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The Impact of Medicare's Alternative Payment Models on the Value of Care

Joshua M. Liao,^{1,2,3} Amol S. Navathe,^{3,4,5}
and Rachel M. Werner^{3,4,6}

¹Department of Medicine, School of Medicine, University of Washington, Seattle, Washington 98195, USA; email: joshliao@uw.edu

²Value and Systems Science Lab, School of Medicine, University of Washington, Seattle, Washington 98195, USA

³Leonard Davis Institute of Health Economics, University of Pennsylvania, Philadelphia, Pennsylvania 19104, USA

⁴Center for Health Equity Research and Promotion, Corporal Michael J. Crescenz VA Medical Center, Philadelphia, Pennsylvania 19104, USA

⁵Department of Medical Ethics and Health Policy, Perelman School of Medicine, University of Pennsylvania, Philadelphia, Pennsylvania 19104, USA

⁶Department of Medicine, Perelman School of Medicine, University of Pennsylvania, Philadelphia, Pennsylvania 19104, USA

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Keywords

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Abstract

Over the past decade, the Centers for Medicare and Medicaid Services (CMS) have led the nationwide shift toward value-based payment. A major strategy for achieving this goal has been to implement alternative payment models (APMs) that encourage high-value care by holding providers financially accountable for both the quality and the costs of care. In particular, the CMS has implemented and scaled up two types of APMs: population-based models that emphasize accountability for overall quality and costs for defined patient populations, and episode-based payment models that emphasize accountability for quality and costs for discrete care. Both APM types have been associated with modest reductions in Medicare spending without apparent compromises in quality. However, concerns about the unintended consequences of these APMs remain, and more work is needed in several important areas. Nonetheless, both APM types represent steps to build on along the path toward a higher-value national health care system.

INTRODUCTION

Over the past decade, the Centers for Medicare and Medicaid Services (CMS) have led the nationwide shift away from volume-based fee-for-service reimbursement toward value-based payment. This effort has been driven by increasing evidence of unwarranted variation in the quality and costs of care (e.g., different quality and costs for the same types of care across different geographical areas), escalating spending on specific types of care (e.g., postacute care services), and the need to improve care coordination for patients as they cross different care settings (e.g., as patients become ill and are hospitalized for acute illness, and as they improve and are discharged home or to postacute care settings such as skilled nursing facilities).

The groundwork for payment reform was laid in 2010 with the passage of the Affordable Care Act, which included a number of provisions for alternative payment models. More recently, the need and support for these efforts have been underscored by the passage of the Medicare Access and CHIP Reauthorization Act (MACRA) of 2015, a landmark policy that created the nationwide Medicare Quality Payment Program aimed directly at reforming payment to clinicians and organizations (collectively, “providers”) and incentivizing value-based care (8, 23). A major strategy for achieving this goal has been the implementation and expansion of alternative payment models (APMs), programs that encourage value by holding providers financially accountable for both the quality and the costs of care.

The CMS has implemented and scaled up two types of APMs to reform fee-for-service Medicare payments: population-based and episode-based models. Population-based payment models emphasize accountability for the total costs of care and quality outcomes for defined patient populations, thereby encouraging providers to reduce unwarranted care overall without compromising quality. In comparison, episode-based payment models are triggered by health care utilization (often a procedure or a hospitalization) and hold providers accountable for quality and costs across the discrete episode of care that follows (often spanning through a period of postacute care), thereby encouraging providers to address spending on acute and postacute care and improving coordination between these two settings.

As a result of this widespread implementation, Medicare APMs play an important role in reshaping how health care organizations and clinicians organize and deliver care to patients around the United States. In this article, we provide an overview of the large-scale population-based and episode-based payment models that Medicare has implemented in its fee-for-service program. To emphasize payment approaches that have the potential to most substantially improve value by containing costs and/or improving patient outcomes, we focus in particular on programs that (a) center on hospitals and physician groups as initiators of care, (b) emphasize care coordination across clinician types (e.g., primary care and specialty physicians), and (c) span care settings (e.g., inpatient hospital care and postacute care). We synthesize evidence that demonstrates the effect of population-based and episode-based payment reforms on clinical, quality, utilization, and cost outcomes, while also reviewing data about unintended consequences under both APM types. Finally, we note areas in which data remain lacking and discuss directions for future work.

POPULATION-BASED PAYMENT MODELS

To date, Medicare’s hallmark approaches to population-based payment have been accountable care organizations (ACOs) and similar primary care-focused reforms. An ACO is a collection of physician groups, hospitals, and other providers who voluntarily come together under a legal entity and then contract with an insurer to manage and coordinate care for a defined patient population while assuming accountability for population-level quality and costs (10). Participating

organizations that keep spending below a financial benchmark without compromising quality are typically eligible for sharing the savings from spending reductions with the insurer. In two-sided risk contracts, named as such because of the potential for either financial gain or loss, participants are also at risk for sharing any losses incurred if population-wide spending exceeds the benchmark.

The populations that ACOs manage have historically been defined by linking patients to ACOs through either retrospective attribution algorithms and/or prospective alignment approaches. In retrospective attribution, claims data are analyzed to determine whether a patient received the preponderance of his or her medical care through primary care or specialty providers who are part of an ACO and, if so, are linked to that ACO for the purposes of evaluating quality and cost outcomes. In voluntary alignment, which can supplement or supplant retrospective attribution, ACOs can engage beneficiaries directly to have them confirm a care relationship with clinicians or organizations in that particular ACO.

The Pioneer Model

In 2012, Medicare implemented the Pioneer ACO initiative, an early ACO demonstration program that began by enrolling 32 voluntary ACOs around the country (22). The Pioneer program sought to engage leading organizations with the ability to assume population-level quality and cost accountability via two-sided risk at a time when the notion of ACOs was still nascent on the Medicare payment landscape. However, the program experienced significant participant dropout over time, limiting the ability to draw conclusions about its impact. Because of the program's voluntary nature and the prospect of shared financial losses, many ACOs exited after the first year, with others following in subsequent years. By the time the model concluded at the end of 2016, only 9 of the original 32 Pioneers remained (32).

Nonetheless, several analyses of the Pioneer model were able to offer early insights into ACOs as a population-based payment model. A descriptive, non-peer-reviewed evaluation conducted by Medicare contractors demonstrated that over the first 3 years nearly 35,000 clinicians participated across 23 Pioneer ACOs, covering more than 1.1 million Medicare fee-for-service beneficiaries and emphasizing activities such as care management (initiatives that use patient outreach and engagement to reduce avoidable utilization of emergency rooms and hospitals) (33).

In a prepost analysis of early program experience using a contemporaneous comparison group not enrolled in an ACO (i.e., a quasi-experimental difference-in-differences approach), there was a modest 1.2% reduction in Medicare spending (corresponding to \$116.80 annual savings per beneficiary) among Pioneer ACOs compared with nonparticipants (43). Savings were greater among ACOs with higher baseline spending and operating in high-cost geographical areas, but spending did not change differentially for ACOs that exited versus those who remained in the program after the first year.

Given ACO incentives to contain overall costs of care without harming quality, a common target for ACOs might be a reduction in low-value services. Another study used a similar difference-in-differences approach to evaluate the association between Pioneer participation and utilization and spending on 31 claims-based low-value services (defined as such owing to their minimal average clinical benefit) (51). Participation in the Pioneer program was associated with 1.9% and 4.5% differential decreases in the utilization and spending on low-value services, as compared to nonparticipating organizations, with greater reductions among Pioneers with higher historical spending than others in their geographic markets.

Owing to the small starting size of the Pioneer program and the substantial number of initial participants who subsequently dropped out, most available peer-reviewed evidence about the program consists of experiences from individual participant organizations. At a large urban Pioneer

ACO, there was substantial year-on-year patient turnover; only 45% of beneficiaries were consistently aligned with the ACO over the first 3 years of the program, and 32% of beneficiaries were aligned in the first year turning over by year 3 (34). ACO leadership indicated that some of the observed turnover was explained by physicians leaving their ACO (e.g., beneficiaries were nine times more likely to turn over if their physicians left the ACO, compared with patients whose physicians remained) as well as by care delivery changes (e.g., beneficiaries who were eligible for but did not participate in the ACO's care management program were three times more likely to turn over compared with individuals who started in the program). Evidence from this same ACO demonstrated the potential benefit of an intensive care management program on reducing emergency room visits and Medicare spending by 6–8% (35).

The Medicare Shared Savings Program and ACO Investment Model

Medicare followed the launch of the Pioneer program with the Medicare Shared Savings Program (MSSP) (24). Compared with the Pioneer model, the MSSP was a much larger national initiative, which engaged ACOs around the country without requiring them to assume downside financial risk via shared losses. Between its inception in 2012 and December 2018, ACOs participating in the MSSP could opt into one of four tracks, with options differing in the degree of financial risk (downside risk) and eligible financial savings. Track 1 was a one-sided arrangement, with a potential for shared savings and no downside risk. The other three tracks (Tracks 1+, 2, and 3) were two-sided arrangements that differed in the specific amount of required financial risk, but all three tracks involved the potential for shared savings or losses. More than 80% of ACOs chose to participate in Track 1, avoiding the possibility of shared losses (24). Starting in 2019, in efforts to streamline program regulations and engage ACOs committed to assuming population-based financial accountability, Medicare overhauled the MSSP to consist of only two tracks, Basic and Enhanced, which require all new participants enrolling in 2019 and beyond to assume two-sided financial risk. In particular, the Basic track roughly approximates what were previously Tracks 1 and 1+, gradually phasing in financial risk for all participants after two years of MSSP participation. The Enhanced track corresponds to what was previously Track 3 and involves more immediate and larger shared savings and losses.

Available evidence suggests that the MSSP has contributed to modest reductions in Medicare spending, with greater relative savings at ACOs with longer periods of program participation. In a difference-in-differences analysis of 220 early-entrant MSSP ACOs, program participation was associated with a 1.4% (\$144) per-beneficiary savings for the first wave of ACOs that entered in 2012, but no meaningful first-year savings was demonstrated for ACOs entering the MSSP in 2013 (44). The study also found that savings were greater at (a) ACOs composed of only independent primary care groups compared to ACOs that also involved multispecialty groups or were integrated with hospitals, and (b) ACOs with higher baseline spending compared with market peers.

A follow-up study using similar methods found that, compared to spending among nonparticipants, Medicare spending was lower at ACOs led by independent physician groups (45). The magnitude of savings for these ACOs increased with greater program experience, ranging from a 1.6% (\$156) to 4.9% (\$474) differential decrease for ACOs with one versus three years of MSSP experience, respectively. In contrast, over a three-year period, hospital-integrated ACOs did not achieve Medicare savings on average (there were small savings for ACOs with three years of experience but not for those with one or two years of experience). Overall, the analysis estimated that physician group ACOs were associated with net savings of \$256 million over 3 years, whereas Medicare did not achieve savings from hospital-integrated ACOs owing to the shared savings payments back to these groups.

One concern emerging from the MSSP was that certain participants, such as small ACOs operating in rural locations or involving critical access hospitals, would face significant challenges investing in infrastructure and processes needed to manage populations and succeed under population-based incentives. In response, Medicare implemented the ACO investment model (AIM) to achieve two goals: Encourage new MSSP participation in areas with few ACOs, and help existing, higher-need participants transition to two-sided financial risk (7). Strategies for achieving these goals focused on defraying ACO implementation costs for high-need groups via three forms of financial support: a fixed upfront payment by virtue of program participation and variable upfront and monthly recurring payments based on ACO size (i.e., the number of beneficiaries in its population).

Unfortunately, little evidence is available—and in particular no independent, peer-reviewed analyses—about the impact of AIM. In a one-year difference-in-differences analysis of 47 AIM ACOs covering 420,000 Medicare beneficiaries, Medicare contractors noted variation across participant performance but estimated that overall program participation was associated with an average \$22.70 per-beneficiary per-month reduction in spending compared with spending on non-ACO beneficiaries in ACO markets (31). After accounting for shared savings paid out to AIM participants, this translated into approximately \$83 million in savings to Medicare. However, this figure did not account for unrecouped financial support provided to AIM participants, which was not included by Medicare contractors in their report. Among existing but higher-need MSSP ACOs, the analysis did not find an association between AIM participation and changes in per-beneficiary spending, compared with spending at non-AIM MSSP ACOs.

The Next Generation ACO Model

On the basis of experience and the perceived success in the Pioneer and MSSP models, Medicare launched the ongoing Next Generation ACO (NGACO) model in January 2016 (20). Compared with the MSSP, the NGACO is designed to emphasize greater financial accountability—and, in turn, the opportunity for greater risk and reward—among participating organizations. In particular, NGACO participants can be eligible for up to 100% of shared savings and losses, which are calculated directly from financial benchmarks without the buffers (i.e., minimum savings and loss rates that must be exceeded to trigger shared savings or losses, respectively) used in the MSSP.

As with AIM, there is unfortunately little available evidence about the association between NGACO participation and clinical, quality, or spending outcomes. A quasi-experimental analysis by Medicare contractors reported that among 18 ACOs responsible for the care of 477,197 beneficiaries in year 1 of the program, NGACO participation was associated with a 1.7% decrease (\$18.20 per beneficiary per month) in Medicare spending relative to a comparison group, though there was significant variation across NGACOs (41). In the same analysis, qualitative evaluations highlighted care management as a key focus area, with emphases on care transitions, end-of-life care, and beneficiary engagement. To date, there are no independent, peer-reviewed evaluations of the short- or longer-term impact of the NGACO model on outcomes.

The Comprehensive Primary Care Program

Between October 2012 and December 2016, Medicare implemented the Comprehensive Primary Care (CPC) initiative, a four-year primary care APM engaging approximately 500 practices across 7 US regions (16). In comparison with other population-based models such as ACOs, CPC was a multipayer model (spanning patients insured by Medicare, Medicaid, and private payers) that provided participants with an average of \$15–20 per-beneficiary per-month care management

payment and required participants to focus on five strategies related to comprehensive primary care: (a) risk-stratified care management, (b) access and continuity, (c) planned care for chronic conditions and preventive care, (d) engagement of patients and caregivers, and (e) coordination of care across the medical neighborhood. Like some ACO programs, CPC incorporated financial incentives by allowing participants to share any financial savings, net of care management fees, with Medicare.

In a peer-reviewed four-year evaluation using a difference-in-differences design, Medicare contractors found that CPC participation led to organizational changes in areas such as care management, primary care access, and data-driven continuous improvement (49). Compared with non-participating control practices, CPC participants reduced emergency department visits by 2% but did not lead to differential changes in Medicare spending or meaningful differences across measures of beneficiary and physician experience. Collectively, these findings corroborated an earlier, interim evaluation by the same contractors, which showed that over two years CPC participation was not associated with appreciable changes in quality, patient experience, or Medicare spending (26).

EPISODE-BASED PAYMENT MODELS

Analogous to the position of ACOs within population-based payment reforms, bundled payments represent Medicare's cornerstone approach to implementing episode-based payment reforms. Under bundled payments, a responsible entity (e.g., a hospital or physician group) accepts financial accountability for the quality and costs across an episode of care defined by a specific initiating event (known as the trigger) and duration. Participating organizations are eligible for shared savings by containing spending below an episode-specific financial benchmark (which corresponds to a fixed, bundled payment) while maintaining or improving quality. Unlike ACOs and existing population-based models, Medicare's large bundled payment programs have all been designed to involve two-sided financial risk and the potential for shared losses.

To date, Medicare has largely implemented programs around episodes that are triggered by hospital admissions, that span the hospital discharge up to 90 days of postacute care (PAC), and are defined using Medicare Severity Diagnosis Related Groups (MS-DRGs). This approach leverages the fact that Medicare requires all hospitalized Medicare patients nationwide to be categorized under an MS-DRG for billing purposes. In turn, patients fall under bundled payment programs by virtue of receiving care under eligible MS-DRGs from organizations participating in bundled payments for those MS-DRGs. In more recent bundled payment programs incorporating outpatient episodes, patients are retrospectively assigned to participants on the basis of Healthcare Common Procedure Coding System (HCPCS) codes.

The Acute Care Episode Demonstration

In 2009, Medicare implemented the Acute Care Episode (ACE) demonstration as a small five-hospital, three-year pilot of bundling hospital and physician payments for inpatient admissions related to 28 cardiac and 9 orthopedic procedural services (6). ACE episodes did not bundle PAC services or spending.

In their formal evaluation, Medicare contractors used a difference-in-differences method to demonstrate that, relative to nonparticipant comparison hospitals, ACE hospitals achieved \$585 in average episode savings, exclusive of shared savings paid back to participants (52). However, these savings were partially offset by increases in PAC spending, resulting in net average savings to Medicare of \$319 during the in-hospital and posthospital period. Other findings included greater

savings among orthopedic versus cardiac procedures and no aggregate differences in measured quality and utilization outcomes.

Notably, a separate, independent evaluation arrived at different conclusions about ACE (5). Applying different analytic modeling approaches (e.g., in choosing comparison hospitals) in a similar difference-in-differences methodology, this analysis found that ACE was not associated with changes in 30-day Medicare spending or mortality but was associated with decreases in PAC spending after both orthopedic and cardiac surgery.

The Bundled Payments for Care Improvement Initiative

Based on promising findings from the formal ACE evaluation and calls to use those results to scale up bundled payments, Medicare implemented the Bundled Payments for Care Improvement (BPCI) initiative, a five-year voluntary program that spanned from October 2013 to September 2018 (4, 14). The design for BPCI differed from ACE in several ways. First, it broadened the payment model scope beyond orthopedics and cardiac care to include 48 different clinical episodes and engaged more participants nationwide. Second, while ACE was implemented among hospitals, BPCI allowed both physician groups and hospitals to participate as entities assuming financial accountability for episode quality and costs. Third, the emphasis in BPCI went beyond acute hospital care to encompass the postdischarge period.

There were four participation options (models) in BPCI, which differed in episode trigger and duration. Two models were triggered by hospital admission and spanned the inpatient stay (Models 1 and 4), one was triggered by postacute care services in the postdischarge period (Model 3), and one was triggered by hospital admission and spanned both hospitalization and postdischarge care (Model 2). In this review, we focus on Model 2 because it centers on hospitals and physician groups as initiators of care, it is the largest model in terms of provider and episode enrollment, it is the most expansive in scope (based on episodes triggered by hospitalization and spanning up to 90 days of PAC), and it is most relevant to other bundled payment policy (e.g., Model 2 served as the basis for subsequent bundled payment programs described below).

In a peer-reviewed evaluation of early experience with lower extremity joint replacement (LEJR) episodes, Medicare officials and contractors used a difference-in-differences approach to demonstrate that hospital participation in BPCI Model 2 was associated with a 3.8% (\$1,116) decrease in episode spending without differences in quality measures, as compared with nonparticipating hospitals (28). Exploratory survey results suggested that patients receiving care from BPCI participants may have had greater improvements in some measures of functional status compared with patients cared for at nonparticipating hospitals.

An independent peer-reviewed analysis using similar quasi-experimental methods evaluated the association between early hospital participation in BPCI Model 2 and outcomes for five common medical condition episodes: heart failure, acute myocardial infarction, sepsis, chronic obstructive pulmonary disease, and pneumonia (37). Over a mean participation period of 7 months, there were no meaningful differential changes in episode spending (\$112 differential change) or claims-based quality outcomes between BPCI and comparison hospitals.

The Comprehensive Care for Joint Replacement Model

A major lesson from BPCI was the opportunity in LEJR, by far the most commonly selected episode and at one point representing more than 35% of all episodes across BPCI Model 2. Based on this focus on LEJR, Medicare implemented the Comprehensive Care for Joint Replacement (CJR) model in April 2016 to further scale up bundled payments for LEJR nationwide through

the end of 2020 (15). Unlike prior bundled payment programs, CJR is a mandatory program in which a set of large urban markets were randomly selected to participate in the program. Within markets chosen by this process for CJR, hospitals are required to bundle LEJR procedures via episodes modeled after BPCI Model 2 (i.e., episodes spanning from hospital admission for LEJR surgery through 90 days of PAC).

The early association between CJR and LEJR outcomes has been assessed in several studies. For example, in an analysis that utilized an instrumental variable method to evaluate changes after the first year of CJR, market randomization into the program was associated with a 2.9% lower share of LEJR admissions discharged to skilled nursing facilities, inpatient rehabilitation facilities, or long-term care hospitals, as compared with markets that were not randomized into CJR (30). In turn, average Medicare spending on these PAC facilities was \$307 lower in markets randomized versus not randomized to CJR.

In a separate study that utilized a difference-in-differences approach to analyze two years of Medicare claims, market-level CJR participation was associated with a 3.6% (\$1,084) relative decrease in overall episode spending and a 3.1% (\$812) relative decrease in spending on institutional hospital and PAC facility care, compared with control markets (2). These savings appeared to be driven by decreases in the proportion of patients discharged to PAC facilities, without changes in claims-based quality measures.

UNINTENDED CONSEQUENCES OF POPULATION- AND EPISODE-BASED PAYMENT MODELS

Health Care Disparities

The rise of both types of APMs has been accompanied by concerns about their negative impact on health care disparities. For example, around the time that the first contemporary ACO programs emerged, multiple groups cautioned that the population-based model could exacerbate disparities facing low-income individuals and racial minorities by encouraging provider selection (e.g., providers choosing to avoid ACO participation altogether to avoid high-risk or costly patients) or patient selection (e.g., upon participation, providers selecting or cherry-picking which patients to care for or focus on under ACOs) (39, 50). Concerns about disparities were further underscored by evidence suggesting that organizational traits encouraged by ACO policy, such as consolidation toward larger physician group size and pursuit of better-quality outcomes, were not consistently associated with smaller racial disparities for patients with common chronic conditions (1).

Concerns have also been voiced about worsened disparities as the potential unintended effect of episode-based payment models such as bundled payments. For example, existing racial disparities in access to and services delivered as part of LEJR surgery—a profitable, high-volume procedure targeted by bundled payment models—could be exacerbated under programs such as the CJR (36). As with population-based models, potential mechanisms for worsened disparities under episode-based payment models include provider and patient selection.

To date, some early data have validated concerns about both APM types. For example, several descriptive, cross-sectional analyses suggest that disparities in geographic access may exist under Medicare ACOs, which are less likely to form in higher-poverty areas with more racial minorities and poorly educated individuals, as compared with more affluent areas with fewer of these individuals (38, 54). However, evidence is more mixed about whether providers in existing ACOs exacerbate disparities by cherry-picking lower-complexity or less vulnerable patients. An early, cross-sectional analysis using 2011 data found that ACO-attributed patients were less likely than non-ACO-attributed patients to be black, disabled, or vulnerable from the perspective of

being Medicare/Medicaid dual-eligible (29). In contrast, a subsequent cohort study using longitudinal 2012–2014 data found that physician groups participating in the MSSP cared for more clinically high-risk patients and comparable numbers of socially vulnerable patients, as compared with nonparticipating physician groups (53). A separate observational analysis of MSSP ACOs demonstrated that patients with higher clinical risk scores were more likely than patients with lower risk scores to exit the program, a finding that suggests avoidance of high-risk patients could occur under ACOs (42).

Compared with findings for ACOs, little data have described whether bundled payments worsen geographic access disparities for vulnerable patients (i.e., whether providers who are located in certain areas or care for vulnerable populations are more or less likely to participate in the payment model). Nonetheless, a series of quasi-experimental difference-in-differences analyses have attempted to identify whether providers cherry-pick lower-risk patients upon participation in bundled payments.

As part of a study of LEJR episodes in BPCI Model 2, Medicare contractors assessed changes in measures of clinical complexity before and after the launch of the payment model (28). They found that while certain measures of complexity did not meaningfully differ between BPCI and comparison cohorts, BPCI hospitals did admit comparatively fewer patients with prior hospital and PAC utilization for LEJR, potentially reflecting case-mix shifts toward lower-risk patients as a result of the program. These findings were partially corroborated by an independent analysis of the same topic (LEJR episodes in BPCI Model 2), which demonstrated that patients with prior skilled nursing facility use were less likely to undergo LEJR at BPCI versus comparison hospitals (48).

Two additional studies evaluating the association between CJR and outcomes also assessed the potential for patient selection as a driver for LEJR disparities. In one of these analyses, which used a difference-in-differences approach and a predicted risk score to capture costly patients that hospitals might avoid in the presence of patient selection, CJR was not associated with differential changes in the proportion of procedures done among high-risk patients (2). The other analysis used an instrumental variable approach and arrived at a similar overall conclusion, finding no association between inclusion in CJR and meaningful changes in case mix, as measured by age and several comorbidity scores (30).

A separate observational difference-in-differences analysis of medical condition episodes in BPCI Model 2 evaluated hospital case mix and clinical case complexity as secondary outcomes (37). Similar to studies evaluating LEJR as a surgical episode, the study did not find evidence of patient selection as evidenced through relationships between BPCI participation and differential changes in any of the case mix or complexity measures.

Procedural Volume Increases

Another major policy concern voiced about episode-based payment models is their potential to unintentionally increase the volume of care delivered enough to offset or negate cost reductions or savings to Medicare. The rationale is based on the notion that like fee-for-service, which is driven by incentives to perform more services, episode-based payments could create the incentives to perform more episodes, thereby potentially either reducing savings or increasing overall spending even if per-episode spending decreases. This concern is particularly notable for episodes related to profitable procedures or hospital care, such as LEJR. The presence of volume increases under bundled payments could undercut the payment model's role as a vehicle for shifting away from volume-based fee-for-service reimbursement.

This issue was evaluated in a market-level difference-in-differences study of LEJR episodes under BPCI Model 2 (48). At a market level, there was a nonmeaningful 0.32% differential change

in LEJR procedural volume in BPCI versus non-BPCI markets over a 2-year period, a finding that was robust to alternate explanations (e.g., volume changes arising from patients crossing over into markets from adjacent ones).

AREAS FOR FUTURE WORK

Despite the existing data about the impact of Medicare APMs on quality and cost outcomes, additional work is needed to address several policy and clinical priority areas.

Association Between Newer APMs and Outcomes

Over the past several years, Medicare has built off of prior or existing programs in order to evolve and expand its APM portfolio. For instance, among population-based models, Medicare leveraged its experience in CPC to launch a successor program in CPC Plus (17), an ongoing five-year advanced primary care model that encompasses the original CPC regions while seeking to improve on limitations identified in the original program.

As another example, after BPCI concluded, Medicare extended bundled payments by immediately launching BPCI Advanced, a successor program designed to build directly off of BPCI Model 2 and extend episode-based payment nationwide through at least 2023 (13). As program design improves and financial risk increases under emerging programs, a major area for future work is to rigorously evaluate these newer APM programs and compare their results with those from predecessor payment models.

Association Between Major APM Types and Health Care Disparities

Despite the early evidence described above, little is known about the short- and long-term association between major population- and episode-based APMs and changes in health care disparities. As suggested through existing evidence, the potential for worsening disparities under APMs is particularly salient for racial/ethnic minorities and socioeconomically vulnerable patients, groups for which there are already well-described historical disparities in care.

Besides clinical, quality, and cost outcomes, equity should also be an outcome that is rigorously evaluated in analyses of existing and future APMs. These efforts should account for concurrent Medicare programs that are not payment models but may impact patient outcomes by going beyond the delivery of health care services to address broader patient needs. For example, the ongoing five-year Accountable Health Communities model, which began in May 2017, is designed to help align community services with patient needs in order to improve health outcomes by addressing social needs such as housing and food stability (11).

Non-Primary Care Utilization under Population-Based Payment Models

While much of the attention under population-based models is placed on primary care, managing overall population-wide utilization will also involve a focus on other, non-primary care utilization. The potential and need to manage this utilization are highlighted by the results from several quasi-experimental difference-in-differences studies. One evaluation of beneficiaries with mental illness assessed mental illness-related outcomes between Pioneer or MSSP ACO participation and found no association for nearly all those outcomes (3). Another study evaluated patients undergoing six common surgical procedures at MSSP versus non-MSSP hospitals, finding no differential changes in clinical or spending outcomes (46). Together, such studies highlight the need to understand if

and how population-based models impact non–primary care sources of utilization and spending across patient populations.

Outpatient Episodes under Episode-Based Payment Models

To date, episode-based models such as bundled payments have focused almost exclusively on hospital-based episodes. Only in more recent programs has Medicare begun to explore outpatient episodes that trigger in the ambulatory setting. For example, BPCI Advanced is the first nationwide program to incorporate outpatient episodes for percutaneous coronary intervention, cardiac defibrillator, back and neck surgery, and total knee replacement, which are triggered by ambulatory procedure codes. Over time, as Medicare follows its current trajectory and shifts episodes to the outpatient setting, major work will involve creating new chronic condition episodes and ensuring that triggers and durations are appropriately defined in order to improve patient outcomes while holding providers accountable for a reasonable set of services and time duration (47).

Voluntary versus Mandatory APM Participation Mechanisms

Thus far, the vast majority of major Medicare APMs, including population- and episode-based models, have engaged providers utilizing a voluntary participation mechanism. Perhaps the most prominent exception is CJR, which was the first APM to be implemented under a mandatory mechanism.

There are potential benefits and drawbacks to both mechanisms (40). While mandatory programs would thrust providers into APMs regardless of organizational readiness, such reforms could also help mitigate disparities arising from provider and patient selection occurring under voluntary programs. That said, mandatory programs may create greater selection than voluntary programs, e.g., if, owing to perceived or true lack of readiness, hospitals required to participate in an APM instead engage in intensive cherry-picking to select more favorable characteristics. Future work should involve direct comparisons of the effects of voluntary versus mandatory programs, as well as their comparative impact on provider and patient selection.

Models that Place Financial Accountability on Other Health Care Providers

Whereas the major Medicare APMs have thus far emphasized physician groups and hospitals as critical initiators of care, payment reform has also been tested among other health care providers along the continuum of care. For example, Model 3 in the BPCI program involved PAC providers as initiators of care, with episodes spanning from the time of hospital discharge for a BPCI-eligible episode through 90 days of postdischarge care. Although no independent, peer-reviewed evaluations of Model 3 have been performed to date, a Medicare contractor evaluated 11 episode types and found that (a) skilled nursing facility participation in Model 3 was associated with decreased spending for seven episodes, driven by decreased spending and utilization of skilled nursing facilities, whereas (b) home health agency Model 3 participation was associated with increased spending for five episodes (27).

Separately, Medicare has engaged home health agencies and skilled nursing facilities in ongoing pay-for-performance, another type of value-based payment, with additional forthcoming reforms to skilled nursing facility reimbursement via the Patient Driven Payment model (19, 21, 25). Given the lack of independent, peer-reviewed analyses in this area, along with the concern that payment models focusing on PAC providers may impact quality or cost outcomes but do nothing to reduce fragmentation among providers via better care coordination or transitions, PAC-focused payment models merit future study and evaluation.

Reform beyond Medicare Fee-For-Service

Emerging policy reflects Medicare's intention to continue developing population-based and episode-based APMs along several dimensions to drive broader national reform. First, the agency has created an all-payer option through which providers can engage in Medicare payment reforms by simultaneously participating in Medicare and non-Medicare (e.g., private payer) APMs (12). Second, Medicare has begun to allow clinicians willing to assume greater financial risk to participate in payment reform on a broader scale beyond the traditional Medicare program, e.g., in the Medicare Advantage program, which does not operate under fee-for-service reimbursement (9). Third, emerging APMs such as Direct Provider Contracting models—through which Medicare would contract directly with providers and suppliers to assume accountability over defined patient populations—explicitly seek to attract into the program providers who already participate in value-based payment arrangements outside of Medicare (18).

CONCLUSION

Over the past decade, traditional volume-based reimbursement in the US health care system has been increasingly replaced by payment reforms designed to promote quality and contain costs in order to prioritize the value of care. This nationwide shift has largely been driven by Medicare's commitment to experimenting with and scaling up APMs to create a value-based health care system. While the ability for payment reforms to achieve this goal remains far from certain, available evidence suggests that existing APMs have begun to move the nation in that direction. In particular, the implementation and expansion of two major types of APMs—population-based models (such as ACOs) and episode-based models (such as bundled payments)—have been associated with modest reductions in Medicare spending without apparent compromises in the quality of care. A number of concerns about the unintended consequences of these APMs remain (e.g., including their effects on disparities and volume of care), and more work is needed in several important areas. Nonetheless, while we remain on a long path toward building a lower-spending, higher-value national health care system, current APMs represent a step to build on in that direction.

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