

October 2021

From Vision to Design in Advancing Medicare Payment Reform: A Blueprint for Population-based Payments

J. Michael McWilliams, MD, PhD; Alice Chen, PhD; and Michael E. Chernew, PhD

USC-Brookings Schaeffer Initiative for Health Policy

This report is available online at:
<https://www.brookings.edu/research/from-vision-to-design-in-advancing-medicare-payment-reform-a-blueprint-for-population-based-payment>

Editor's Note

This white paper is part of the USC-Brookings Schaeffer Initiative for Health Policy, which is a partnership between the Economic Studies Program at Brookings and the USC Schaeffer Center for Health Policy & Economics. The Initiative aims to inform the national health care debate with rigorous, evidence-based analysis leading to practical recommendations using the collaborative strengths of USC and Brookings.

Acknowledgements and Disclosures

This work was supported by a grant from Arnold Ventures. The content is based solely on the authors' analysis and conclusions and do not necessarily represent the official views of Arnold Ventures. We thank Matt Fiedler, Patrick Conway, Chris Dawe, Tim Gronniger, and Farzad Mostashari for comments on an earlier draft.

Dr. McWilliams reports receiving personal fees from the Medicare Payment Advisory Commission (consulting contractor), Abt Associates, Inc. (consultant), JAMA Internal Medicine (Associate Editor), and the Center for Medicare & Medicaid Innovation (Senior Advisor); and serving on the academic advisory board for FAIR Health and the board of directors for the Institute for Accountable Care. Dr. Chen reports personal fees from Novartis and Pfizer. Dr. Chernew reports research grants from Blue Cross Blue Shield Association, Health Care Service Corporation, Ballad Health, Signify Health LLC; personal fees from MJH Life Sciences (American Journal of Managed Care), Elsevier, MITRE, American Economic Review, Commonwealth Fund, IDC Herzliya, Madalena Consulting, Chilmark Research, American College of Cardiology, Health(at)Scale, Blue Cross Blue Shield of Florida, Medaxiom, Humana, American Medical Association, America's Health Insurance Plans, HealthEdge, RTI Health Solutions, Emory University, Washington University, and University of Pennsylvania; equity in V-BID Health (partner), Virta Health, Archway Health, Curio Wellness (board of directors), Station Health, and Health(at)Scale; serving (or served) on advisory boards for Congressional Budget Office (panel of health advisors), National Institute for Health Care Management, National Academies, AcademyHealth, National Quality Forum, Blue Cross Blue Shield Association, and Blue Health Intelligence; serving as a board member for Health Care Cost Institute, as Vice Chair for the Massachusetts Health Connector, and as the current Chair of Medicare Payment Advisory Commission. All opinions expressed are those of the authors and not any organization which they are affiliated with.

Executive Summary

With Medicare spending growth over the next decade expected to exceed GDP growth,¹ the trust fund projected to be depleted in 2026,^{2,3} and evidence of persistent and pervasive waste and disparities in health care,^{4–6} attention has returned to the role of payment reform in controlling Medicare spending growth and driving more efficient and equitable care delivery. There is broad agreement that progress will require a renewed push by policymakers to move provider payment in Medicare away from fee-for-service (FFS) reimbursement toward alternative payment models (APMs) in which providers receive a budget for the care of a population or an episode and gain financially from efficiencies they generate.^{7–9}

After a decade of activity in this direction, momentum has stalled. Participation in the Shared Savings Program (SSP) — the largest accountable care organization (ACO) initiative in Medicare — has been essentially flat since 2018 after a period of rapid expansion.¹⁰ The Next Generation ACO model will end this year after failing to meet statutory savings requirements for expansion.¹¹ The newest ACO model fielded by the Center for Medicare & Medicaid Innovation (CMMI), Direct Contracting, has maintained some momentum but remains small. Currently, approximately 12.1 million beneficiaries are aligned to an organization in one of these population-based programs, or 39.5% of those fully enrolled in traditional FFS Medicare (TM).^{12,13} Overall, early net savings to Medicare generated by ACO models have not clearly grown and may have regressed.^{14,15}

There is clear consensus on the goals of payment reform (fiscal sustainability, higher-value care, and equity) and the need for a more coordinated and effective APM portfolio to achieve those goals.^{16–20} The Centers for Medicare and Medicaid Services (CMS) recently reaffirmed the agency's commitment to develop APMs as a core element of its strategic vision.²¹ Consistent with calls from others including the Medicare Payment Advisory Commission, CMS and CMMI leadership articulated the need to move beyond the let-many-flowers-bloom and test-and-diffuse approaches that, understandably, characterized the first decade of payment reform efforts and towards a streamlined, synergistic set of APMs designed to transform care.

There has been less discussion about the design of such a portfolio. Yet it has been the design of APMs that has limited participation and savings to date. Indeed, in their strategic review, CMS and CMMI leadership noted how technical aspects of model design are critical to success.²¹ Similarly, advancing health equity has been appropriately embraced as a central goal of APMs, but exactly how APMs can be designed to effectively promote health equity remains underdeveloped.

To help advance the conversation from high-level principles to a more concrete vision of a future payment system in TM, in this paper we provide a sketch of a multi-track population-based payment model designed to serve as a foundational piece of that system. While we focus on the structure of a population-based payment system, we acknowledge the important complementary role that episode-based payment can play and envision strategic deployment of episode-based payments integrated with the population-based model we propose. That said, we limit discussion of episode-based payments to general considerations, as the details of how they should be designed and integrated are complex and beyond the scope of this paper. We do note that many of the design issues we discuss (e.g., around benchmarks) apply analogously to episode-based payments.

We start with some background on the importance of payment reform in TM and design lessons from APMs to date. We then sketch our proposed payment system and discuss the rationale for its key features. We do not discuss the tactical issues of how to transition to the APM environment we

envision (i.e., how to refine and coordinate existing models), focusing instead on design considerations.

Our vision includes the following recommendations for a multi-track population-based payment model, which we lay out in our sketch of the model's major elements (tracks, participation incentives, benchmarks, risk adjustment and health equity, and ACO definition):

Recommendation #1: Define a parsimonious set of **tracks** that:

- a. Accommodates different types of providers
- b. Permanently avails a low-risk option for eligible (smaller) organizations to promote entry of innovative delivery models and encourage participation by providers that do not need much downside risk to have strong incentives to lower spending
- c. Restricts options for large organizations to tracks with high levels of population-based risk.

Recommendation #2: Establish stronger **participation incentives** for providers, and particularly strong incentives for large organizations. Possible examples of policies that would strengthen participation incentives might include:

- a. Applying site neutral payments to hospitals in non-participating health systems
- b. Excluding hospitals in non-participating health systems from the 340B Drug Pricing Program
- c. Offering primary care capitation payments above current levels of primary care spending
- d. Allowing payment parity for telemedicine to expire at the conclusion of the public health emergency

Recommendation #3: Set **benchmarks** in a way that provides an “on-ramp” for ACOs with high spending, allows divergence from observed FFS spending, is unaffected by an ACO’s own performance, and thereby strengthens incentives for participation and long-term savings.

Recommendation #4: Improve **risk adjustment** systems to limit profits from coding.

Recommendation #5: Promote **health equity** by:

- a. Allocating more resources through the payment system to underserved and/or socially disadvantaged groups (via **risk adjustment** that departs from the statistical goal of predicting spending to set payment according to social goals)
- b. Giving ACOs flexibility to attract those groups with beneficiary enhancements that address disparities.

Recommendation #6: Revise the **definition of ACOs** to reflect organizations as defined by ownership to: limit gains from strategic participation by parts of organizations, promote collection of data on provider ownership, and support antitrust efforts to monitor the implications of ACO contracting for competition.

I Background

1.1 The Case for APMs

Efficient production of health care, or any product for that matter, requires producers to be able to select the most efficient combination of inputs necessary to produce the output. In health care, we should think of individual services (office visits, procedures, diagnostic tests, etc.) as inputs, and health as the output. Thus, efficiency requires the optimal mix of service use. Because FFS payment rewards specific inputs over others, it can be an impediment to efficiency. A provider that avoids an unneeded service is not rewarded financially. Accordingly, fiscal sustainability in a FFS system is generally dependent on the level and growth of prices. Indeed, fee growth in the Medicare program is set to rise at sub-inflation rates for the next decade, making further fee cuts a politically challenging strategy to curb Medicare spending growth that is projected to exceed GDP growth.

In principle, a payment system that delegates financial risk to providers establishes accountability among those best positioned to judge value and configure the delivery system to support high-value care. By decoupling revenue from service provision, such a system gives providers the flexibility to deliver a set of services they consider best and share in the savings when they opt for a more efficient set of services. Given the amount of wasteful care currently delivered, providers who would otherwise face declining inflation-adjusted fees can prosper in a system in which they benefit from efficiency gains.

Historically in Medicare, population-based accountability to encourage efficiency has been implemented by delegating risk primarily to private health plans (i.e., the Medicare Advantage [MA] program). Compared to providers, MA plans have additional tools at their disposal to limit wasteful care, including benefit design, network construction, and utilization management techniques such as prior authorization. The Medicare program, by statute, prohibits use of these tools directly in any significant way, because a founding principle is that Medicare will not interfere with the practice of medicine. As a result, beneficiaries who are willing to accept limits on care in the MA program are rewarded with more generous benefits, thereby sharing in the efficiencies (and various overpayments to MA plans). If MA efficiencies are sufficiently large, the MA program may outcompete the TM sector.

But in the meantime, many beneficiaries do not want to accept the MA restrictions, making it imperative to design payment in TM to encourage efficient, equitable, high-quality care. For this reason, this paper focuses on APMs in TM, but this focus should not be interpreted as an argument favoring APMs in TM over MA. Our focus simply acknowledges that over half of Medicare beneficiaries are currently enrolled in TM and that TM remains a major determinant of Medicare's fiscal health.²²

In this spirit, risk contracting with the delivery system (e.g., via ACO models) offers an appealing policy direction. If successful, it reduces the need to rely on alternative strategies for controlling Medicare spending — namely, increasing cost sharing (which lowers utilization, but indiscriminately so) or reducing provider fees (which fails to incent efficiency and largely leaves volume unconstrained).²³ The ACO model also offers some potential advantages over MA that should not be left unexplored; these include directly shifting accountability to providers and lower administrative costs. We do not debate the relative merits of risk contracting with plans vs. providers (or both) here, noting only that we would prefer to see MA demonstrate its comparative advantage in a horse race rather than make its dominance a foregone conclusion by allowing it to run under favorable rules.

Importantly, population-based payment models are also critical for promoting health equity because, unlike FFS, they can flexibly support resource allocation based on patients' needs rather than purely

based on patients' use of care. Specifically, the risk adjustment system in a population-based payment model distributes payment according to patient characteristics. Population-based payments can thus be set to avail additional resources for specific groups to correct underuse, improve deficient care from under-resourced providers, or address social determinants. This already happens in population-based payments to some extent under current risk-adjustment methods. For example, after adjusting for clinical conditions, FFS spending for low-income patients tends to be lower than for high-income patients. Since income is omitted from current risk-adjustment models, a risk-adjusted population-based payment should increase spending for low-income patients with a given set of conditions above current FFS spending (and decrease spending for high-income patients below current levels). Payment increases for disadvantaged groups should provide a stronger financial incentive for providers to attract those groups. In addition to supporting equity goals through resource allocation, population-based payment models also facilitate strategies for reducing health disparities by allowing more flexible use of inputs (including those intended to address social determinants of health).

1.2 Brief Summary of Evidence and Lessons for Design

1.2.1 Savings

ACO models to date have elicited unambiguous but modest behavioral change by health care providers, as demonstrated by gross savings. Yet net savings, which account for bonuses, have been inconsistent across models.^{24–31} That we have seen even modest spending reductions is arguably surprising given how weak the incentives have been due to a variety of factors. In particular, ACOs that lower spending have been penalized with lower subsequent benchmarks either explicitly when renewing a contract in the SSP or implicitly when switching to a different ACO model. This performance-based rebasing (i.e., resetting of benchmarks) greatly weakens incentives to ever save and discourages participation because organizations compete with themselves and success begets failure.³²

The evidence is also clear that the gross savings have been greater when incentives have been stronger. For example, relative to hospital-based health systems, physician-based ACOs have stronger incentives to lower spending because they provide less of the spectrum of care and are thus better shielded from offsetting losses in FFS profits when reducing waste. Unlike physician groups, health systems also are saddled with the fixed cost of hospital care, whether or not their ACO patients use it. ACOs with initially high spending also have stronger incentives to save, assuming the costs of lowering spending are lower when spending is higher (i.e., it is easier to cut waste when there is more of it). For similar reasons, incentives to reduce post-acute facility spending are stronger than for other types of care; post-acute care is a major source of wasteful spending and typically not provided by the risk-bearing entity in an APM. This variability in incentives has played out as expected, with greater savings generated by physician group ACOs, by ACOs with higher baseline spending, and in post-acute care.^{24,26,29,30} Similarly in the Comprehensive Care for Joint Replacement (CJR) model, hospitals with higher spending for lower extremity joint replacement episodes have generated greater post-acute savings than hospitals with lower spending.^{33,34}

1.2.2 Participation

Voluntary APMs have been subject to increasingly selective participation as benchmarks based on providers' historical spending have been blended with regional spending in the context of performance-based rebasing and downside risk requirements. This has been clearly documented in the SSP and CJR, as ACOs (or hospitals) with spending above the regional average have disproportionately dropped out in response to lower benchmarks under regionalization.^{14,15,33,35,36} A

regional benchmark does offer some advantages. It weakens the connection between an ACO's savings and its subsequent benchmark, thereby strengthening incentives to save, and it can sever the link entirely if the ACO's own spending is excluded from the regional spending used to set benchmarks. In principle, a common regional benchmark also establishes an "even playing field" for competing ACOs in a market, which can encourage efficient providers to expand and less efficient providers to contract.

However, regional benchmarks rely heavily on risk adjustment to account for variation across ACOs in health risk. If risk adjustment is inadequate, regional benchmarks establish an uneven playing field in that they disadvantage ACOs serving higher-cost patients. Moreover, for ACOs with high spending, a benchmark that blends historical and regional spending diminishes the short-term incentives to participate by shrinking the achievable financial bonus. When coupled with downside risk that imposes higher likelihood of losses in the short term and rebasing that removes the longer-term gains from lowering spending, such ACOs are left with little incentive to participate in a voluntary model.

It is therefore not surprising that selective participation has ensued after a 2017 SSP rule change began blending ACOs' historical benchmarks with regional spending and the 2019 rule changes in "Pathways to Success" accelerated the timetable for downside risk requirements, all occurring against a backdrop of continued rebasing.

The selective participation is costly for two reasons. Providers with higher spending A) have greater savings potential which is foregone when they drop out and B) are more likely to pay penalties, which partially offset the bonuses distributed to ACOs with lower spending. In the long run, a model that rewards already efficient providers may not constitute bad policy, all else equal. But a successful model must allow others to eventually gain from efficiency. And the upfront subsidies to efficient providers make program-level savings challenging to achieve in the short term. This presents a problem particularly for CMMI models if demonstrable savings are required for model expansion.

Finally, while stronger incentives generally seem to be associated with larger savings, there is no clear evidence that downside risk, in particular, has accelerated savings. Some have pointed to the association between participation in a SSP track with downside risk and savings (i.e., the difference between spending and benchmarks), but this association is largely, if not entirely, due to selective entry into those tracks by ACOs with already lower spending.³⁷ For those ACOs, tracks with downside risk pose minimal risk but offer higher savings rates and are thus attractive. All else equal, downside risk strengthens ACO incentives to save, but the participation losses associated with downside requirements (in the context of rebasing and regionalized benchmarks) have selected for participants with weaker incentives in other ways, as smaller ACOs and ACOs with high spending have disproportionately exited.

1.3 Lessons for Design

1.3.1 Savings

If incentives to save are strengthened, we should be optimistic that a multi-track population-based payment model can achieve greater savings than the modestly successful existing population-based models. Performance-based rebasing has been particularly problematic in eroding incentives. Downside risk has not been necessary for lower-revenue ACOs (physician groups) to generate net savings but may be necessary for eliciting a stronger response from health systems.

1.3.2 Participation

Incentives to participate are critical, and participation by providers with high spending (and thus the greatest savings potential) is especially important. Accordingly, convergence in benchmarks from a historical to a common regional basis needs to be gradual in a voluntary model to give providers with high spending an “on-ramp.” Moreover, establishing incentives to save in the long run is critical for incentives to participate (and save) in the short run; this requires articulation of a long-term vision for payment in TM. Theoretically, with other design features in place, a purely voluntary model can “work” by allowing providers to continually gain from efficiency improvements even as spending growth slows, but this may not reach policy goals as quickly as desired. Thus, complementary policies that encourage participation are necessary to meet policy goals.

2 A Multi-Track Population-Based Payment Model: Sketch and Rationale

2.1 Core Vision

Our vision includes the following recommendations for a multi-track population-based payment model:

Recommendation #1: Define a parsimonious set of **tracks** that:

- a. Accommodates different types of providers
- b. Permanently avails a low-risk option for eligible (smaller) organizations to promote entry of innovative delivery models and encourage participation by providers that do not need much downside risk to have strong incentives to lower spending
- c. Restrict options for large organizations to tracks with high levels of population-based risk.

Recommendation #2: Establish stronger **participation incentives** for providers, and particularly strong incentives for large organizations. Possible examples of policies that would strengthen participation incentives might include:

- a. Applying site neutral payments to hospitals in non-participating health systems
- b. Excluding hospitals in non-participating health systems from the 340B Drug Pricing Program
- c. Offering primary care capitation payments above current levels of primary care spending
- d. Allowing payment parity for telemedicine to expire at the conclusion of the public health emergency.

Recommendation #3: Set **benchmarks** in a way that provides an “on-ramp” for ACOs with high spending, allows divergence from observed FFS spending, is unaffected by an ACO’s own performance, and thereby strengthens incentives for participation and long-term savings.

Recommendation #4: Improve **risk adjustment** systems to limit profits from coding.

Recommendation #5: Promote **health equity** by:

- a. Allocating more resources through the payment system to underserved and/or socially disadvantaged groups (via **risk adjustment** that departs from the statistical goal of predicting spending to set payment according to social goals)
- b. Giving ACOs flexibility to attract those groups with beneficiary enhancements that address disparities.

Recommendation #6: Revise the **definition of ACOs** to reflect organizations as defined by ownership to: limit gains from strategic participation by parts of organizations, promote collection of

data on provider ownership, and support antitrust efforts to monitor the implications of ACO contracting for competition.

Below, we provide a sketch of each major element of a multi-track population-based payment model along with the rationale for the proposed design. We focus on tracks, participation incentives, benchmarks, risk adjustment and health equity, ACO definition, and their interactions. Although important, we focus less on other aspects of ACO model design, including patient attribution, prospective payment mechanisms to support sub-contracting between ACOs and their networks, regulatory relief, and multi-payer alignment, as we believe improvements in these areas can be conceived independent of the core design of a multi-track model. Likewise, we do not comment on the quality (pay-for-performance) component of ACO models. We note, however, that the flexibility providers have under population-based payment to select services that optimize patient health and experiences may alone result in quality improvement, improvement that may far exceed what is accomplished through quality bonuses, particularly considering the limited impact of pay-for-performance schemes to date.³⁸ We also discuss how health equity can be promoted through payment adjustments and pass-through mechanisms, without relying on fraught strategies that link payment to reducing disparities in performance on a limited set of measures.

In the penultimate section, we lay out some considerations for the role of episode-based payments. We believe episode-based payments can play an important role in advancing the goals of payment reform but the focus of this paper is the design of a broad population-based payment model.

Throughout we assume that provider participation will not be mandatory per se and thus that model parameters must be set with participation incentives in mind. That being said, we cannot overstate the importance of implementing stronger measures to encourage participation, without which progress will be slow. We do not opine extensively on which levers to pull, as this is constrained to no small extent by politics, but some must be pulled, and we identify several potentially effective strategies. Finally, we do not comment on regulatory strategy for implementing a multi-track model like the one we describe; CMS and CMMI will need to build on existing models and coordinate in the operation and expansion of a broader, more cohesive portfolio model. Rather we focus on core conceptual considerations that should drive process and design.

2.2 Tracks

2.2.1 Sketch

The table below summarizes the tracks we believe important to make permanently available:

Track	Provider eligibility based on size/revenue	Spending in risk contract	Upside/downside risk-sharing	Participation incentives	Existing or past models with shared features
0	Restricted to small, low-revenue groups (e.g., small PCP practices)	Primary care	100/100	Strong	Advanced primary care (CPC+, Primary Care First)
1	Restricted to medium-sized or low-revenue groups and Track 0 eligible (e.g., large primary care-oriented group)	Total A&B	50/10	Strong	SSP Track 1+
2	Restricted to large, higher-revenue organizations and Track 0-1 eligible (e.g., large multispecialty group)	Total A&B	75/75	Very strong	SSP ENHANCED, Professional Direct Contracting
3	Restricted to large, highest-revenue organizations and Track 0-2 eligible (e.g., hospital-based health systems)	Total A&B	100/100	Very strong	Next Gen, Global Direct Contracting

Each track would have eligibility requirements based on size and revenue thresholds, where revenue refers to the construct used to establish track options in the SSP (loosely, the proportion of Medicare spending for an ACO's attributed population that the ACO receives as revenue). Track 0 is an advanced primary care track with primary care capitation for which only small independent primary care practices are eligible. Progressively larger and higher-revenue ACOs would be eligible only for higher tracks in which the risk contract covers total Part A and B spending, but providers eligible for a lower track could always move up tracks. Thus, a large hospital-based health system would only be eligible for Track 3, but a large primary care group would be eligible for Track 1, 2, or 3. Eligibility thresholds based on size (e.g., number of clinicians) and revenue would have to be established. This has precedent in the SSP. Unlike the SSP, there would be no forced glidepath; if an organization is eligible for Track 1, it could remain in Track 1 indefinitely but would have the opportunity to appropriate a greater share of its savings if it opted to participate in higher tracks. For higher tracks (2-3), greater downside risk would be imposed, coupled with stronger participation incentives for the large organizations ineligible for lower-risk tracks. The much higher savings rates give all providers an incentive to participate in higher tracks and can be coupled with other advantageous features specific to the higher-risk tracks (e.g., the prospective payment mechanisms for ACOs and their networks like those available in Direct Contracting).

In the last column, we note some existing or retired tracks or models that share features with our proposed tracks. The purpose of this column is to convey that many elements have been in place, but as discussed below in our section on benchmarks, substantial redesigns are necessary for advancing a

multi-track model. Thus, the models or tracks noted in this column may or may not serve directly as building blocks for the proposed tracks, but we note them to ground our sketch in the last 10 years of ACO experimentation. Moreover, we fully expect continued innovations within each track after the foundation for a multi-track model is laid; thus, the building blocks will continue to evolve.

2.2.2 *Rationale*

We view Track 0 as a means to give small primary care practices more flexibility in primary care delivery and encourage the adoption of advanced care processes. Small primary care practices could then enter a higher track alone or after joining a larger group, perhaps with the help of an aggregator, or remain in Track 0 indefinitely. Given the apparently inexorable decline in the proportion of clinicians in practices of fewer than 5 clinicians, driven in part by consolidation and in part by workforce turnover, we do not anticipate that a large proportion of beneficiaries will be served by Track 0 by 2030.³⁹ Primary care capitation could be a key feature of Track 1, too, ensuring that primary care practices in that partial-risk track do not lose revenue as they deviate from FFS-driven behavior in efforts to enhance primary care and lower total spending.

The rationale for greater downside risk in higher tracks is that incentives to save can be strong for lower-revenue organizations in contracts with minimal downside risk but are inherently weak for higher-revenue organizations without substantial downside risk, because reducing provision of services cannibalizes existing FFS profits. In addition, a higher-revenue organization also has lower “contract penetration,” meaning the proportion of its total revenue exposed to its ACO contract is lower: since patient attribution is based on primary care provision, only a subset of patients will be assigned.⁴⁰ Low contract penetration weakens incentives to implement systemic changes that reduce unnecessary utilization for *all* patients served (negative spillovers). In contrast, contract penetration approximates 100% for a primary care group.

Permanently availing the lower-risk Track 1, as opposed to forcing progression to a higher-risk track over time for all participants, encourages more participation by smaller organizations by limiting downside risk requirements, thereby exposing more providers to incentives to lower spending. That is, since downside risk is not necessary for smaller organizations to have strong incentives to save, requiring track progression as a condition of continued participation may severely compromise participation without clear gains in terms of eliciting efficiencies. While our recommended design may appear to shield smaller organizations from bearing additional risk, the value of using risk to achieve savings is lower for those providers. Our proposed tracks also encourage groups capable of managing downside risk – whether alone or in partnership with an aggregator – to move up tracks.

A permanent low-risk track also serves two additional important purposes. First, it encourages (*de-risks*) *entry* of innovative delivery models by removing the prospect of losses under the payment model from entry decisions. Delivery system transformation is fraught with uncertainty in terms of its net effect on spending. Moreover, new approaches may be particularly important where spending falls systematically above benchmarks due to inefficiency. New care delivery models can be trialed by innovative providers in Track 1 and then scaled up in Tracks 2 or 3 if successful or refined within Track 1 if not initially successful. Of course, limiting downside risk does not limit the risk of investing in strategies that ultimately do not yield returns. Second, it serves as an *outlet* for providers hurt by imperfect risk adjustment, runaway spending in consolidated specialist or hospital markets that primary care-based groups cannot control, or exogenous variation in spending that poses large losses relative to small groups’ financial reserves.

2.3 Participation Incentives

2.3.1 Sketch

Current law already offers some direct financial incentives for ACO participation. Under the Medicare Access and CHIP Reauthorization Act of 2015 (MACRA), providers that participate in ACO models that involve sufficient downside risk (as well as certain other APMs) are currently eligible for a bonus payment equal to 5 percent of their physician fee schedule revenue, although this participation incentive is currently scheduled to go away after 2022. Over the longer-run, MACRA also specifies that payment rates for physicians participating in suitable APMs will rise 0.5 percentage points per year faster than those of non-participating providers. More generally, slow fee growth embodied in current law should make participation in ACO models increasingly attractive over time. The CMS Office of the Actuary (OACT) projects that Part B fees will grow 1.2% slower than inflation through 2030, or growth in real prices of -1.2%. As FFS margins fall in real dollars, providing more efficient care as an ACO eventually dominates providing less efficient care as a non-ACO.

The evidence reviewed above indicates that the existing incentives have not been adequate to ensure adequate participation, and the dynamics described above that will tend to strengthen those incentives over time will likely take years to play out. As discussed elsewhere in this paper, other aspects of model design, including benchmarks and related long-term savings opportunities are also important determinants of participation, and our recommended approach should further encourage participation over time. But policymakers would also be wise to implement additional direct participation incentives.

The federal government possess substantial leverage that can be used in various ways and to varying extents to promote participation, including mandating APM participation as a condition of participation in the Medicare program. Short of a mandate, we offer below several complementary changes to FFS payment and ACO model design that should effectively encourage participation and arguably help address distortions in payment subsidies as standalone policies. This list is not intended to be exhaustive. A host of additional model features (e.g., regulatory waivers, flexibility in beneficiary enhancements, and prospective cash flows) may be important to attract providers, and other payment changes may be equally or more effective. Our suggestions are meant to be illustrative examples of the types of changes that could be used to encourage participation and thus allow a population-based payment model to achieve its objectives. Two of the four recommendation focus particularly on participation incentives for hospital-based health systems, which have weak incentives as ACOs due to low contract penetration and would be required to assume substantial financial risk in our proposed set of tracks:

1. Apply site neutral payments to hospital outpatient facilities owned by non-participating health systems (i.e., lower rates to those set by Medicare for the non-facility office setting).
2. Exclude hospitals in non-participating health systems from eligibility for the 340B Drug Pricing Program.
3. For primary care practices in Tracks 1-3, offer primary care capitation payments that exceed current levels of primary care spending and are not clawed back as losses under the status quo.
4. Allow payment parity for telemedicine to expire at the conclusion of the public health emergency.

2.3.2 Rationale

For a population-based payment model to reach its potential, incentives to participate must be much stronger than they are currently. Strong participation incentives not only limit the fiscal impact of subsidies to already efficient providers (by allowing Medicare to recoup more penalties), but also extend model incentives to more providers (begetting more savings) and bolster the rewards for efficiency by granting efficient participants a better market position relative to inefficient providers (who may otherwise be similarly or more profitable as a non-participant under the FFS status quo). Given the higher level of downside risk in higher tracks, particularly strong participation incentives will be needed for larger, higher-revenue organizations.

The first two recommendations make participation more appealing for hospital-based health systems by making the FFS alternative significantly less attractive. All else equal, a system will prefer participation in Track 3 as long as any expected losses from spending in excess of its benchmark are smaller than the alternative reduction in profits from site-neutral payments and 340B exclusion. One might argue that site-neutral payments and 340B reform should be pursued regardless of ACO participation, as the profit differentials between settings are distortionary, for example causing vertical consolidation between hospitals and physicians that increases spending without gains in quality. Such wholesale reform, however, is likely to encounter fierce political opposition. Moreover, although our recommendation would preserve hospital facility fees in ACO benchmarks, initially advantaging health systems, this advantage would be slowly phased out via the benchmark convergence we describe below. Likewise, our recommendation would not preclude 340B reform at a later date.

The third recommendation should make Tracks 1-3 appealing to primary care-oriented physician groups otherwise choosing to participate in Track 0 or not participate at all, as their revenue would be higher under the status quo. In general, primary care capitation should be attractive to ACOs, as it supports primary care practice efforts to reduce total spending by altering the provision of primary care in ways that would otherwise reduce their own FFS revenue (e.g., by redirecting clinician time to phone and population health management). The costs of achieving such efficiencies through advanced primary care delivery, however, may exceed current levels of primary care practice revenue. More generally, it is widely believed that spending on primary care is too low. One approach that has been taken is to avail primary care capitation payments in excess of current FFS primary care revenue but then count the excess payments against the ACO in the calculation of savings and losses (thus the additional payments are clawed back as losses or smaller savings to maintain budget neutrality). That approach affects participation incentives minimally as it merely offers ACOs a cash advance. In contrast, excluding the additional primary care capitation payment from the calculation of savings and losses creates a strong participation incentive. While the additional payments may be viewed as adding to program costs in static calculations, we believe the evidence to date strongly supports consideration of offsetting savings by the ACOs drawn into the program. With health system participation additionally subject to the first two recommendations, additional primary care payments should primarily affect participation by physician groups, which have achieved greater savings to date, including net savings in upside only contracts. For example, if primary care spending accounts for 4% of total spending, a 10% increase in primary care capitation payments would be offset by a 20% incremental increase in participation by physician group ACOs achieving average net savings of 2%. We note that the ACO Investment Model (AIM) more than offsets additional payments within 3 years. Should direct financing be required, a small reduction in payments to non-primary-care providers could be considered, one that is small enough to be non-distortionary. A 5% increase in primary care capitation to an ACO, for example, could be financed by a 0.2% reduction in other payments for the

ACO's patients with minimal concern that the reduction would cause providers to avoid the ACO's patients (particularly if nearly all patients are in an ACO). A lesser increase in primary care capitation payments could be offered to Track 0 participants while preserving incentives to move up tracks.

Finally, the fourth recommendation (to allow payment parity for telemedicine to expire) should greatly strengthen patient preferences for ACOs over non-ACO providers and thus incentives for ACO participation. Virtual care is likely to remain in high demand by patients. Even in the absence of FFS reimbursement for telemedicine, ACO contracts establish incentives for providers to shift in-person care to lower-cost virtual modes where possible, and to leverage remote care delivery models to substitute for higher cost specialty or facility care. Non-participating providers have incentives to substitute telemedicine for in-person care only if FFS profits are preserved or expanded. Thus, allowing payment parity for telemedicine to expire could be a powerful lever to encourage ACO model participation. To address unintended consequences of this policy for patient and providers in areas where telemedicine is particularly valuable and ACO formation potentially challenging, exceptions could be made or models like AIM availed.

2.4 Benchmarks

2.4.1 Sketch

The objectives of benchmark setting are to establish incentives to participate and save and constrain spending growth to desirable rates. To achieve these objectives we recommend a general approach in which benchmarks are: A) set to provide an “on-ramp” for providers with high spending and converged slowly within regions; B) updated at rates below *projected* FFS spending growth under current law but decoupled from observed (i.e., empirical or realized) FFS spending growth to permit benchmarks to grow faster than FFS spending (allowing a “wedge” to develop between the two); C) never rebased according to an ACO’s own performance, and D) eventually subjected to policy updates informed by FFS spending and other trends. We offer the following sketch for how this might be implemented, acknowledging that there are many specific forms this general approach could take:

- The basis for an ACO’s initial benchmark would be its own historical spending average or its most recent benchmark if the ACO is an incumbent participant completing a contract (both subject to health equity adjustments discussed below).
- For an initial convergence phase (e.g., from model start through 2029), the benchmark would be updated annually at the projected rate of FFS spending growth (the projection at the launch of the program) minus a savings factor that is larger for ACOs with higher spending than their region. Convergence toward a regional average would be gradual and initiated immediately for Tracks 2-3 and after 2 years for Track 1. The savings factor ensures that a model is scored to save relative to current law.
 - Through 2030, for example, OACT projects ~5.6% annual growth in demographically adjusted per-beneficiary Part A and B spending, including 3.8% annual growth in volume/intensity and 1.8% growth in nominal prices, which is 0.7% below expected inflation, constituting negative growth in real prices.⁴¹
 - The schedule of savings factors by regional efficiency might look like:

Regional efficiency: risk-adjusted spending relative to region in years (t-3) to (t-1)	Savings factor for year t	Benchmark increase from year t-1 to t
Quartile 1 (highest spending for region)	-0.8%	4.8%
Quartile 2	-0.5%	5.1%
Quartile 3	-0.3%	5.3%
Quartile 4 (lowest spending for region)	0.0%	5.6%

As implied by the notation, the regional efficiency assessment can be done yearly such that ACOs moving into a more efficient category are rewarded with more favorable benchmark trends. For two ACOs in the same market with baseline per-beneficiary spending of \$12,000 and \$11,000, the above schedule would reduce the benchmark difference in half after 7 years. To avoid cliff effects caused by quartile thresholds, a more continuous schedule could be followed.

- During the convergence phase, benchmark updates would be adjusted annually for changes in patient risk and ACO provider composition but never rebased to ACOs' newly achieved spending levels.
- The updates would also ensure that benchmarks grow for all ACOs at a rate that is faster than the rate of growth in administratively set fees (including any fee updates); this also ensures that the savings factor is smaller than the projected rate of growth in service volume and intensity.
- To address projection errors due to unforeseen changes in demand or technological development and to preserve an element of yardstick competition (savings depend in part on an ACO's performance relative to others), the updates could also be blended with an empirical component based on realized trends in FFS spending (or updated projections).
- After the convergence phase, benchmarks in a given region (currently the county is used) would be set on a common risk-adjusted basis across all ACOs serving the region and updated at region-specific rates (i.e., eliminating between-ACO differences within regions in risk-adjusted benchmark levels and growth, other than potential policy adjustments for certain organizational characteristics such as safety net status). A region's baseline unadjusted benchmark in the initial year of this next phase would equal a weighted average of constituent ACOs' most recent benchmarks (assuming all beneficiaries in the region are aligned with an ACO by then). With ACOs' baseline spending at program launch no longer influencing benchmarks, within-region differences in ACO benchmarks would be determined entirely by the risk adjustment system (hopefully improved by this point).
- Benchmark updates during this next phase would be set administratively at a socially desirable rate informed by fee growth (to protect providers against losses from fee increases set by Congress) and various other trends such as GDP growth, with periodic system-wide rebasing informed by FFS spending. For example, if ACOs succeed under our proposed approach such that a large wedge develops (e.g., benchmarks = 115% of realized FFS spending), benchmarks might be reset to a new launch point (e.g., to 110% of FFS spending) if ACO profits are thought to be excessive and revisited again after another period has elapsed. The key is not to claw back the difference in full.
- Regional benchmarks for ACOs in this next phase could be harmonized with MA, meaning that benchmarks for a beneficiary with the same risk score in the same region would be the same in either program. With an ACO program spanning traditional Medicare, ACO benchmarks instead

of FFS spending could serve as the cap on plan bids. The extent of desired national convergence would be considered and pursued through geographic adjustments.

2.4.2 *Rationale*

To motivate our proposed approach, we first consider the current approach to setting benchmarks in Medicare, which is to use empirical levels and trends in FFS spending. This approach is attractive when the empirical basis for benchmarks is derived from an external sector and thus provides a status quo for risk contracts to beat. The sector of Medicare that is external to MA and ACOs presents a potential external basis but has been rapidly diminishing. Of the approximately 57.8 million Medicare beneficiaries enrolled in both Part A and B, approximately 39.4 million (68.2%) are currently enrolled in MA or attributed to an ACO or direct contracting entity, and this proportion is even higher in many geographic markets.^{12,13} If the policy goal is to expand MA and ACOs to cover the entire Medicare program, as has been stated, an empirically derived benchmark could no longer be external.

Empirical benchmarks that are internal reflect the effects of risk contracts, presenting two problems. First, when benchmarks are set such that an ACO's own effect on FFS spending affects its subsequent benchmark, its incentives to lower spending are weakened. Currently in the SSP, for example, this ACO-specific ratchet effect occurs both through the rebasing of an ACO's historical benchmarks at the end of a contract period to its most recent spending level and through the feedback of an ACO's impact on its region's spending, which is used to blend its historical benchmark toward the region. Because current policy gives increasing weight to regional FFS spending in setting ACO benchmarks, the latter variant of the ratchet effect is a particular concern for ACOs that account for a substantial share of their region's population. This concern has been raised by ACOs, and CMS is currently seeking comment on approaches to address it.⁴² One suggested approach is to remove an ACO's own contribution from the regional spending used to set its benchmark. However, this attempt to recover an external benchmark introduces other problems because the ACO's population determines what is considered to be external. Specifically, the approach disadvantages ACOs with risk-adjusted spending that is high for their region and strengthens incentives for ACOs to select patients with favorable risks (doing so both lowers their spending and increases their benchmarks).

Second, even with the link between ACOs' own performance and benchmarks severed, setting benchmarks based on observed FFS spending requires an ACO to outcompete other providers to be rewarded for any efficiency gains. While such yardstick competition could be an appealing way to intensify incentives to lower spending in a mandatory program, setting benchmarks to chase FFS spending in a voluntary program (a population-wide ratchet effect) will make participation unappealing to providers who are unable to be more efficient than average (or who serve patients who are more costly than risk adjustment predicts). As ACOs slow FFS spending growth in response to contract incentives, their ability to do so will vary. Thus, as empirical FFS spending (which will be driven by ACOs in an expanded ACO program) diverges from what FFS spending would be in the absence of ACOs, a benchmark update that follows empirical FFS spending growth allows only some ACOs to share in the savings even if all ACOs slow spending growth. Because of lower resulting participation, such an approach would in turn be less successful in slowing spending growth. Even in a mandatory program, benchmarks that follow realized FFS spending may be undesirably low for two reasons. First, if providers are using their flexibility as ACOs to provide valuable services that are not reimbursed under FFS (a key advantage of the model), a decreasing share of the costs of care would be reflected in FFS spending. Second, intense competitive pressures to outsave each other may result in underprovision of care.

For these reasons, at least part of the basis for benchmarks needs to be decoupled from realized FFS spending; that is, an administered component is required. While benchmarks should grow slower than *projected* FFS spending (e.g., 5.6% as above) when a goal is to slow spending growth, it should be permitted to grow faster than *realized* FFS spending (which should be slower than 5.6% due to ACO incentives). An approach like the sketch above allows benchmarks to grow at a faster rate than realized FFS spending as ACOs slow spending growth. This “wedge” avails greater opportunity for ACOs to profit from efficient care, even as payments (benchmarks) are constrained below projected spending.

As spending projections will begin to reflect the impact of ACOs on spending when they are updated annually, our recommended approach would hold the administered benchmark updates constant over multiple years at the rate administratively set at the outset. We note that there is precedent for this. For example, Maryland’s Global Budget Revenue model set all-payer per capita hospital global budgets to beat a preset spending growth rate at the outset of the program.⁴³ Eventually, administered benchmark updates will likely need to be set at a rate informed by other trends. That process deserves more thought and discussion that is beyond the scope of this paper, which focuses more on the next 10 years than the subsequent 10. We anticipate that it should consider administered fee growth (to ensure that providers are not penalized for price increases set by Congress) and the growth of the economy. As noted in the example above, we also anticipate periodic reassessments that may lead to population-wide rebasing of benchmarks if the wedge between benchmarks and FFS spending is judged to be too large.

Our suggested approach for administered benchmark updates could be blended with empirical FFS spending growth to preserve an element of yardstick competition and partially reflect unexpected changes in spending due to important new technologies, changes in evidence, or unforeseen circumstances. Peer groups (e.g., peer regions) could be used to allow the empirical component to vary while addressing the current incentive problems introduced by linking an ACO’s benchmark to its region’s spending (as described above). A benchmark that incorporates an empirical component could still be set in advance of each performance year, as strongly desired by most ACOs, for example by blending the initial projected rate of spending growth (at program launch) with an updated projection that reflects such developments. Incorporating updated FFS spending projections (that reflect the effects of ACOs) should discourage participation less once ACOs have achieved efficiencies and a wedge has developed between benchmarks and realized FFS spending.

An alternative to administratively set benchmarks is to establish a competitive bidding process in which ACOs submit bids and benchmarks are set, for example, at the average of the bids in a region. While this approach is appealing in that it avoids the problems of administered payment systems, we are not confident that competition is sufficiently strong in provider markets to support such a system. Though this could be tested, stronger competition policy would likely be necessary. A competitive bidding process could also be implemented in the context of an administered cap on benchmarks, but another concern (as with yardstick competition) is that such a competitive bidding process could lead to benchmarks that are too low (a race to the bottom).

The approach we outline also severs the link between an ACO’s impact on spending and its benchmark, thereby strengthening incentives to lower spending. ACOs that are able to lower spending below their benchmarks can be assured of returns beyond a 3 to 5 year contract period. This should diminish the sensitivity of ACO participation decisions to the short-term consequences of downside risk and benchmark convergence toward a regional average. Nevertheless, we favor slow convergence and limited downside for Track 1. Assuming strong measures to push participation among organizations eligible only for Tracks 2-3, the pace of convergence could be somewhat faster. “Pathways to Success”

slowed the pace of benchmark convergence, once initiated, by decreasing the weight on the regional component of benchmarks and lengthening contract periods, but it accelerated the initiation of convergence to a regional average from the second contract period to the first. It is challenging to disentangle the effects of rebasing, regional convergence, and the forced glidepath to 30% downside risk on participation in the SSP, particularly among high-spending ACOs. The pace of convergence may be sufficiently slow to retain such ACOs in the absence of rebasing and the presence of more limited downside risk. Given the uncertainty, we advise at least a 2-year delay before initiating convergence in Track 1 to allow the wedge to begin to develop.

As in current ACO models, our suggested approach preserves a shadow of history during the convergence phase by partially propagating an ACO's initial historical spending. This helps address deficient risk adjustment because an ACO's historical spending reflects both its level of efficiency and the costs of its patient population not predicted by risk adjustment. Accordingly, this approach buys some time for risk adjustment methods to be improved. Propagating an ACO-specific historical component does introduce some complexity, as it requires the benchmark to be updated for organizational changes in provider composition, which may be substantial over 7 years. To the extent this raises concerns about gaming via provider selection, those same concerns are present in a system of regional benchmarks (a in our second phase). Inconsistencies in provider composition over time otherwise will just introduce some noise into benchmarks during the convergence phase.

2.5 Risk Adjustment and Health Equity

2.5.1 Sketch

To achieve its long-run goals, a new population-based payment system will require an improved risk adjustment system to account for organizational variation in health risk, mitigate incentives for risk selection and coding intensity, and promote health equity. In general, we favor a major revision of the risk adjustment model that A) relies less on provider- or insurer-reported diagnoses and more on predictors derived from less gameable and/or third-party indicators of health risk; B) incorporates more effective budget-neutral methods of reinsurance that limit losses from patients with spending well above predictions, financed by limiting profits from patients with spending well below predictions;⁴⁴ and C) avails additional resources for underserved groups by setting payment to desired levels of spending rather than historical (or accurately predicted) levels for these groups. This will entail substantial effort — the details of which are myriad and beyond the scope of this paper — but such investment will be well worth it. Reformation of the risk-adjustment system will improve not only the performance of APMs in TM, but also the MA program.⁴⁵ We do not believe the other efforts to improve APMs discussed here should be delayed while work on risk adjustment proceeds. Below we focus on a few near-term steps toward addressing coding intensity and health equity, but we note the importance of initiating the broader undertaking immediately.

2.5.1.1 Coding Intensity

Like others,^{46,47} we recommend program-wide adjustments to negate the fiscal impact of coding, while recognizing that a diminishing non-ACO FFS sector can no longer serve as a concurrent external basis for judging coding increases in ACOs and MA and guiding adjustments accordingly. Instead, the demographic score (based on age, sex, disability, and Medicaid eligibility) can serve to guide annual normalization of the HCC score.^{46,47} For example, HCC scores can be normalized relative to a base period that preceded much of the rapid growth in coding (e.g., 2010-2012), but allowing growth proportional to any growth in the demographic score (calculated using a constant set of weights). If the mean HCC score was 1.0 in the base period and 1.5 in 2022, and the demographic risk score rose

from 1.0 to 1.05 over that time due to aging, beneficiary HCC scores in 2022 would be normalized by multiplying them by $1.05/1.5=0.7$. This assumes that true health risk rises proportionally with the demographic (shadow) risk score. While this assumption may be imperfect, additional data on health risk that are not reported by plans or providers – e.g., health variables from the Consumer Assessment of Healthcare Providers and Systems (CAHPS) survey – can be incorporated to improve upon the demographic risk score.^{48,49} The normalization factor can be calculated separately for MA and ACOs to account for differences in demographic and coding trends between the two sectors.

These program-wide limits on risk score growth would be coupled with organization-specific limits applied at the level of the ACO or MA contract (or insurer-county dyad) and targeting HCC score levels and trends in excess of that expected from a demographic or CAHPS-based health risk scores. Organizational limits should not be as restrictive as program-wide limits because we should expect organizational variation in the difference between HCC scores and other (less gameable) measures of risk, even if there is no organizational variation in coding practices. That is, we should expect variation in true health risk captured by the HCC score but not by other measures. Operationally, for example, HCC scores for an ACO's beneficiaries could be reduced by a percentage if its mean score exceeds its CAHPS-based mean risk scores by more than a pre-determined threshold. Empirical analysis will be needed to inform such thresholds.

2.5.1.2 *Health Equity*

In a revised approach to risk adjustment in a population-based payment model, benchmarks would be adjusted to set payment above current spending levels for underserved groups, financed by smaller payment reductions spread over other groups. (We use the term underserved broadly to include not only patients with deficient access to health care but also those who may have full access to deficient care from under-resourced providers and those whose health may be adversely affected by addressable social determinants.) Such an adjustment could be implemented in a variety of ways.⁵⁰ These include: A) omission of indicators of social disadvantage from risk adjustment models (these indicators tend to predict lower spending after adjustment for demographic and clinical factors, such that omission sets payments above current spending levels for the disadvantaged groups); B) techniques such as a constrained regression that increase payment weights for conditions that are more prevalent among underserved groups,⁵¹ or C) direct adjustment of benchmarks to socially desirable levels for such groups. These approaches are not mutually exclusive and may be implemented in combination. They also need not be arbitrary and can be informed by conceptual frameworks such as maximizing social welfare (i.e., comparing the expected welfare increase from an extra dollar spent on an underserved group in the form of additional health care or social services vs. the value of the dollar spent on other groups), empirical assessments of unmet need, and ethical considerations such as fairness. In practice, however, the adjustments may need to be implemented incrementally with monitoring of outcomes as a guide. Particularly during the benchmark convergence phase when ACO benchmarks primarily reflect an ACO's historical spending (and thus historical underspending for underserved groups), approach C may be the most straightforward. When benchmarks are set at a regional risk-adjusted rate, any approach may be implemented as part of the risk-adjustment system.

This revised payment allocation would be coupled with measures to facilitate use of the additional resources to enhance care or provide welfare-improving social benefits for the groups of interest. Setting payment in excess of current spending for underserved beneficiaries establishes strong incentives for ACOs to attract them with visibly valuable benefits. However, ACOs may need more latitude in the enhancements they can offer to address health-related needs specific to underserved populations (e.g., including cost-sharing waivers and vouchers for rent, transportation, or meals). This

will require more detailed analysis to harmonize with existing supplemental coverage, social service agencies, and regulations governing beneficiary inducements, which have been relaxed to give ACOs more flexibility but may need further refinements.⁵²

2.5.2 *Rationale*

2.5.2.1 *Coding Intensity*

The program-wide normalization of HCC risk scores effectively addresses the direct fiscal impact of coding intensity on the Medicare program and would be implemented in both the MA and ACO sectors to establish an even playing field and harmonize benchmarks. The organization-specific limits are necessary to mitigate incentives for ACOs or MA plans to outcode each other. The program-wide adjustment is necessary but creates competitive pressures that intensify coding incentives; an ACO or plan can gain from coding more only if its coding increase exceeds the average increase, and those who code more cause those who code less to be penalized. If left unchecked, this zero-sum game consumes substantial resources, posing a deadweight loss for society, and can exacerbate disparities since the haves are better positioned to invest in coding infrastructure than the have-nots. Our proposed approach does not fix the underlying problem but is designed to minimize the damage until an improved system can be designed and implemented. If the costs of coding are largely fixed (e.g., EHRs), joint with other valuable activities (e.g., case management), or otherwise diminish as coding is automated, it is also possible that we reach a steady state of maximal coding in which a diagnosis model can continue to serve as the basis for risk adjustment without eliciting wasteful competition to code. But this should not be assumed, lest meaningful progress on a less-gameable set of risk predictors be deferred.

We also note that although advanced statistical methods for prediction, such as machine learning and artificial intelligence (AI), may be useful, they are unlikely to address the underlying problem. The reason why ACOs and plans can profit from coding is not because the current risk-adjustment model is poorly predictive of spending; rather the reason is that the predictors included in the regression-based model can be manipulated. We should beware of seductive arguments about AI approaches that predict spending better. Better predictions of spending do not mean that the resulting model will be less gameable, and accuracy is often achieved at the expense of including variables that will weaken incentives in the payment model (e.g., indicators of service use). In addition, as noted above, adjustment for some variables (e.g., income) may improve prediction but exacerbate disparities. More generally, predictive accuracy is not the sole goal of risk adjustment, as discussed below.

2.5.2.2 *Health Equity*

We believe the most effective way to advance health equity through the payment system is by allocating additional resources for the care of underserved groups through adjustment of population-based payments and facilitating mechanisms by which those additional resources are passed through by providers to the intended populations in ways that improve their welfare. This requires a departure from the standard conception of risk adjustment as achieving a statistical goal — prediction of a patient’s total spending — to a conception of risk adjustment as achieving social goals. In a population-based payment model, the risk-adjustment system allocates resources; we want the payment system to allocate resources in a way that is fair and maximizes social welfare. For example, for patients who have historically received too little care, we would not want to entrench such underspending by setting payments (benchmarks) to current levels of spending with risk-adjustment that accurately predicts (lower) spending for those patients. Rather, to correct the underspending, we want to set payment above levels of current spending that would be predicted by an “accurate” model. Similarly, for patients

who experience poor outcomes as the result of social factors or poor quality of care, we may want to avail additional resources to address those causes.

An equity-motivated adjustment is particularly important during the convergence phase of an ACO model when benchmarks are still based substantially on ACOs' historical spending, which would be too low for a population receiving too little or deficient care. Once benchmarks reflect a common risk-adjusted regional rate, they should favor underserved groups whose spending is low for their clinical complexity as long as indicators for those groups are omitted from the risk-adjustment model (as noted above). But simply omitting predictors of social disadvantage may not avail sufficient resources; even with health care spending for disadvantaged patients brought up to the levels of their less disadvantaged peers, additional resources may be required to address social barriers to equal health outcomes. The right sized adjustment is therefore hard to know, motivating successive incremental changes.

In principle, with population-based payments adjusted to allocate resources in a socially desirable manner, competition alone should serve to pass through additional resources to the intended groups in the form of care or benefits they value. Setting payments above current spending for a group of patients strengthens incentives for ACOs to attract those patients with enhancements that appeal specifically to them, assuming the ACO competes with other providers for patients and patients can move freely among providers. However, these assumptions may not hold. Provider markets have undergone dramatic consolidation over the last 20 years, and patients face substantial costs when switching providers. Competition may serve as a more effective pass-through mechanism in MA, as enrollees can switch plans without switching providers. Thus, it will be important to monitor the enhancements offered by ACOs and encourage competitive provider markets. A required pass-through (e.g., 5% of savings) could be considered, but we believe some progress should be expected from the more favorable incentives to serve underserved groups.

A widely held belief is that addressing social determinants of health is cost-saving to risk-bearing plans and providers and therefore all that is needed to incentivize efforts to address social determinants is financial risk. However, this is unlikely to hold true. Such efforts are unlikely to lower health care spending more than they cost and have been pursued for other motives.⁵³ Rather, we believe that population-based payment models are critical to health equity because they can flexibly redistribute resources to groups in need. With payment allocated according to social (rather than purely statistical) goals and effective pass-through mechanisms in place, a population-based payment model can not only improve the care received by marginalized populations but also effect an intergovernmental transfer in which wasteful health care spending is converted to valuable social spending. The extent to which flexibility in beneficiary enhancements allows ACOs to share efficiencies to attract patients should also make efficient ACOs more attractive to patients, thereby creating demand for efficiency.

2.6 ACO Definition

2.6.1 Sketch

We propose that an ACO be defined in two parts: (1) constituent taxpayer identification numbers (TINs) or CMS Certification Numbers (CCNs) for organizations that bill for primary care (primary care services by PCPs) and thus contribute to primary care-based attribution; and (2) additional TIN-National Provider Identifier (NPI) pairs and CCNs for specialists and facilities included in the ACO network for contracting purposes. For (1), in a given market, an ACO must include all TINs and CCNs providing primary care that are owned or operated by any of the organizations with a controlling interest in an ACO participant. This requires definitions of market, ownership, and organization. For

this purpose, the market should not depend on the ACO’s listed participants (as an ACO’s “primary service area” does) but rather should be defined geographically. Ownership and organization could be operationalized as follows: if an entity has a controlling interest in an ACO TIN/CCN, all of its primary care-providing TINs/CCNs in the market in which that entity also has a controlling (or significant) stake must also be included in the contract. This will require data on ownership. For (2), ACOs can flexibly include specialist TIN-NPI pairs or facility CCNs in contracts without regard for organizational boundaries defined by ownership.

2.6.2 Rationale

Incorporating data on ownership in ACO definitions achieves two goals. First, it ensures that the share of a payer’s population attributed to an ACO reflects the full market position of the providers in the ACO — the share that is of greater interest to antitrust authorities than the market share calculated under current ACO definitions in cases where organizations include only some of their providers in an ACO contract. For example, the 2011 FTC/DOJ guidance on the SSP specified market share thresholds for dominant participants and competitor collaboration (safety zones), but these thresholds are most useful to monitor when applied to organizational units that reflect actual market structure.⁵⁴ Second, incorporating data on ownership limits gains from selective entry of an organization’s constituent providers whose spending is below their benchmarks. In general, selective participation by providers whose spending is below benchmarks due to favorable health risks not recognized by the risk-adjustment system (selection on risk) is wasteful and should be addressed to the extent possible with improved risk adjustment. In contrast, selective participation by organizations whose spending is already lower due to care efficiency (selection on efficiency) may be desirable to allow to some extent, as rewarding efficiency creates strengthens incentives for all organizations to become more efficient. However, allowing selection on efficiency within organizations (i.e., including only an organization’s efficient providers in its ACO contracts) permits the gains from selection without requiring greater efficiency to be achieved at an organization level.

To give a concrete example, consider a large health system with spending above its regional average due to inefficiently high levels of service provision and facility fees that increase average spending in the region. It owns a network of satellite primary care practices that are more efficient, with spending below the regional average. In a voluntary model with a common risk-adjusted regional benchmark for all ACOs, the system is currently allowed to include only its satellite practices as the ACO, exploiting the arbitrage opportunity and increasing spending without achieving organization-wide efficiency.

Relatedly, an ACO definition based on ownership is important to enforce track-specific participation requirements. For example, a large system could enter its primary care practices in Track 1 and avoid substantial downside risk if its organizational structure is not recognized by track eligibility rules.

Our proposed definition would not apply the same requirements on inclusion of TINs or CCNs that provide only specialty or facility care because allowing ACOs to selectively contract with some of an organization’s specialists or facilities but not others may foster stronger competition for referrals in specialty and facility markets that is based on quality and efficiency.

Our proposed approach would require collection of data on ownership and effort to process those data for monitoring purposes. Though such an effort would pose a cost, we believe it is well worth it. Experts have consistently called for the collection of such data by federal authorities among their top recommendations for strengthening competition in health care.^{20,55-57} We also do not see the completion of this data effort as necessary for implementing a revised definition of ACOs that

recognizes ownership. CMS can specify the definition conceptually and require data submission with a credible threat of audit based on a variety of sources.

3 Role of Episode-Based Payment

In theory, population-based payment models covering the full population in a market should result naturally in the transmission of incentives to downstream providers of specialty and facility episodes – thereby divvying up the gains from efficiency – especially if ACOs have options in specialty and facility markets (i.e., they are competitive) and can credibly steer patients to more efficient options. Downstream providers should reveal to ACOs information about their efforts to be efficient in attempt to attract or maintain referrals and appropriate some of the savings through subcontracts; third-party conveners can play a role in assembling that information and brokering mutually beneficial arrangements. Incentives can thus be propagated indirectly through selective referrals to more efficient providers and directly through subcontracts between organizations or through internal compensation changes within organizations. Indeed, there is already evidence of ACOs referring to specialists more judiciously and eliciting downstream changes in specialist behavior, even though ACO market penetration remains partial;^{58,59} we should expect stronger demand for efficient hospital and specialty care as ACO contracts expand within Medicare and across payers. Thus, in our vision, organizations taking population-based risk would have the flexibility to develop episode-based payments for internal use or as a basis for side contracts with outside entities.

In many cases, ACOs also may be able to affect care in non-ACO settings directly, without having to transmit incentives to other providers. For example, physician group ACOs have influenced care in hospitals by following patients with their own clinicians or staff, and both ACOs and hospitals have used similar strategies in post-acute facilities.

But in practice, the conditions necessary for optimal risk propagation and behavior change among specialists and facilities may not hold. Markets may not be sufficiently competitive, there may be information problems that limit selective contracting and referrals, and the transaction costs involved may weaken incentives. In addition, there may be many practices unable to bear significant population-based risk (e.g., in Track 0 in our table above). Thus, we believe that incorporating a complementary set of episode-based payments will help advance the goals of payment reform. Indeed, episode-based payments have been clearly successful in reducing spending without deterioration in quality of care for some conditions – notably for episodes of lower extremity joint replacement care^{60–69} – though not consistently for others.^{62,68,70–75} However, it is challenging to gauge *ex ante* the need for and complementarity of episode-based payments (i.e., know when and where to add them to a population-based model).

To date, overlap between episode-based payment models and ACOs has generally been treated as follows: an ACO-aligned patient can initiate an episode, the episode target price is counted toward the ACO's spending (against its benchmark), and the episode-initiating provider keeps any savings from spending below the target price or incurs the losses from spending above it.

While implementation of episode-based payments by Medicare ensures transmission of incentives and minimizes the transaction costs, there are also potential downsides of widespread episode-based payments. These include: strengthening incentives for episode-initiators to increase the volume of episodes for low-risk (profitable) patients, at cross purposes with the goal of population-based payment; weakening incentives for ACO participation and savings by allocating easy savings to the episode initiator; weakening competition among episode initiators to be efficient (assuming a common episode rate is set within a region, ACOs no longer have an incentive to shop for the most efficient

provider); entrenching the market power of specialists and hospitals; and adding complexity to the payment system with attendant administrative costs and gaming opportunities (all the components discussed above for ACO models would have to be designed for each episode).

Thus, while our vision for a core population-based payment model does not preclude substantial involvement of episode-based payments, we believe their deployment by Medicare should be strategic and expect such arrangements to arise in the market to some extent naturally. ACO models should be flexible enough in payment modalities to support side contracts based on episodes. In general, we would recommend focusing initial episode-based payments on episodes where the provider market is consolidated and ACOs may face challenges in influencing within-episode care directly. Cancer care may fall into this category. A greater number of episodes could be considered for patients served by non-ACO and advanced primary care practices that do not bear risk for total spending.

4 Conclusion

Redesigning incentives to improve the efficiency of healthcare delivery is critical for managing the over \$800 billion in Medicare expenditures that are set to grow rapidly once again. While the last decade marked a period of significant experimentation and innovation in Medicare payment reform, it is time to take those lessons learned and design a system more focused on transformation than experimentation. Our sketch provides an initial blueprint for designing a multi-track population-based payment model to address key problems with ACO models to date and engage providers to take on longer-term financial and clinical accountability for the care of their patient populations. Moreover, our recommendations recognize the core function population-based payment plays in reallocating resources to support health equity and provide a strategy for realizing that vision.

5 References

1. *National Health Expenditure Projections 2019–28*. Center for Medicare and Medicaid Services; 2020. Accessed August 20, 2021. <https://www.cms.gov/files/document/national-health-expenditure-projections-2019-28.pdf>
2. Cubanski J, Neuman T. *FAQs on Medicare Financing and Trust Fund Solvency*; 2021. Accessed August 20, 2021. <https://www.kff.org/medicare/issue-brief/faqs-on-medicare-financing-and-trust-fund-solvency/>
3. Cubanski J, Neuman T, Freed M. *The Facts on Medicare Spending and Financing*. KFF; 2019. Accessed August 20, 2021. <https://www.kff.org/medicare/issue-brief/the-facts-on-medicare-spending-and-financing/>
4. IOM (Institute of Medicine). The Healthcare Imperative: Lowering Costs and Improving Outcomes: Workshop Series Summary. In: The National Academies Press; 2010. doi:10.17226/12750
5. Berwick DM, Hackbart AD. Eliminating Waste in US Health Care. *JAMA*. 2012;307(14):1513-1516. doi:10.1001/jama.2012.362
6. Shrank WH, Rogstad TL, Parekh N. Waste in the US Health Care System: Estimated Costs and Potential for Savings. *JAMA*. 2019;322(15):1501-1509. doi:10.1001/jama.2019.13978
7. Burwell SM. Setting Value-Based Payment Goals — HHS Efforts to Improve U.S. Health Care. *N Engl J Med*. 2015;372:897-899. doi:10.1056/NEJMp1500445
8. Medicare alternative payment models. American Medical Association. Accessed August 20, 2021. <https://www.ama-assn.org/practice-management/payment-delivery-models/medicare-alternative-payment-models>
9. *March 2021 Report to the Congress: Medicare Payment Policy*. MedPAC (Medicare Payment Advisory Commission); 2021. Accessed August 20, 2021. http://medpac.gov/docs/default-source/reports/mar21_medpac_report_to_the_congress_sec.pdf
10. *2021 Shared Savings Program Fast Facts*. Center for Medicare and Medicaid Services; 2021:2. Accessed August 20, 2021. <https://www.cms.gov/files/document/2021-shared-savings-program-fast-facts.pdf>
11. Yood K. CMS' Next Generation Accountable Care Organization (NGACO) Model Set To End in December 2021. The National Law Review. Published June 2, 2021. Accessed August 20, 2021. <https://www.natlawreview.com/article/cms-next-generation-accountable-care-organization-ngaco-model-set-to-end-december>
12. Medicare Enrollment Dashboard | CMS. Center for Medicare and Medicaid Services. Published January 22, 2021. Accessed August 20, 2021. <https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/CMSProgramStatistics/Dashboard>
13. Original Medicare Enrollment: Part A and/or Part B Total, Aged, and Disabled Enrollees, Calendar Years 2014-2019. Center for Medicare and Medicaid Services. Accessed August 20, 2021. <https://www.cms.gov/files/document/2019cpsmdcrenrollab9.pdf-o>
14. Chernew ME, de Loera-Brust A, Rathi V, McWilliams JM. MSSP Participation Following Recent Rule Changes: What Does It Tell Us? Health Affairs Blog. Published November 22, 2019. Accessed August 20, 2021. <https://www.healthaffairs.org/do/10.1377/hblog20191120.903566/full/>

15. McWilliams JM, Landon BE, Rathi VK, Chernew ME. Getting More Savings from ACOs — Can the Pace Be Pushed? *N Engl J Med.* 2019;380(23):2190-2192. doi:10.1056/NEJMp1900537
16. Chernew ME. A Path Forward for Alternative Payment: Build a Portfolio Not a Garden. *JAMA Health Forum.* 2021;2(5):e210232-e210232. doi:10.1001/jamahealthforum.2021.0232
17. Werner RM, Emanuel E, Pham HH, Navathe AS. *The Future of Value-Based Payment: A Road Map to 2030.* Leonora Davis Institute of Health Economics; 2021:24. Accessed August 20, 2021. <https://ldi.upenn.edu/our-work/research-updates/the-future-of-value-based-payment-a-road-map-to-2030/>
18. Navathe AS, Emanuel EJ, Glied S, Mostashari F, Kocher B. Medicare Payment Reform's Next Decade: A Strategic Plan For The Center For Medicare And Medicaid Innovation | Health Affairs Blog. Health Affairs Blog. Published December 18, 2020. Accessed August 20, 2021. <https://www.healthaffairs.org/do/10.1377/hblog20201216.672904/full/>
19. Berwick DM, Gilfillan R. Reinventing the Center for Medicare and Medicaid Innovation. *JAMA.* 2021;325(13):1247-1248. doi:10.1001/jama.2021.3203
20. *June 2021 Report to the Congress: Medicare and the Health Care Delivery System.* MedPAC (Medicare Payment Advisory Commission); 2021. Accessed August 20, 2021. http://www.medpac.gov/docs/default-source/reports/jun21_medpac_report_to_congress_sec.pdf?sfvrsn=0
21. Brooks-LaSure C, Fowler E, Seshamani M, Tsai D. Innovation At The Centers For Medicare And Medicaid Services: A Vision For The Next 10 Years. Health Affairs Blog. Published August 12, 2021. Accessed August 20, 2021. <https://www.healthaffairs.org/do/10.1377/hblog20210812.211558/full/>
22. Freed M, Damico A, Neuman T. *A Dozen Facts About Medicare Advantage in 2020.* KFF; 2021. Accessed August 20, 2021. <https://www.kff.org/medicare/issue-brief/a-dozen-facts-about-medicare-advantage-in-2020/>
23. Chandra A, Flack E, Obermeyer Z. *The Health Costs of Cost-Sharing.* NBER (National Bureau of Economic Research); 2021:56. Accessed August 20, 2021. https://www.nber.org/system/files/working_papers/w28439/w28439.pdf
24. McWilliams JM, Chernew ME, Landon BE, Schwartz AL. Performance Differences in Year 1 of Pioneer Accountable Care Organizations. *N Engl J Med.* 2015;372(20):1927-1936. doi:10.1056/NEJMsa1414929
25. Nyweide DJ, Lee W, Cuerdon TT, et al. Association of Pioneer Accountable Care Organizations vs traditional Medicare fee for service with spending, utilization, and patient experience. *JAMA.* 2015;313(21):2152-2161. doi:10.1001/jama.2015.4930
26. McWilliams JM, Hatfield LA, Chernew ME, Landon BE, Schwartz AL. Early Performance of Accountable Care Organizations in Medicare. *N Engl J Med.* 2016;374(24):2357-2366. doi:10.1056/NEJMsa1600142
27. McWilliams JM, Hatfield LA, Landon BE, Hamed P, Chernew ME. Medicare Spending after 3 Years of the Medicare Shared Savings Program. *N Engl J Med.* 2018;379(12):1139-1149. doi:10.1056/NEJMsa1803388
28. Colla CH, Lewis VA, Kao L-S, O'Malley AJ, Chang C-H, Fisher ES. Association Between Medicare Accountable Care Organization Implementation and Spending Among Clinically Vulnerable Beneficiaries. *JAMA Intern Med.* 2016;176(8):1167-1175. doi:10.1001/jamainternmed.2016.2827

29. McWilliams JM, Gilstrap LG, Stevenson DG, Chernew ME, Huskamp HA, Grabowski DC. Changes in Postacute Care in the Medicare Shared Savings Program. *JAMA Intern Med.* 2017;177(4):518-526. doi:10.1001/jamainternmed.2016.9115
30. Trombley MJ, Fout B, Brodsky S, McWilliams JM, Nyweide DJ, Morefield B. Early Effects of an Accountable Care Organization Model for Underserved Areas. *N Engl J Med.* 2019;381(6):543-551. doi:10.1056/NEJMsa1816660
31. *Evaluation of the Accountable Care Organization Investment Model: AIM Implementation and Impacts over Two Performance Years.* Abt Associates; 2019:91. Accessed August 20, 2021. <https://www.abtassociates.com/sites/default/files/files/Insights/reports/2019/aim-second-annrpt-3.pdf>
32. Douven R, McGuire TG, McWilliams JM. Avoiding Unintended Incentives In ACO Payment Models. *Health Aff (Millwood).* 2015;34(1):143-149. doi:10.1377/hlthaff.2014.0444
33. Wilcock AD, Barnett ML, McWilliams JM, Grabowski DC, Mehrotra A. Hospital Responses to Incentives in Episode-Based Payment for Joint Surgery: A Controlled Population-Based Study. *JAMA Intern Med.* 2021;181(7):932-940. doi:10.1001/jamainternmed.2021.1897
34. Bleser WK, Saunders RS, Muhlestein DB, McClellan M. Why Do Accountable Care Organizations Leave The Medicare Shared Savings Program? *Health Aff (Millwood).* 2019;38(5):794-803. doi:10.1377/hlthaff.2018.05097
35. McWilliams JM, Chen AJ. Understanding The Latest ACO “Savings”: Curb Your Enthusiasm And Sharpen Your Pencils—Part 1 | Health Affairs Blog. Health Affairs Blog. Published November 12, 2020. Accessed August 20, 2021. <https://www.healthaffairs.org/do/10.1377/hblog20201106.719550/full/>
36. Einav L, Finkelstein A, Ji Y, Mahoney N. *Voluntary Regulation: Evidence from Medicare Payment Reform.* National Bureau of Economic Research; 2020. doi:10.3386/w27223
37. McWilliams JM, Chernew ME, Landon BE. RE: [CMS-1701-P] Medicare Program; Medicare Shared Savings Program; AccountableCare Organizations—Pathways to Success; proposed rule. Published online September 18, 2018. Accessed August 20, 2021. https://webcache.googleusercontent.com/search?q=cache:unKDxdEo9IAJ:https://hmrlab.hcp.med.harvard.edu/files/hmrtest2/files/september_18_2018_comment_letter_re_cms-1701-p_medicare_program_mssp.pdf+&cd=1&hl=en&ct=clnk&gl=us
38. McWilliams JM. Professionalism Revealed: Rethinking Quality Improvement in the Wake of a Pandemic. *NEJM Catal.* 2020;1(5). doi:10.1056/CAT.20.0226
39. Neprash HT, McWilliams JM, Chernew ME. Physician Organization and the Role of Workforce Turnover. *Ann Intern Med.* 2020;172(8):568-570. doi:10.7326/M19-2838
40. McWilliams JM, Chernew ME, Dalton JB, Landon BE. Outpatient care patterns and organizational accountability in Medicare. *JAMA Intern Med.* 2014;174(6):938-945. doi:10.1001/jamainternmed.2014.1073
41. *2021 Annual Report Of The Boards Of Trustees, Federal Hospital Insurance And Federal Supplementary Medical Insurance Trust Funds.* The Boards Of Trustees, Federal Hospital Insurance And Federal Supplementary Medical Insurance Trust Funds; 2021. Accessed September 1, 2021. <https://www.cms.gov/files/document/2021-medicare-trustees-report.pdf>

42. Center for Medicare and Medicaid Services. *Medicare Program; CY 2022 Payment Policies Under the Physician Fee Schedule and Other Changes to Part B Payment Policies; Medicare Shared Savings Program Requirements; Provider Enrollment Regulation Updates; Provider and Supplier Prepayment and Post-Payment Medical Review Requirements.*; 2021:86 FR 39104. Accessed August 20, 2021. <https://www.federalregister.gov/documents/2021/07/23/2021-14973/medicare-program-cy-2022-payment-policies-under-the-physician-fee-schedule-and-other-changes-to-part>
43. Maryland All-Payer Model | CMS Innovation Center. Accessed August 20, 2021. <https://innovation.cms.gov/innovation-models/maryland-all-payer-model>
44. McGuire TG, Schillo S, van Kleef RC. Reinsurance, Repayments, and Risk Adjustment in Individual Health Insurance: Germany, the Netherlands, and the US Marketplaces. *Am J Health Econ.* 2020;6(1):139-168. doi:10.1086/706796
45. Grimm CA. *Billions in Estimated Medicare Advantage Payments From Diagnoses Reported Only on Health Risk Assessments Raise Concerns*. Office of Inspector General; 2020. Accessed August 20, 2021. <https://oig.hhs.gov/oei/reports/OEI-03-17-00471.pdf>
46. Kronick R. Why Medicare Advantage Plans Are Being Overpaid By \$200 Billion And What To Do About It. Health Affairs Blog. Published January 29, 2020. Accessed August 20, 2021. <https://www.healthaffairs.org/do/10.1377/hblog20200127.293799/full/>
47. Kronick R. Projected Coding Intensity In Medicare Advantage Could Increase Medicare Spending By \$200 Billion Over Ten Years. *Health Aff (Millwood)*. 2017;36(2):320-327. doi:10.1377/hlthaff.2016.0768
48. Rose S, Zaslavsky AM, McWilliams JM. Variation In Accountable Care Organization Spending And Sensitivity To Risk Adjustment: Implications For Benchmarking. *Health Aff (Millwood)*. 2016;35(3):440-448. doi:10.1377/hlthaff.2015.1026
49. Chernew ME, Carichner J, McWilliams JM, et al. Coding Driven Changes In Measured Risk In Accountable Care Organizations (Forthcoming). *Health Aff (Millwood)*.
50. Bergquist SL, Layton TJ, McGuire TG, Rose S. Data transformations to improve the performance of health plan payment methods. *J Health Econ.* 2019;66:195-207. doi:10.1016/j.jhealeco.2019.05.005
51. van Kleef RC, McGuire TG, van Vliet RCJA, van de Ven WPPM. Improving risk equalization with constrained regression. *Eur J Health Econ.* 2017;18(9):1137-1156. doi:10.1007/s10198-016-0859-1
52. Department of Health and Human Services, Office of Inspector General. *Medicare and State Health Care Programs: Fraud and Abuse; Revisions to Safe Harbors Under the Anti-Kickback Statute, and Civil Monetary Penalty Rules Regarding Beneficiary Inducements.*; 2020:85 FR 77684. Accessed August 30, 2021. <https://www.federalregister.gov/documents/2020/12/02/2020-26072/medicare-and-state-health-care-programs-fraud-and-abuse-revisions-to-safe-harbors-under-the>
53. Gondi S, Beckman AL, McWilliams JM. Hospital Investments in Housing-Banner of Change or Red Flag? *JAMA Intern Med.* 2020;180(9):1143-1144. doi:10.1001/jamainternmed.2020.2348
54. Federal Trade Commission, Antitrust Division. *Statement of Antitrust Enforcement Policy Regarding Accountable Care Organizations Participating in the Medicare Shared Savings Program.*; 2011:76 FR 67025. Accessed August 30, 2021.

<https://www.federalregister.gov/documents/2011/10/28/2011-27944/statement-of-antitrust-enforcement-policy-regarding-accountable-care-organizations-participating-in>

55. These Administrative Actions Would Improve Nursing Home Ownership And Financial Transparency In The Post COVID-19 Period | Health Affairs Blog. Accessed August 20, 2021. <https://www.healthaffairs.org/do/10.1377/hblog20210208.597573/full/>

56. Gaynor M. *Antitrust Applied: Hospital Consolidation Concerns and Solutions.*; 2021. Accessed August 20, 2021.

https://www.judiciary.senate.gov/imo/media/doc/Gaynor_Senate_Judiciary_Hospital_Consolidation_May_19_2021.pdf

57. Dafny LS. *How Health Care Consolidation Is Contributing to Higher Prices and Spending, and Reforms That Could Bolster Antitrust Enforcement and Preserve and Promote Competition in Health Care Market.*; 2021. Accessed August 20, 2021.

<https://docs.house.gov/meetings/JU/JU05/20210429/112518/HHRG-117-JU05-Wstate-DafnyL-20210429.pdf>

58. Gorenstein D. Playing hardball: doctors start negotiating with doctors. *Marketpl Morning Rep.* Published online October 26, 2016. Accessed August 20, 2021.

<https://www.marketplace.org/2016/10/26/playing-hardball-doctors-start-negotiating-doctors/>

59. Barnett ML, McWilliams JM. Changes in Specialty Care Use and Leakage in Medicare Accountable Care Organizations. *Am J Manag Care.* 2018;24(5):e141-e149.

60. Preston JS, Caccavale D, Smith A, Stull LE, Harwood DA, Kayiaros S. Bundled Payments for Care Improvement in the Private Sector: A Win for Everyone. *J Arthroplasty.* 2018;33(8):2362-2367. doi:10.1016/j.arth.2018.03.007

61. Navathe AS, Liao JM, Dykstra SE, et al. Association of Hospital Participation in a Medicare Bundled Payment Program With Volume and Case Mix of Lower Extremity Joint Replacement Episodes. *JAMA.* 2018;320(9):901-910. doi:10.1001/jama.2018.12345

62. Jubelt LE, Goldfeld KS, Blecker SB, et al. Early Lessons on Bundled Payment at an Academic Medical Center. *JAAOS - J Am Acad Orthop Surg.* 2017;25(9):654-663. doi:10.5435/JAAOS-D-16-00626

63. Gray CF, Prieto HA, Duncan AT, Parvataneni HK. Arthroplasty care redesign related to the Comprehensive Care for Joint Replacement model: results at a tertiary academic medical center. *Arthroplasty Today.* 2018;4(2):221-226. doi:10.1016/j.artd.2018.02.002

64. Bolz NJ, Iorio R. Bundled Payments: Our Experience at an Academic Medical Center. *J Arthroplasty.* 2016;31(5):932-935. doi:10.1016/j.arth.2016.01.055

65. Navathe AS, Troxel AB, Liao JM, et al. Cost of Joint Replacement Using Bundled Payment Models. *JAMA Intern Med.* 2017;177(2):214-222. doi:10.1001/jamainternmed.2016.8263

66. Dummit LA, Kahvecioglu D, Marrufo G, et al. Association Between Hospital Participation in a Medicare Bundled Payment Initiative and Payments and Quality Outcomes for Lower Extremity Joint Replacement Episodes. *JAMA.* 2016;316(12):1267-1278. doi:10.1001/jama.2016.12717

67. Finkelstein A, Ji Y, Mahoney N, Skinner J. Mandatory Medicare Bundled Payment Program for Lower Extremity Joint Replacement and Discharge to Institutional Postacute Care: Interim Analysis of the First Year of a 5-Year Randomized Trial. *JAMA.* 2018;320(9):892-900. doi:10.1001/jama.2018.12346

68. Agarwal R, Liao JM, Gupta A, Navathe AS. The Impact Of Bundled Payment On Health Care Spending, Utilization, And Quality: A Systematic Review. *Health Aff (Millwood)*. 2020;39(1):50-57. doi:10.1377/hlthaff.2019.00784
69. Siddiqi A, White PB, Murphy W, Terry D, Murphy SB, Talmo CT. Cost Savings in a Surgeon-Directed BPCI Program for Total Joint Arthroplasty. *Surg Technol Int*. 2018;33:319-325.
70. Bronson WH, Kingery MT, Hutzler L, et al. Lack of Cost Savings for Lumbar Spine Fusions After Bundled Payments for Care Improvement Initiative: A Consequence of Increased Case Complexity. *Spine*. 2019;44(4):298-304. doi:10.1097/BRS.ooooooooooooo2812
71. Martin BI, Lurie JD, Farrokhi FR, McGuire KJ, Mirza SK. Early Effects of Medicare's Bundled Payment for Care Improvement Program for Lumbar Fusion. *Spine*. 2018;43(10):705-711. doi:10.1097/BRS.ooooooooooooo2404
72. Courtney MP, Ashley BS, Hume EL, Kamath AF. Are Bundled Payments a Viable Reimbursement Model for Revision Total Joint Arthroplasty? *Clin Orthop Relat Res*. 2016;474(12):2714-2721. doi:10.1007/s11999-016-4953-6
73. Chen LM, Ryan AM, Shih T, Thumma JR, Dimick JB. Medicare's Acute Care Episode Demonstration: Effects of Bundled Payments on Costs and Quality of Surgical Care. *Health Serv Res*. 2018;53(2):632-648. doi:10.1111/1475-6773.12681
74. Bhatt SP, Wells JM, Iyer AS, et al. Results of a Medicare Bundled Payments for Care Improvement Initiative for Chronic Obstructive Pulmonary Disease Readmissions. *Ann Am Thorac Soc*. 2017;14(5):643-648. doi:10.1513/AnnalsATS.201610-775BC
75. Maddox KEJ, Orav EJ, Zheng J, Epstein AM. Evaluation of Medicare's Bundled Payments Initiative for Medical Conditions. *N Engl J Med*. Published online July 18, 2018. doi:10.1056/NEJMsa1801569



Leonard D. Schaeffer Center
for Health Policy & Economics

The USC-Brookings Schaeffer Initiative for Health Policy is a partnership between the Economic Studies Program at Brookings and the USC Schaeffer Center for Health Policy & Economics and aims to inform the national health care debate with rigorous, evidence-based analysis leading to practical recommendations using the collaborative strengths of USC and Brookings.

Questions about the research? Email communications@brookings.edu.

Be sure to include the title of this paper in your inquiry.

© 2021 The Brookings Institution | 1775 Massachusetts Ave., NW, Washington, DC 20036 | 202.797.6000