value care. There is considerable variation in surgeons' participation in early ACOs, with this variation driven largely by practices' contractual role in the ACO.

Similar Commercial Models:

Total Care IBD. The University of Pittsburgh Medical Center Health Plan's Total Care IBD model is a fully integrated, subspecialty medical home for inflammatory bowel disease. In preliminary analyses, this model has shown reduction in medical utilization and improvement in quality of life (Szigethy et al., 2017).

Project Sonar. In 2014, the [Illinois Gastroenterology Group](#) partnered with Blue Cross Blue Shield of Illinois to implement a specialty medical home (this model did not require PCSP recognition) for Crohn's disease patients, and early results have been positive; the expanded

medical home model lowered cost by 10 percent and reduced hospitalization payments by 57 percent (Feuerstein, 2016). Known as [Project Sonar](#),³ this program offers participating practices a supplemental per member per month payment, in addition to usual fee for service payment.⁴

Information on Submitters

The **American College of Physicians (ACP)** is a national organization of internists, the largest medical-specialty organization, and second-largest physician group in the United States. ACP was founded in 1915 to promote the science and practice of medicine, and its members include internists, internal medicine subspecialists, medical students, residents, and fellows. ACP works actively in the field of performance measurement and develops policy papers and performance measurement commentaries and recommendations.

The **National Committee for Quality Assurance (NCQA)** is a private, not-for-profit organization that was founded in 1990 and is dedicated to improving health care quality. NCQA accredits and certifies a wide range of health care organizations, and recognizes practices and clinicians in key areas of performance. The NCQA's Patient-Centered Specialty Practices (PCSP) Recognition is designed to help facilitate team-based care by improving collaboration with primary care and recognizing specialists who streamline and improve health care delivery. Additionally, the NCQA's Patient-Centered Medical Home (PCMH) Recognition program was not required for CPCI or CPC+ participation, but the criteria are well-aligned with the CPC+ program.

³ This program is for complex Crohn's disease patients that end up using their specialist as their primary care physician. Specialty medical homes have been proposed for other types of specialties and their associated patients as well, such as oncology. These models do not explicitly focus on better coordination between primary care and specialists as does the current MNM proposal.

⁴ The PTAC recommended this model for limited scale testing. Please see: <https://aspe.hhs.gov/system/files/pdf/255906/SonarReportSecretary.pdf>

II. Annotated Bibliography

Agency for Healthcare Research and Quality (AHRQ). (June 2014). Care coordination measures atlas update: Chapter 4: emerging trends in care coordination measurement. Rockville, MD: AHRQ. Retrieved from <http://www.ahrq.gov/professionals/prevention-chronic-care/improve/coordination/atlas2014/chapter4.html>

Subtopic(s): Problems in care delivery

Type of Source: Government report

Objective: To discuss care coordination measurement approaches that are still early in their development, with a focus on three main areas of development: 1) care coordination measures utilizing data EHR or other HIT systems; 2) public reporting of HIT-enabled care coordination; and 3) social network analysis as a novel approach to care coordination measurement. The authors aim to provide insight into future directions for measurement and explore measurement potential, implementation challenges, and directions for further development.

Main Findings: EHR-based measures may provide an additional avenue for evaluating the patient/family perspective as opportunities increase for patients and their representatives to interact directly with EHRs. Understanding care coordination requires measurement from multiple perspectives: patient/family, health care professional, and system representative. Social network analysis approaches can be adapted for measuring each of the perspectives, depending upon the level of analysis and source of information used to create network maps. Further development may also lead to combined or hybrid approaches, such as integrating questionnaires that collect data for social network analysis into existing care coordination-related surveys of patients or health care professionals, and then linking network characteristics to coordination processes evaluated through other means, such as EHR-based measures.

Strengths/Limitations: N/A

Generalizability to Medicare Population: N/A

Methods: These approaches were identified through the recent *Atlas* update measures search. This search was conducted using multiple data sources, including electronic health record systems, consumer surveys, and databases of administrative claims, review of AHRQ Health Information Technology portfolio projects, information from national organizations of their care coordination measurement activities, input from expert and stakeholder/informant panels, and a comprehensive literature search.

Barnett M. L., Song Z., & Landon B. E. (2012). Trends in physician referrals in the United States, 1999-2009. *Archives of Internal Medicine*, 172(2):163-170. doi:[10.1001/archinternmed.2011.722](https://doi.org/10.1001/archinternmed.2011.722)

Subtopic(s): Description of the issue

Type of Source: Journal article

Objective: To assess changes in the annual rate of referrals to other physicians from physician office visits in the United States from 1999 to 2009.

Main Findings: The report finds that over the ten years between 1999 and 2009 the probability that an outpatient visit to a physician resulted in a referral to another physician increased from 4.8% to 9.3% ($p < 0.001$), a 94% increase. The absolute number of visits resulting in a physician referral increased 159% nationally during this period, from 41 million to 105 million. This trend was consistent across subgroups, except for slower growth among physicians with ownership stakes in their practice.

Strengths/Limitations: A limitation is the age of the data; this study uses survey data from 1999-2009.

Generalizability to Medicare Population: Yes

Methods: Analysis of nationally representative cross-sections of ambulatory patient visits in the United States, using a sample of 845,243 visits from the National Ambulatory Medical Care Survey and National Hospital Ambulatory Medical Care Survey from 1993 to 2009, focusing on the decade from 1999 to 2009.

Brill J. V., Jain R., Margolis P. S., et al. (2014). A bundled payment framework for colonoscopy performed for colorectal cancer screening or surveillance. *Gastroenterology*, 146(3):849-853.e9. doi:10.1053/j.gastro.2014.01.043

Subtopic(s): Payment policy

Type of Source: Journal article

Objective: To describe an Advanced Alternative Payment Method proposed by the American Gastroenterological Association (AGA) Institute.

Main Findings: The AGA physician work group developed a bundled payment framework for selected colonoscopy services. The model can serve as a framework for a bundled payment that may be applicable to gastroenterologists who wish to contract with health plans, marketplaces, employers, purchasers, and ACOs.

Strengths/Limitations: The described model is meant to serve as a framework for a bundled payment applicable to gastroenterologists who wish to contract with health plans, marketplaces, employers, purchasers, and ACOs. Practices need to analyze their existing data to determine the frequency of incomplete procedures and poor bowel preparations so they can factor this information into a proposed payment. Also, practices should ensure that contracting plans can adjudicate claims accurately in the negotiated bundle.

Generalizability to Medicare Population: Yes

Methods: N/A

Clough J. D., Patel K., & Shrank W. H. (2016). Variation in specialty outpatient care patterns in the Medicare population. *Journal of General Internal Medicine*, 31(11):1278-1286. doi:10.1007/s11606-016-3745-8

Subtopic(s): Description of the issue

Type of Source: Journal article

Objective: To describe regional variation in outpatient visits for individual specialties and the association between specialty physician-specific payments and patient-reported satisfaction with care and health status.

Main Findings: These findings demonstrated high regional variability in the likelihood of seeing a specialist for common illnesses that are typically managed by PCPs and specialists. Multiple analyses suggested that this variation was not due to differences in beneficiary health status. An increased use of specialists was associated with a considerable increase in cost, without a corresponding increase in beneficiary overall satisfaction with care or perceived health status. The lowest quartile of specialist use was consistently associated with lower patient satisfaction with access to specialists, though overall satisfaction was high and similar across the three highest quartiles.

Strengths/Limitations: This is an observational study, which cannot establish a causal relationship between specialty use and outcomes. Generalizability limited by inclusion and exclusion criteria listed in methods section below.

Generalizability to Medicare Population: Yes

Methods: Retrospective cross-sectional study utilizing demographic data from the beneficiary summary files, claims data from the carrier files, and patient reported data from the 2012 Medicare Current Beneficiary Survey (MCBS) for a 20% random sample of Medicare Fee-for-service beneficiaries in 2012. The study included beneficiaries who were 65 years or older at the beginning of 2012 and had full Part A and Part B eligibility during the entire year. Beneficiaries who had missing race or sex data (.3%), were enrolled in a Medicare Advantage plan at any point during 2012, or had any claims for which Medicare was a secondary payer were excluded.

Davidow S. L., Sheth J., Sixta C. S., & Thomas-Hemak L. (2018). Closing the referral loop: Improving ambulatory referral management, electronic health record connectivity, and care coordination processes. *Journal of Ambulatory Care Management*, 41(4):240-249.
doi:[10.1097/JAC.0000000000000247](https://doi.org/10.1097/JAC.0000000000000247)

Subtopic(s): Problems in care delivery

Type of Source: Journal article

Objective: The aim of the pilot project was to improve the efficiency and effectiveness of the referral process between the PCPs and the cardiologists (each pair comprising a “dyad”). Twelve dyads of primary care and specialist physicians sought to improve ambulatory referrals by mapping the referral process and using care compacts, metrics, and EHRs.

Main Findings: Referrals closed on time increased from 40 percent to 70 percent. Clinical questions answered increased from 50 percent to 75 percent. Adoption of the change package and lessons from this project may significantly improve ambulatory referral management.

Strengths/Limitations: Limitations in the Closing the Referral Loop (CRL) pilot project included participant representation from a small geographic region; greater than expected time needed to complete care compacts and referral process mapping; and limited capacity to assess patient engagement and understanding of and satisfaction with the referral process.

Generalizability to Medicare Population: N/A

Methods: Eleven dyads (PCP and specialist as well as their staff) completed the pilot project, collected data on a defined set of measures, and attended monthly improvement webinars and in-person meetings to share challenges, solutions, and lessons learned. Participants collected data monthly over the 18 months of the pilot. The measures were percentage of closed referrals; percentage of urgent referrals completed within 7 days; percentage of priority referrals completed within 14 days; percentage of routine referrals completed within 28 days; percentage of referrals with specialist reports sent within 7 days of patient appointment; percentage of clinical questions answered by the specialist; PCP satisfaction with the referral process (5 survey questions, 5-point Likert scale); specialist satisfaction with the referral process (6 survey questions, 5-point Likert scale); and patient satisfaction with the referral process (6 survey questions, 5-point Likert scale).

Delaronde S. (November 17, 2017). The specialist referral: Do primary care providers have all the information they need? *3M Inside Angle*. Retrieved from <https://www.3mhisinsideangle.com/blog-post/specialist-referral-primary-care-providers-information-need/>

Subtopic(s): Description of the issue

Type of Source: Health information systems blog

Objective: To describe barriers to specialist referral by PCPs.

Main Findings: This article describes reasons for variation in referral practice. Because most PCPs rely on their clinical judgement rather than guidelines when making referrals, and specialist access is not the same for all patient groups, wide variation is inevitable. The variability in referral patterns can lead to under-referral as well as over-referral. Under-referral can lead to patients not getting the expert opinion and care that they may need to treat their condition, whereas over-referral can lead to higher risk and unnecessary cost. It is acknowledged among most specialty groups that up to one-third of procedures are medically unnecessary and expose the patient to unnecessary risks.

Strengths/Limitations: N/A

Generalizability to Medicare Population: Yes

Methods: N/A

Dupree J. M., Patel K., Singer S. J., West M., Wang R., Zinner M. J., & Weissman J. S. (2014). Attention to surgeons and surgical care is largely missing from early Medicare Accountable Care Organizations. *Health Affairs*, 33(6):972-979.

Subtopic(s): Results of other similar models

Type of Source: Journal article

Objective: To investigate the role of surgical care in the ACO model.

Main Findings: ACOs have devoted little attention to surgical care. Local market conditions may limit ACO's abilities to affect surgical referral patterns. Overall, care delivery strategies were concentrated on coordination of care for patients with chronic conditions. ACOs with hospitals as partners were focused on reducing hospital readmissions while ACOs who providers were all physicians were focused on reducing hospital admission and ED visits.

Strengths/Limitations: ACOs were in the early stages of developing their care delivery strategies when this study was conducted.

Generalizability to Medicare Population: Yes

Methods: Conducted case studies with four physician or hospital led Pioneer or Shared Saving Program ACOs. Thirteen key informants from these four sites were interview between June and October 2012. Interviews focused on the behavior of the ACO during its first performance year, were semi-structured, an hour long, and conducted by two or more authors. These case studies informed the development of a survey of all 59 initial Medicare ACOs, which was conducted between June and November 2012 by mail and e-mail. The survey was 14 items long and asked about strategic priorities, the number of participating surgeons, and shared savings or other incentives.

Feuerstein J. D., Sheppard V., Cheifetz A. S., & Ariyabuddhiphongs K. (2016). How to develop the medical neighborhood. *Journal of Medical Systems*, 40(9):196. doi:[10.1007/s10916-016-0557-7](https://doi.org/10.1007/s10916-016-0557-7)

Subtopic(s): Results of other similar models

Type of Source: Journal article

Objective: To discuss the necessary steps to implement a medical neighborhood for patients with chronic medical conditions and the use of medical technology to facilitate this process.

Main Findings: There are multiple key building blocks that must be established when developing a medical neighborhood. Practices need to start brainstorming to develop their ideal collaboration model between PCPs and specialists. The first step in any medical neighborhood should be standardizing the means for communication about referrals and subsequent recommendations. In order to create an ideal system, the framework for making referrals, ordering tests prior to referrals, and documentation and communication of recommendations must be addressed.

Strengths/Limitations: Findings are based on one focus group, the precise composition of is not provided, at one institution limiting generalizability.

Generalizability to Medicare Population: N/A

Methods: A focus group of specialists (cardiologists, endocrinologists, pulmonologists, and gastroenterologists) and PCPs held at Beth Israel Deaconess Medical Center on the steps necessary to implement a medical neighborhood.

Fraze T. K., Fisher E. S., Tomaino M. R., Peck K. A., & Meara E. (2018). Comparison of populations served in hospital service areas with and without Comprehensive Primary Care Plus medical homes. *JAMA Network Open*, 1(5):e182169-e182169. doi:[10.1001/jamanetworkopen.2018.2169](https://doi.org/10.1001/jamanetworkopen.2018.2169)

Subtopic(s): Description of the issue

Type of Source: Journal article

Objective: To describe practices that joined the CPC+ model and compare hospital service areas with and without CPC+ practices.

Main Findings: According to this study, although a diverse set of practices joined the CPC+ program, practices in areas characterized by patient populations with greater advantage were more likely to join, which may affect access to advanced primary care medical home models (such as CPC+) for vulnerable populations.

Strengths/Limitations: Secondary data sources such as IMS HCOS data on primary care practices could include errors because practice characteristics can change regularly.

Generalizability to Medicare Population: Yes

Methods: This study followed the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) reporting guideline. To examine the characteristics of practices participating in the CPC+ program, the authors used publicly available data from the CMS8 and identified CPC+ practices, then extracted data describing ownership and characteristics of health systems and practices using IMS Health Care Organization Services (HCOS) data from 2016.

Ganesan, N., Feore, J., & Valladares, A. (June 14, 2017). Physician specialists gain more opportunities for Medicare bonus payments tied to quality. Avalere. Retrieved from <https://avalere.com/press-releases/physician-specialists-gain-more-opportunities-for-medicare-bonus-payments-tied-to-quality>

Subtopic(s): Problems in care delivery

Type of Source: Press release

Objective: To review the list of measures for 2017 Merit-Based Incentive Payment System (MIPS) reporting, including the expanded list of Qualified Clinical Data Registries (QCDRs) that offers clinicians flexibility in meeting reporting requirements by allowing them to report on measures more relevant to their specialty. QCDRs may also be a valuable vehicle to fill measure gaps for specialties where measures have not yet been developed.

Main Findings: The number of CMS-approved QCDRs tied to payment grew by more than 60 percent in 2017. Physician specialists have more than 700 measures available for reporting under the MIPS through QCDRs.

Strengths/Limitations: Version 1 of the 2017 CMS-approved QCDR qualified posting is incomplete and lacks clarity around total number of measures and details regarding individual measures.

Generalizability to Medicare Population: N/A

Methods: Avalere reviewed the list of final measures for 2017 MIPS reporting, as established in the Quality Payment Program final rule on October 14, 2016, and published on the CMS website. Avalere identified all the individual measures tagged to each specialty set in addition to those measures introduced in the preliminary 2017 QCDR List (released May 25, 2017). CMS did note that that this release represents version 1 of the 2017 CMS-approved QCDR qualified posting, inclusive of approved QCDR (non-MIPS) measures thus far.

Gleason N., Prasad P. A., Ackerman S., et al. (2017). Adoption and impact of an eConsult system in a fee-for-service setting. *Healthcare*, 5(1-2):40-45. doi:[10.1016/j.hjdsi.2016.05.005](https://doi.org/10.1016/j.hjdsi.2016.05.005)

Subtopic(s): Problems in care delivery

Type of Source: Journal article

Objective: To test whether an eConsult program, with reimbursement for individual exchanges, over the course of the eight-month study period would improve access to specialty care while decreasing the median wait time for input from the specialist and if this would lead to a decrease in health care utilization and costs. The authors define eConsult as an asynchronous exchange between PCP and specialist designed for use in place of a referral for an in-person evaluation by the specialist.

Main Findings: Findings show robust adoption of the eConsult system by PCPs and, together with the implementation of an Enhanced Referral platform, a significant reduction in referral rate, specialty care utilization, specialty care access time, and costs. More than two-thirds of PCPs placed at least one eConsult during the study period, and surveys showed high acceptability among PCPs.

Strengths/Limitations: Limitations: Patients often receive care for multiple, unrelated problems within one health care system. The authors chose a global approach—capturing all pro-fee costs for a fixed time period following each referral or eConsult—to account for this. Unrelated care could obscure the impact of the program; care delivered outside the system is not captured; the analysis includes only patients who had a referral or eConsult, so specialty contact averted due to the program represents savings not captured by this method.

Generalizability to Medicare Population: N/A

Methods: An eConsult option was introduced into the EHR referral platform at a multisite Academic Medical Center (AMC) with a shared EHR system. PCPs were encouraged to submit any clinical question provided that: 1) a specialist could address the question based upon the available data and without an in-person evaluation; 2) an eConsult response would meet the patient's needs; and 3) the question would warrant an office-based referral in the absence of the eConsult program. Specialists received a payment corresponding to 0.5 wRVU per completed eConsult. PCPs also receive 0.5 RVU credit per eConsult toward annual productivity targets. To describe the impact of the eConsult program from a provider perspective, the authors conducted surveys to assess PCP and specialist acceptability of the eConsult system. To examine the impact of the eConsult program from the patient and the delivery system perspective, they measured PCP referral rates, specialty clinic new-patient visit rates, the time to access specialty care, ED visits, hospitalizations, and pro-fee-associated costs.

Jamoom, E. W., Yang, N., & Hing, E. (January 2016). [Adoption of certified electronic health record system and electronic information sharing in physician offices: United States, 2013 and 2014. NCHS data brief, no. 236. Hyattsville, MD: National Center for Health Statistics.](#)

Subtopic(s): Problems in care delivery

Type of Source: Data brief

Objective: This report uses the National Electronic Health Records Survey (NEHRS) to describe physician adoption of certified EHR systems from 2013 to 2014 across the United States and the extent to which physicians with certified EHR systems share patient health information.

Main Findings: In 2015 the percentage of office-based physicians with certified EHR systems increased from 67.5% in 2013 to 74.1%. In 2014, the percentage of physicians who had a certified EHR system ranged from 58.8% to 88.6%. Also in 2014, 32.5% of office based physicians were electronically sharing patient health information with external providers. Finally, the percentage of physicians with a certified EHR system electronically sharing patient health information with external providers ranged from 17.7% to 58.8%. Statements of differences in estimates are based on statistical tests with significance at the $p < 0.05$ level and all differences are statistically significant unless stated otherwise.

Strengths/Limitations: Information on the 2013 NEHRS methodology is not provided and therefore the comparability of the two surveys cannot be ascertained.

Generalizability to Medicare Population: N/A

Methods: The data for this report are from the 2013 and 2014 National Electronic Health Records Survey (NEHRS). Information provided on the methods of the 2014 NEHRS included that the sample was 10,302 physicians, nonrespondents to mail survey received follow-up telephone calls, one-half of the 2014 NEHRS sample were randomly selected to receive a long-form questionnaire, and that the 2014 NEHRS was conducted from May through October 2014. In terms of response rates, the unweighted response rate of the 2014 NEHRS short-form questionnaire was 67% (66% weighted), whereas the unweighted response rate of the 2014 NEHRS long-form questionnaire was 61% (60% weighted), and the unweighted overall response rate was 64% (63% weighted).

Lewis V. A., Schoenherr K., Frazee T., & Cunningham A. (2016). Clinical coordination in accountable care organizations: A qualitative study. *Health Care Management Review*. doi: 10.1097/HMR.000000000000141

Subtopic(s): Results of other similar models

Type of Source: Journal article

Objective: ACOs are becoming a common payment and delivery model. Despite widespread interest, little empirical research has examined what efforts or strategies ACOs are using to change care and reduce costs. Knowledge of ACOs' clinical efforts can provide important context for understanding ACO performance, particularly to distinguish arenas where ACOs have and have not attempted care transformation. The aim of the study was to understand ACOs' efforts to change clinical care during the first 18 months of ACO contracts.

Main Findings: ACOs in the first year of performance contracts are most commonly focusing on four areas: transforming primary care through increased access and team-based care; reducing avoidable ED use; strengthening practice-based care management; and developing new boundary spanner roles and activities. There was little ACO activity were around transforming specialty care, acute and post-acute care or standardizing care across practices during the first 18 months of ACO performance contracts.

Strengths/Limitations: Findings are based on a set of 30 ACOs; this work cannot address how ACO strategies are related to performance on either quality or cost outcomes.

Generalizability to Medicare Population: N/A

Methods: The authors conducted semi-structured interviews between July and December 2013. Their sample includes ACOs that began performance contracts in 2012, including Medicare Shared Savings Program and Pioneer participants, stratified across key factors. In total, they conducted interviews with executives from 30 ACOs. Iterative qualitative analysis identified common patterns and themes.

McWilliams J. M., Chernew M. E., Dalton J. B., & Landon B. E. (2014). Outpatient care patterns and organizational accountability in Medicare. *JAMA Internal Medicine*, 174(6):938–945. doi:10.1001/jamainternmed.2014.1073

Subtopic(s): Results of other similar models

Type of Source: Journal article

Objective: To measure three related constructs relevant to ACO incentives and their capacity to manage care: stability of patient assignment, leakage of outpatient care, and contract penetration. Fostering accountability in the Medicare ACO programs may be challenging because traditional Medicare beneficiaries have unrestricted choice of health care providers, are attributed to ACOs based on utilization, and often receive fragmented care.

Main Findings: Of beneficiaries assigned to an ACO in 2010, 80.4 percent were assigned to the same ACO in 2011. Of those assigned to an ACO in 2010 or 2011, 66.0 percent were consistently assigned in both years. Unstable assignment was more common among beneficiaries with fewer conditions and office visits but also among those in several high-cost categories, including the highest decile of per-beneficiary spending. Among ACO-assigned beneficiaries, 8.7 percent of office visits with primary care physicians were provided outside of the assigned ACO, and 66.7 percent of office visits with specialists were provided outside of the assigned ACO. Leakage of outpatient specialty care was greater for higher-cost beneficiaries and substantial even among

specialty-oriented ACOs. Of Medicare spending on outpatient care billed by ACO physicians, 37.9 percent was devoted to assigned beneficiaries. This proportion was higher for ACOs with greater primary care orientation. Care patterns among beneficiaries served by ACOs suggest distinct challenges in achieving organizational accountability in Medicare. Continued monitoring of these patterns may be important to determine the regulatory need for enhancing ACOs' incentives and their ability to improve care efficiency.

Strengths/Limitations: The authors lacked the necessary data to assess the extent of risk contracting between organizations in the Medicare ACO programs and other insurers; because organizations often include subsets of physicians in ACO contracts with Medicare, they relied on AMA Group Practice data to identify other physicians in the organizations; and they could not distinguish health care provider switching from changing health care needs as sources of unstable assignment to ACOs.

Generalizability to Medicare Population: Yes

Methods: Using 2010–2011 Medicare claims and rosters of physicians in organizations participating in ACO programs, the authors examined these constructs among 524,246 beneficiaries hypothetically assigned to 145 ACOs prior to the start of the Medicare ACO programs. They compared estimates by patient complexity, ACO size, and the primary care orientation of ACO specialty mix. Main outcomes and measures included three related construct measurements: stability of assignment, defined as the proportion of patients whose assignment to an ACO in 2010 was unchanged in 2011; leakage of outpatient care, defined as the proportion of office visits for an assigned population that occurred outside of the contracting organization; and contract penetration, defined as the proportion of Medicare outpatient spending billed by an ACO that was devoted to assigned patients.

Medicare Learning Network. (December 2016). Chronic Care Management Services. Department of Health and Human Services, Centers for Medicare & Medicaid Services. Retrieved from <https://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/Downloads/ChronicCareManagement.pdf>

Subtopic(s): Payment Policy

Type of Source: Fact Sheet

Objective: Background on payable chronic care management service codes, eligible practitioners and patients, and details Medicare Physician Fee Schedule billing requirements.

Main Findings: N/A

Strengths/Limitations: N/A

Generalizability to Medicare Population: Yes

Methods: N/A

Medicare Payment Advisory Commission (MedPAC). (March 2018). Report to the Congress: Medicare payment policy. Chapter 4: Physician and other health professional services. Washington, DC: Medicare Payment Advisory Commission.

Subtopic(s): Specialty referrals, communication, and care coordination; problems in care delivery

Type of Source: Government report

Objective: To provide a report and recommendations to Congress on research areas including ambulatory care settings; beneficiaries and coverage; delivery and payment reforms; drugs, devices, and tests; hospitals; Medicare spending and financing; physicians and other health professionals; post-acute care; private plans; and quality. The focus of this entry is chapter 4: Physician and other health professional services. MedPAC uses the following factors to assess payment adequacy for physicians and other health professionals: beneficiaries' access to care, the supply of providers, volume growth, quality, and Medicare payments and providers' costs.

Main Findings: The Commission finds that many specialists are currently involved in alternative payment models. For example, based on an analysis of the 2015 ACO public use file, roughly twice as many specialists as primary care providers are participating in MSSP ACOs. Moreover, in three out of seven models identified by CMS as advanced APMs for the 2017 reporting year focused on conditions generally treated by specialists. However, few structures exist in Medicare to hold providers accountable for a beneficiary's full spectrum of care, even when they make the referrals that dictate additional resource use. Moreover, beneficiaries report more difficulty in finding a primary care doctor relative to finding a specialist. This pattern is consistent with prior years, as well as with the privately insured population.

Strengths/Limitations: N/A

Generalizability to Medicare Population: N/A

Methods: MedPAC assesses payment adequacy by reviewing beneficiaries' access to care provided by physicians and other health professionals, the supply of physicians and other health professionals, volume growth, quality of care, and Medicare's payment rates relative to commercial rates for preferred provider organizations.

Mehrotra A., Forrest C. B., & Lin C. Y. (2011). Dropping the baton: specialty referrals in the United States. *Milbank Quarterly*, 89(1):39-68. doi:10.1111/j.1468-0009.2011.00619.x

Subtopic(s): Description of the issue

Type of Source: Journal article

Objective: This article reviews the literature on the specialty-referral process in order to better understand what is known about current problems with the referral process and what solutions have been proposed.

Main Findings: PCPs vary in their threshold for referring a patient, which results in both the underuse and the overuse of specialists. Many referrals do not include a transfer of information, either to or from the specialist, and when they do, it often contains insufficient data for medical decision-making. Care across the primary-specialty interface is poorly integrated: PCPs often do not know whether a patient actually went to the specialist or what the specialist recommended. PCPs and specialists also frequently disagree on the specialist's role during the referral episode.

Strengths/Limitations: A limitation is that this literature review was conducted through 2008, and the findings may be out of date.

Generalizability to Medicare Population: Yes

Methods: Narrative review of five databases including MEDLINE, CINAHL, LocatorPlus, NLM Gateway, and PsycINFO for articles published between January 1970 and January 2009, in the English language, using select search terms. Specialty referrals for input on diagnosis or management were concentrated on. Referrals for radiology/pathology services, hospice, postacute care, dental care, specific procedures (e.g., endoscopies), immunizations, disability evaluation/occupational medicine, physical and/or occupational therapy, alternative/complementary medicine, clinical trials, and anticoagulation clinics were excluded.

Meyers D., Peikes D., Genevro J., et al. (2010). *The roles of patient-centered medical homes and accountable care organizations in coordinating patient care*. Rockville, MD: Agency for Healthcare Research and Quality.

Subtopic(s): Payment policy

Type of Source: AHRQ report

Objective: To describe the goals of care coordination and the central role for primary care, describe the specific activities involved in care coordination, and summarize the evidence on the effectiveness of different care coordination activities that PCMHs and ACOs can pursue.

Main Findings: The structures and functions of ACOs allow them to ensure high-quality care coordination by incentivizing both cooperation across care teams and settings and the transfer of accountability and information. Additionally, ACOs are well suited to aligning resources to meet population care coordination needs. A concept that bridges the PCMH and ACO perspectives on care coordination is integrated care. At the center of integrated health care delivery is a high-performing PCP who can serve as a medical home for patients. As this definition indicates, a well-functioning patient-centered medical home is a necessary component of integrated care—but it is not sufficient. True integration also requires the type of cohesive medical neighborhood that is envisioned as a product of ACOs.

Strengths/Limitations: N/A

Generalizability to Medicare Population: Yes

Methods: N/A

Nichols D., Haber S., Romaine M., et al. (June 2017). *Evaluation of the Multi-Payer Advanced Primary Care Practice (MAPCP) Demonstration: Final report*. Prepared for the Centers for Medicare & Medicaid Services by RTI International, the Urban Institute, and National Academy for State Health Policy.

Subtopic(s): Results of other similar models

Type of Source: Evaluation report

Objective: To assess the impacts of the Multi-Payer Advanced Primary Care Practice (MAPCP) Demonstration and determine how contextual factors influenced these impacts. The evaluation is organized around six major domains: state initiative implementation, practice transformation, access to care and coordination of care, beneficiary experience with care, quality of care and patient safety, and effectiveness (utilization of health services and expenditures).

Main Findings: Despite the many transformation efforts of participating practices, the initiatives had limited impacts on claims-based measures of quality of care, coordination of care, access to care, utilization of services, and expenditures among Medicare and Medicaid beneficiaries. Although there were some high points, there were no consistent impacts within or across states.

Strengths/Limitations: There were limitations in the data available to identify PCMH status and in Medicaid claims data. Analyses are limited by the small number of states participating in the MAPCP Demonstration.

Generalizability to Medicare Population: Yes

Methods: The evaluation used a mix of qualitative and quantitative methods to capture each state's unique features and develop an in-depth understanding of the transformative processes occurring within and across the states' health care systems and participating PCMH practices.

Nyweide D. J., Lee W., Cuerdon T. T., et al. (2015). Association of pioneer accountable care organizations vs traditional Medicare fee for service with spending, utilization, and patient experience. *JAMA*, 313(21):2152-2161. doi:[10.1001/jama.2015.4930](https://doi.org/10.1001/jama.2015.4930)

Subtopic(s): Results of other similar models

Type of Source: Journal article

Objective: To determine whether FFS beneficiaries aligned with Pioneer ACOs had smaller increases in spending and utilization than other FFS beneficiaries while retaining similar levels of care satisfaction in the first two years of the Pioneer ACO Model.

Main Findings: In the first two years of the Pioneer ACO Model, beneficiaries aligned with Pioneer ACOs, as compared with general Medicare FFS beneficiaries, exhibited smaller increases in total Medicare expenditures and differential reductions in utilization of different health services, with little difference in patient experience.

Strengths/Limitations: First, CMS selected these ACOs to participate in the Pioneer model because they demonstrated the capacity to manage the care of a patient population; many also had experience in risk contracting arrangements—hence, by design they deliver care inherently different from the care received by the typical FFS beneficiary. Second, since it would not be operationally feasible to identify a control group of similarly structured and experienced organizations as Pioneer ACOs, neither the participating physicians nor their aligned beneficiaries were randomized, which means that despite efforts to control for differences in patient characteristics and disease burden, the analyses may not have accounted for unmeasured differences between ACO and comparison beneficiary populations. Third, because each ACO's comparison group comprised similar populations of geographically bounded FFS beneficiaries, any spillover in practice patterns from physicians affiliated with ACOs to patients not aligned with ACOs would attenuate differences in outcomes between them. Fourth, total spending does not include Part D drug spending or cost-sharing payments by beneficiaries. Fifth, the response rate for the ACO CAHPS survey was only 52.8 percent, and no information is available about nonresponders in any of the CAHPS surveys.

Generalizability to Medicare Population: Yes

Methods: Participants were FFS Medicare beneficiaries aligned with 32 ACOs (n=675,712 in 2012; n=806,258 in 2013) and a comparison group of alignment-eligible beneficiaries in the same markets (n=13,203,694 in 2012; n=12,134,154 in 2013). Analyses comprised difference-in-differences multivariable regression with Oaxaca-Blinder reweighting to model expenditure and utilization outcomes over a two-year performance period (2012–2013) and two-year baseline period (2010–2011) as well as adjusted analyses of Consumer Assessment of Healthcare Providers & Systems (CAHPS) survey responses among random samples of beneficiaries in Pioneer ACOs (n=13,097), FFS (n=116,255), or Medicare Advantage (n=203,736) for 2012 care.

Peikes D., Anglin G., Dale S., et al. (2018). Evaluation of the Comprehensive Primary Care Initiative: Fourth Annual Report. Mathematica Policy Research.

Subtopic(s): Results from similar models

Type of Source: Report

Objective: To describe the implementation and impacts of CPCI over its full intervention period (October 2012 – December 2016).

Main Findings: CPCI reduced hospitalizations and ED visits for Medicare FFS beneficiaries attributed to CPC practices more than beneficiaries attributed to comparison practices. Additionally, Medicare expenditures for attributed beneficiaries grew less for CPC practices than for comparison practices, but the savings were not enough to cover Medicare's CPC care management fees. CPC had little impact on beneficiaries' experience of care, except for an increase in transitional care.

Strengths/Limitations: The analysis was limited to Medicare and Medicaid FFS beneficiaries attributed to CPC practices. Additionally, the models used are likely far less complex than any true relationships. Lastly, the lack of strong incentives under CPC limited the ability to detect relationships between better care delivery approaches and improvements in key outcomes.

Generalizability to Medicare Population: Yes

Methods: Mathematica conducted a five-year, mixed-methods, rapid-cycle evaluation which relied on a variety of survey data, practice- and payer-level qualitative data, and Medicare and Medicaid claims data. To assess CPCI's effects on costs and quality for Medicare and Medicaid FFS patients, and on stakeholder experience, outcomes for CPC practices were compared with a set of practices that were similar before the start of CPCI.

Peikes D., Dale S., Ghosh A., et al. (2018). The comprehensive primary care initiative: Effects on spending, quality, patients, and physicians. *Health Affairs*, 37(6):890-899. doi:[10.1377/hlthaff.2017.1678](https://doi.org/10.1377/hlthaff.2017.1678)

Subtopic(s): Problems in care delivery

Type of Source: Journal article

Objective: To evaluate the Comprehensive Primary Care Initiative (CPC) initiative's effects on care delivery and outcomes for FFS Medicare beneficiaries attributed to initiative practices, relative to those attributed to matched comparison practices.

Main Findings: CPC practices reported improvements in primary care delivery, including care management for high-risk patients, enhanced access, and improved coordination of care transitions. The initiative slowed growth in ED visits by 2 percent in CPC practices, relative to comparison practices. However, it did not reduce Medicare spending enough to cover care management fees or appreciably improve physician or beneficiary experience or practice performance on a limited set of Medicare claims-based quality measures.

Strengths/Limitations: First, practices were not randomly assigned to treatment and control groups. Second, measurements of patient experience, physician experience, and quality were limited. They did not measure patient or physician experience before CPC and thus cannot rule out prior differences between CPC and comparison respondents. The measures did not fully capture patient experience or include electronic clinical quality measures that were the focus of quality improvement in CPC. Third, the selected sample and the purposefully flexibly defined model limit the generalizability of findings.

Generalizability to Medicare Population: Yes

Methods: The authors compared the 497 practices that were participating at the end of CPC's first quarter to a set of 908 comparison practices. Data sources included Medicare claims files, practice surveys, site visits, phone interviews, and patient surveys. The primary outcome measures were annualized Medicare Parts A and B spending per beneficiary per month with and without accounting for care management fees. Both measures excluded beneficiary payments and Medicare capitated payments for prescription drugs.

Resnick M. J., Penson D., & Buntin M. B. (January 18, 2018). How to engage specialists in accountable care organizations. *NEJM Catalyst*. Retrieved from <https://catalyst.nejm.org/engage-specialty-care-accountable-care-organizations>

Subtopic(s): Results of other similar models

Type of Source: Article

Objective: To offer a business-based framework for making strategic decisions about whether and how to include specialists in ACOs and for working toward a common goal of delivering high-quality, low-cost care. Given the number of common high-cost diseases treated in the specialty care setting, it will become increasingly important to provide financial incentives, including bonuses for meeting cost and quality goals, to make ACO participation advantageous for both primary care and specialist physicians. Currently, specialists are advantaged through FFS, and financial incentives for ACO participation are weak at best.

Main Findings: There is no optimal “one-size-fits-all” approach to aligning incentives between primary and specialty care physicians. Given the heterogeneous nature of contemporary ACOs, individual organizations will have to continually evaluate the strategic value of specialist integration, as well as the financial benefit (or liability) of partnerships with specialists. Market and organizational factors will mediate these predictions, and both ACO leadership and specialist physicians alike must consider both the potential positive and negative downstream effects of integration.

Strengths/Limitations: N/A

Generalizability to Medicare Population: N/A

Methods: N/A

Robeznieks, A. (July 26, 2018). Use a qualified clinical data registry to boost Medicare bonus. American Medical Association. Retrieved from <https://www.ama-assn.org/practice-management/payment-delivery-models/use-qualified-clinical-data-registry-boost-medicare>

Subtopic(s): Problems in care delivery

Type of Source: Article

Objective: To describe the advantages of using a QCDR for MIPS reporting. QCDRs are CMS-approved entities that collect clinical data on behalf of clinicians for data submission and can operate as a bridge to success with new payment models.

Main Findings: The advantages of using a QCDR for MIPS reporting is that many of them can report across all MIPS performance categories—quality, improvement activities, and advancing care information—and they can collect and aggregate local data from a variety of sources—such as claims data, EHRs, and other quality-reporting systems—and submit it to CMS. Multispecialty groups may be required to do more research in choosing a QCDR. If a QCDR reports across quality, improvement activities and advancing care information categories, they should have

sufficient measures in their library to satisfy most groups' needs. Some of these may be commercial entities, however, and groups may be charged a per-clinician fee.

Strengths/Limitations: N/A

Generalizability to Medicare Population: N/A

Methods: N/A

Song Z., Safran D. G., Landon B. E., et al. (2011). Health care spending and quality in Year 1 of the Alternative Quality Contract. *New England Journal of Medicine*, 365(10):909-918. doi:[10.1056/NEJMs1101416](https://doi.org/10.1056/NEJMs1101416)

Subtopic(s): Results of other similar models

Type of Source: Journal article

Objective: To isolate the treatment effect of the Alternative Quality Contract (AQC) in comparisons of spending and quality between the intervention group and the control group. In 2009, Blue Cross Blue Shield of Massachusetts (BCBS) implemented the AQC, a global payment system. Provider groups in the AQC system assume accountability for spending, similar to ACOs that bear financial risk. Moreover, groups are eligible to receive bonuses for quality.

Main Findings: The AQC system was associated with a modest slowing of spending growth and improved quality of care in 2009. Savings were achieved through changes in referral patterns rather than through changes in utilization. The long-term effect of the AQC system on spending growth depends on future budget targets and providers' ability to further improve efficiencies in practice.

Strengths/Limitations: The study population was young and included only members enrolled in a BCBS HMO or point-of-service program. Therefore, the results may not be generalizable to the Medicare population, enrollees in a preferred-provider organization or indemnity plan, or persons who live in other states. The authors did not examine the details of each AQC contract, which varied to some degree, or collect information on whether providers had risk contracts with other payers. Formal evaluation of outcome measures could not be conducted owing to the lack of enrollee-level outcomes data before the implementation of the AQC.

Generalizability to Medicare Population: Limited

Methods: Seven provider organizations began five-year contracts as part of the AQC system in 2009. The data analyzed included 2006–2009 claims for 380,142 enrollees whose PCPs were in the AQC system (intervention group) and for 1,351,446 enrollees whose PCPs were not in the system (control group). A propensity weighted difference-in-differences approach, adjusting for age, sex, health status, and secular trends was used to isolate the treatment effect of the AQC in comparisons of spending and quality between the intervention group and the control group.

Song Z., Sequist T. D., & Barnett M. L. (2014). Patient referrals: a linchpin for increasing the value of care. *JAMA*, 312(6):597-598. doi:[10.1001/jama.2014](https://doi.org/10.1001/jama.2014).

Subtopic(s): Payment policy; problems in care delivery

Type of Source: Journal article

Objective: To discuss issues related to payment policy and outpatient referrals within ACOs.

Main Findings: The success of ACOs under global payment may depend in part on a common yet poorly understood clinical decision: the patient referral in the outpatient setting. Fundamental to collaboration among physicians and other health care professionals, patient referrals have

been largely ignored in the payment reform debate. Given their meaningful influence on the volume, cost, and quality of care, referrals should be better evaluated and managed by ACOs.

Strengths/Limitations: N/A

Generalizability to Medicare Population: Yes

Methods: N/A

Szigethy E. M., Allen J. I., Reiss M., et al. (2017). White Paper AGA: The impact of mental and psychosocial factors on the care of patients with inflammatory bowel disease. *Clinical Gastroenterology and Hepatology*, 15(7):986-997. doi:[10.1016/j.cgh.2017.02.037](https://doi.org/10.1016/j.cgh.2017.02.037)

Subtopic(s): Results of other similar models

Type of Source: White paper

Objective: To provide examples of psychosocial care that is integrated into inflammatory bowel disease (IBD) practices plus innovative methods that provide remote patient management.

Main Findings: Patients with medically complex and chronic diseases often have comorbid mental health conditions and psychosocial challenges that, if adequately addressed, are associated with improved health outcomes. Psychosocial interventions cannot substitute for effective medical therapies, but a combined, integrated approach will be of substantial value to IBD patients. Managing mental health, psychosocial, and health system factors will enhance IBD care.

Strengths/Limitations: N/A

Generalizability to Medicare Population: N/A

Methods: The American Gastroenterological Association (AGA) commissioned a task force to review current literature and identify examples of integrated IBD care within both academic and community settings. The task force performed an extensive literature review, reached out to a sample of practices that have developed such care, and met to identify priorities for this report. The consensus statement summarizes findings and highlights several overarching factors that, if managed well, will enhance IBD care.

Tonner C., Schmajuk G., & Yazdany J. (2017). A new era of quality measurement in rheumatology: electronic clinical quality measures and national registries. *Current Opinion in Rheumatology*, 29(2):131-137. doi:[10.1097/BOR.0000000000000364](https://doi.org/10.1097/BOR.0000000000000364)

Subtopic(s): Problems in care delivery

Type of Source: Journal article

Objective: To review the evolution of quality measurement in rheumatology, highlighting new HIT infrastructure and standards that are enabling unprecedented innovation in this field.

Main Findings: Spurred by landmark legislation that ties physician payment to value and the widespread use of EHRs in the United States, quality measurement in rheumatology is rapidly evolving. Rather than relying on retrospective assessments of care gathered through administrative claims or manual chart abstraction, HIT is enabling development of eCQMs and large-scale implementation of these measures across national registries, like RISE, as well as across health systems. However, to be successful, a number of challenges will need to be addressed, including the functionality of EHRs to support quality measurement, tackling novel methods to incorporate both structured and unstructured EHR data into eCQMs, and ensuring data accuracy will be required.

Strengths/Limitations: N/A

Generalizability to Medicare Population: N/A

Methods: The authors describe the evolution of quality measurement in rheumatology and critical innovations within the past 10 years; review the scientific literature on eQMs development and testing between 2013 and 2016; and analyze the persistent challenges, promising technological advances, and future directions of eQm development and implementation in rheumatology.

Vaezi M. F., Brill J. V., Mills M. R., et al. (2016). An episode payment framework for gastroesophageal reflux disease. *Gastroenterology*, 150(4):1019-1025. doi:10.1053/j.gastro.2016.02.037

Subtopic(s): Payment policy

Type of Source: Journal article

Objective: Describe a proposed condition-specific episodic payment model for gastroesophageal reflux disease (GERD)

Main Findings: An episode payment model is a method of reimbursement in which payments to health care providers are related to the predetermined expected costs of a grouping, or “bundle,” of related health care services. This model aims to reward providers for identifying efficiency gains, effectively coordinating patient care, and improving the quality of care provided. Included in the episode framework are patients with GERD. The episode addresses medical as well as surgical options for the management of GERD but does not include the costs of surgery or the costs of complications requiring surgical intervention.

Strengths/Limitations: N/A

Generalizability to Medicare Population: Yes

Methods: N/A

Ward L., Powell R. E., Scharf M. L., Chapman A., & Kavuru M. (2017). Patient-centered specialty practice. *CHEST*, 151(4):930-935. doi:[10.1016/j.chest.2017.01.006](https://doi.org/10.1016/j.chest.2017.01.006)

Subtopic(s): Results of other similar models

Type of Source: Journal article

Objective: To describe the PCSP model. Efforts to improve the care model in primary care, such as the patient-centered medical home, have enjoyed some success. However, primary care accounts for only a small portion of total health care spending, and there is a need for policies and frameworks to support high-quality, cost-efficient care in specialty practices of the medical neighborhood.

Main Findings: The PCSP model offers ambulatory-based specialty practices one such framework, supported by a formal recognition program through the NCQA. The key elements of the PCSP model include processes to support timely access to referral requests, improved communication and coordination with patients and referring clinicians, reduced unnecessary and duplicative testing, and an emphasis on continuous measurement of quality, safety, and performance improvement for a population of patients. The PCSP model, like its predecessor, PCMH, offers a path for specialty practices to coordinate care, improve access and communication, and reduce duplicate testing. As health reform efforts to improve quality and experience of care move forward, pulmonary and other specialists have an opportunity to shape the vision of patient-centered care through adoption of the PCSP model of care.

Strengths/Limitations: N/A

Generalizability to Medicare Population: N/A

Methods: N/A

III. Appendix A: Research Questions, Data Sources, Key Word, and Search Term Table

The environmental scan includes a review of information from existing peer-reviewed and non-peer-reviewed publications. We conducted a formal search of major medical, health services research, and general academic databases. We also conducted targeted searches of content available in the grey literature. We reviewed the websites of professional associations/societies and CMS for relevant evaluation reports and program documentation. The table below lists the research questions motivating this environmental scan as well as the sources and search terms used.

Table 1. Search Strategy

Research Questions	Preliminary Search Terms	Sources
Description of the Issue/Problem		
<p>Clearly define the issue / population by addressing the following:</p> <ol style="list-style-type: none"> 1. What are the referral patterns from primary care physicians to specialists for Medicare FFS beneficiaries? 2. How did practices participating in CMMI’s CPCI demonstration manage referrals? 3. How many PCSP-certified practices and associated specialists are there currently? 4. Where are CMMI’s CPC+ practices located? What does that suggest about the kinds of specialty practices that might participate in the proposed MNM model? 	<p>CPCI Medicare beneficiaries characteristics including to which specialist they are referred and their utilization of specialty services</p> <p>PCSP certification+ specialists neurology rheumatology gastroenterology</p> <p>CPCI Medicare beneficiaries + utilization neurology rheumatology gastroenterology</p>	<p>Pubmed Google scholar</p>
**Issues in Payment Policy		
<ol style="list-style-type: none"> 1. What other existing Medicare or CMMI payment reforms support care coordination? (e.g. Medicare Physician Fee Schedule Chronic Care Management Services, Multipayer Advanced Primary Care Practice (MAPCP), Accountable Care Organizations (ACOs)) 2. What are the existing APMs for specialists such as neurologists, rheumatologists, and/or gastroenterologists? Have these been implemented and/or evaluated? 	<p>Medicare reimbursement guidelines+ care coordination Specialty care Neurology Rheumatology Gastroenterology</p> <p>Payment structure+ Comprehensive Primary Care Initiative (CPCI) Medical Neighborhood ACOs MAPCP BCPI CJR</p>	<p>MedPAC Medicare coverage database Pubmed Google scholar</p>

Research Questions	Preliminary Search Terms	Sources
Problems in Care Delivery		
<ol style="list-style-type: none"> 1. What are the characteristics of CPCI practices and what results were reported regarding their specialty referral patterns and care compacts?? 2. What are the barriers to coordination between PCPs and specialists, especially neurologists, rheumatologists, and gastroenterologists within the CPCI model? 3. Is there evidence that current referral and care coordination practices pose quality, patient safety, and patient experience of care issues within the CPCI model? 4. What are the EHR and HIE capabilities of specialty practices? Do eConsult provide a promising avenue to supposed improved primary care and specialty referrals? 5. What eQMs are available to neurologists/rheumatologists/gastroenterologists? How well do these eQMs align with those most frequently used by CPCI providers? To what extent to qualified clinical data registries (QCDRs) provide an efficient and effective source of data for specialty practice quality measures? 	<p>CPCI model+ practice applicants participating practices</p> <p>CPC+ program information on participating practices if available and relevant</p> <p>CPCI model+ barriers care coordination care management patient-centered care patient safety patient satisfaction patient experience of care shared decision-making quality improvement EHR/CEHRT HIE and Interoperability</p> <p>eQMs + neurology rheumatology gastroenterology CPCI</p> <p>EHRs + neurology rheumatology gastroenterology CPCI</p>	<p>NCQA CMS Measures Inventory Tool PubMed</p>

Research Questions	Preliminary Search Terms	Sources
Results of Proposed or Similar Models		
<ol style="list-style-type: none"> 1. What evidence is available for the effect of the NCQA PCSP model on referral management and care coordination? 2. What are the results of similar Medicare models promoting coordination between PCPs and specialists? (e.g., Medicare Physician Fee Schedule Chronic Care Management Services, Multipayer Advanced Primary Care Practice (MAPCP), Accountable Care Organizations) 3. What are the results of similar commercial models promoting coordination between PCPs and specialists? 4. Is there literature available on the proposal submitter? (ACP and NCQA) 	<p>ACP NCQA Specialty care payment model</p> <p>MAPCP</p> <p>Name of Medicare (not CPCI) or commercial model + barriers care coordination care management patient-centered care patient safety patient satisfaction patient experience of care shared decision-making quality improvement EHR/CEHRT HIE and Interoperability</p>	<p>Google</p> <p>Google Scholar</p> <p>CMMI</p> <p>PubMed</p>