

# Physician-Initiated Payment Reform: A New Path Toward Value

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**H**istorically, policy efforts to slow healthcare spending centered on changing the way providers are paid—especially those imposed by payers—have not always been met with enthusiasm by the provider community. Medicare’s mandatory episode-based payment models for cardiac and orthopedic care, for example, met substantial resistance from providers and were ultimately scaled back.<sup>1</sup> Physician groups, including the American Medical Association (AMA), have in turn called for voluntary, physician-led payment innovations as an alternative to top-down payment reform. CMS, in a “New Directions” vision statement for its Center for Medicare and Medicaid Innovation, also highlighted voluntary payment models—including for specialty physicians—as a new focus.<sup>2</sup>

To date, little is known about the appetite of physicians, particularly specialists, to design their own payment models aimed at achieving higher quality at lower cost. Payment innovations by public and private payers have largely focused on the role of primary care physicians and the quality of primary care decisions or outcomes. Specialists thus far have had fewer opportunities to design or implement alternative payment models (APMs) directly pertaining to their scope of practice.<sup>3</sup>

In this paper, we examine the first broad, large-scale effort by providers to design new payment models for their own specialties. We evaluated the payment models submitted to the Physician-Focused Payment Model Technical Advisory Committee (PTAC)—a task force created by the Medicare Access and CHIP Reauthorization Act of 2015 (MACRA). The PTAC reviews payment models submitted by providers and submits recommendations to the secretary of HHS, who may reject, revise, or implement each proposal. The recommendations are structured around 10 PTAC criteria (Table 1).<sup>5</sup>

## First Wave of New Payment Models

As of November 2018, physicians and provider groups submitted 24 of 25 total PTAC proposals,<sup>4</sup> which vary in scope, clinical focus, and economic dimensions. These proposals reflect how providers wish to be paid in a manner that generally departs from pure

## ABSTRACT

**OBJECTIVES:** In the move toward value-based payment, new payment models have largely been designed by payers and focused on the role of primary care providers. We examine a new phase of payment reform wherein providers, mostly specialists, are designing alternative payment models (APMs) for their own practices through a task force, called the Physician-Focused Payment Model Technical Advisory Committee, created by the Medicare Access and CHIP Reauthorization Act of 2015. Although it is a potentially notable shift in payment reform, little is known about the content of these proposals to date.

**STUDY DESIGN:** Qualitative systematic review of physician-focused payment model proposals submitted to CMS.

**METHODS:** We analyzed the first wave of new payment models proposed. For each of the 24 proposals submitted by physicians and physician groups, we assessed the models on their 10 key dimensions and evaluated underlying themes across all or many of the models to gain insights into what providers are looking for in APMs within the constraints of the rules established by the HHS secretary.

**RESULTS:** Key features of the models and our analysis include bearing financial risk, a reliance on case management, embrace of new technologies, and consideration of legal barriers.

**CONCLUSIONS:** We discuss how specialists may help lead in the evolving payment landscape and recommend how these models might be improved. Payers and policy makers could benefit from our findings, which reflect how providers view financial risk in APMs and provide guidance on the types of payment reforms that they may embrace in the journey toward value.

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## TAKEAWAY POINTS

- ▶ In proposals of new payment models to the Physician-Focused Payment Model Technical Advisory Committee, specialists and other providers have indicated that they would be amenable to assuming financial risk.
- ▶ Collectively, the payment models that the providers have designed suggest that many providers see investment in new technologies and increased time spent on case management as strategies to succeed in a value-based framework.
- ▶ Policy makers should critically consider which proposals may slow healthcare spending and should consider how antikickback provisions might hinder the formation of value-based arrangements, as well as how the newly proposed payment models might interact with existing alternative payment models.

Of the 24 proposals, 19 focused on new payment models for specific specialties, including surgery, gastroenterology, pulmonology, nephrology, neurology, oncology, urology, palliative care, interventional cardiology, and emergency medicine. Several key attributes of the proposals are depicted in the [Figure](#).<sup>4,6</sup> A detailed table describing the 24 proposals across all 10 dimensions is included in the [eAppendix](#) (available at [ajmc.com](#)). Although the proposals differed in the patients, providers, and clinical scenarios that they concerned, we observed important common features across the models.

**TABLE 1.** PTAC Criteria for Proposed Physician-Focused Payment Models<sup>4</sup>

Criterion
Scope of payment model <sup>a</sup>
Quality and cost <sup>a</sup>
Payment methodology <sup>a</sup>
Value over volume
Flexibility
Ability to be evaluated
Integration and care coordination
Patient choice
Patient safety
Health information technology

PTAC indicates Physician-Focused Payment Model Technical Advisory Committee.

<sup>a</sup>Indicates a high-priority criterion.

Source: From PTAC proposal submission instructions.<sup>4</sup>

fee-for-service (FFS). Collectively, the submitters are composed of 6 professional societies, 13 provider groups, a state government agency, 2 academic medical centers, a nonprofit association, and an individual physician. In most of these proposals, specialists came forward with new reimbursement models involving financial risk for core services provided by their specialties, which is a stark contrast from the largely primary care–based APMs thus far. Although CMS has not yet launched demonstrations for PTAC proposals, this novel trend and the requests of enterprising providers and their organizations offer insights into possible future directions of payment reform and the challenges that such models may face.

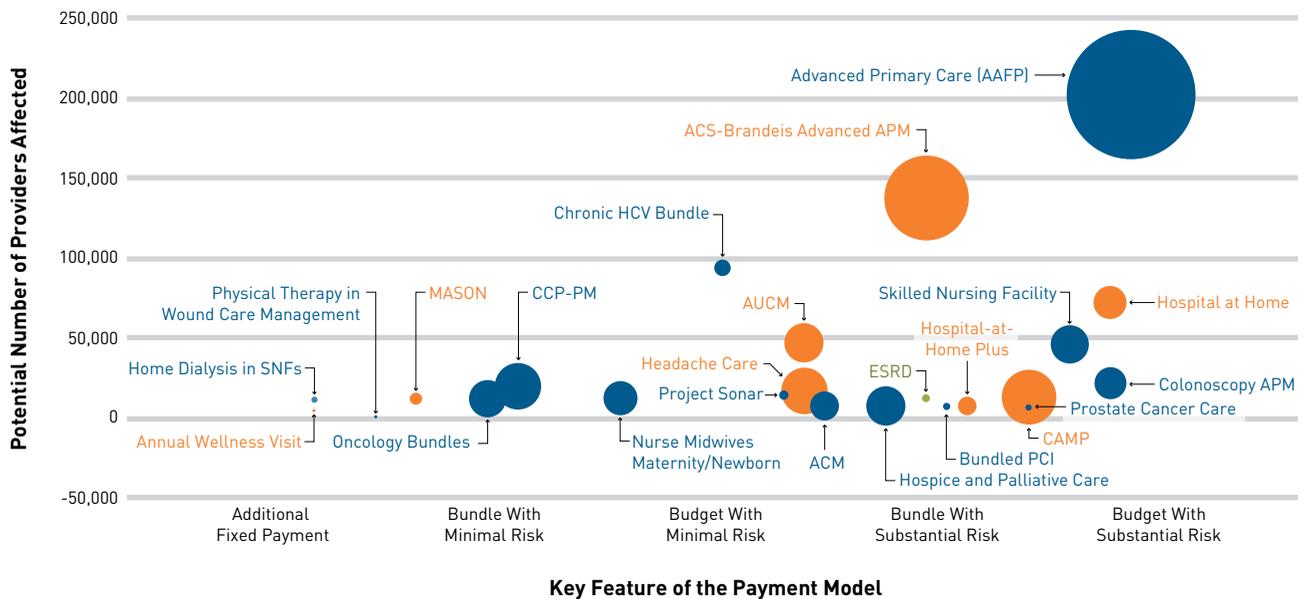
We conducted a systematic review of the 24 physician-focused payment model proposals along 10 dimensions: patient population, population size, physician specialty, specialty size, services covered, payment type, duration of payment coverage, upside financial incentives, downside risk, and technological innovations in care delivery. These were selected to provide a combination of both broad and specialty-specific insights into the types of payment models that physicians are seeking. In addition to proposing novel APMs, the proposals also include requests to change the Medicare fee schedule, along with minor technical changes to payment rules. We excluded 1 proposal submitted by a non–healthcare provider.

### Financial Risk

Given the HHS secretary's criteria to improve value, most of the proposals chose to demonstrate greater value through an arrangement that required the provider to accept some financial risk for costs of care of their patients. The ways that the proposals structured that risk provide insight into the terms that were considered acceptable. In 21 of 24 proposals, provider entities asked for a shared savings and shared losses (ie, "2-sided") payment model wherein physicians are rewarded if spending is below a prospective risk-adjusted payment benchmark and penalized if spending exceeds the benchmark. In addition, providers asked for payment adjustments, including varying degrees of bonuses, based on performance on quality measures. The 21 proposals generally capped financial gains and losses with stop-gain and stop-loss limits that varied from 4% to 20% and were frequently about 8% and 9%.

Most accountable care organizations (ACOs) in Medicare have thus far operated without downside risk. The fact that these specialists are proposing to assume risk suggests a willingness to coordinate care, manage population health, and engage in other activities typically performed by primary care or other allied providers (eg, longitudinal follow-up). Although the submitters are a self-selected group, it is likely that recent experiments with downside risk, through Next Generation ACOs and other advancements in private payer contracts, have provided some level of familiarity with or confidence in such an approach. Another motivator may have been the potential for the providers to achieve "Advanced APM" status under MACRA to earn the 5% bonus while avoiding reporting requirements and payment adjustments under the Merit-based Incentive Payment System (MIPS). Although these models have some degree of risk-bearing, many left important payment details unresolved (eg, how payment adjustments will be calculated or how they will be distributed among providers within the APM), making it difficult to determine how much risk individual providers would bear. A recurring challenge is the trade-off between the technical difficulties of limiting financial risk to disease-specific spending (ie, attributable to the specialist) and the risk of accountability for total costs of care, which is more straightforward to calculate but more difficult to expect a single specialty to manage effectively.

**FIGURE.** Characteristics of Physician-Focused Payment Model Proposals<sup>4,6,a</sup>



AAFP indicates American Academy of Family Physicians; ACM, Advanced Care Model Service Delivery; ACS, American College of Surgeons; APM, advanced payment model; AUCM, Acute Unscheduled Care Model; CAMP, COPD [chronic obstructive pulmonary disease] and Asthma Monitoring Project; CCP-PM, Comprehensive Care Physician Payment Model; ESRD, Incident End-Stage Renal Disease Clinical Episode Payment Model; HCV, hepatitis C virus; MASON, Making Accountable Sustainable Oncology Networks; PCI, Percutaneous Coronary Intervention; PTAC, Physician-Focused Payment Model Technical Advisory Committee; SNF, skilled nursing facility.

<sup>a</sup>The x-axis describes the type of payment model and level of downside financial risk, based in part on the Alternative Payment Model Framework published in 2016 by the Health Care Payment Learning & Action Network, an initiative of HHS. The y-axis is the number of physicians in the United States who are of these specialties, as an estimate of the potential number of providers affected in the United States. The color of the data point indicates the duration of the payment coverage (blue, ≥12 months; green, 6 months; orange, ≤3 months). Finally, the size of the bubble indicates the potential number of patients affected in the United States. For those proposals that did not include estimates of the potential number of providers or patients affected, we estimated the figures based on publicly available data (see the eAppendix Table for figures and citations).

Source: Data from PTAC proposals<sup>4</sup> and Association of American Medical Colleges Physician Specialty Data Report.<sup>6</sup>

The most frequently proposed mechanism for risk-bearing was bundled payments for episodes of specialty care, ranging from surgeries and dialysis to home hospitalizations and hepatitis C treatment. A common challenge among these bundled payment approaches is identifying the triggering event for an episode. For instance, the end-stage renal disease (ESRD) proposal grappled with whether starting dialysis or declining biomarkers of kidney function is the appropriate trigger for the bundle. This is a key issue, as evidence from Medicare’s voluntary bundled payment program for lower extremity joint replacements highlighted the possibility that savings may be offset by an increase in the number of bundles triggered, especially among healthier patients. (However, it should be noted that this concern has not materialized in evaluations to date of the CMS mandatory bundled payment program for lower extremity joint replacements.<sup>7</sup>) CMS should monitor how the design of the triggering event might lead to inappropriate initiation of bundles. Mitigating inappropriate triggering is likely important for its intended purpose of slowing spending. Further, although bundled payments have been shown to reduce spending for surgical episodes like joint replacements, a recent evaluation of Medicare’s bundled payment initiatives for medical conditions

(including congestive heart failure, chronic obstructive pulmonary disease [COPD], sepsis, and acute myocardial infarction) found no significant changes in Medicare payments, length of stay, emergency department use, hospital readmission, or mortality.<sup>8</sup> Policy makers should thus critically assess the cost-saving potential of proposals that bundle services for chronic medical conditions, such as ESRD.

Given the dearth of specialty-based quality measures used by payers today, it is notable that these specialists embraced the HHS secretary’s quality measurement criterion and are willing to subject their payments to quality measures specific to their domain of practice. It is worth noting, however, that many of these specialty-specific quality measures have not been previously implemented on a broad scale. Although expanding quality measurement into specialty care is a meaningful innovation, to the extent that untested measures may be poor markers of improved quality, payment adjustments may not accurately reward specialists for their efforts. Further, given that quality measures play the important role of protecting against underprovision of care (ie, skimping) in the setting of prospective payment contracts, untested quality measures may pose a patient safety risk if they fail to ensure proper care. This concern of skimping is particularly relevant in the case of vulnerable populations,

**TABLE 2.** Selected Case Management Features in New Payment Models Submitted to PTAC<sup>4</sup>

Proposal	Specialty	Case Management	Funding
APM for Prostate Cancer Care <sup>a</sup>	Urology	Active surveillance to prevent acute interventions (radiation, prostatectomy, other therapies) in low-risk patients after initial therapy for prostate cancer	A 2-part payment: \$75 monthly care management fee for initial and subsequent 12-month active surveillance episodes, and a performance-based payment for enhancing utilization of active surveillance relative to a historical period
Incident End-Stage Renal Disease Clinical Episode Payment Model <sup>b</sup>	Nephrology	Upstream patient education; monitoring of need for pre-emptive renal transplant; indirect incentives for nondialysis medical management of patients with short life expectancy and objective evaluation of residual renal function at dialysis initiation	Episode-of-care model with quality metrics and outcomes (eg, catheterization and fistula rates, home dialysis %) determining shared savings payments; bonuses for pre-emptive kidney transplants
Hospice and Palliative Care: Patient and Caregiver Support for Serious Illness <sup>c</sup>	Hospice and palliative care	Nonhospice palliative care services; chronic care management and care coordination; provision of social workers and spiritual health professionals	Tiered monthly care management payments with either payment incentives (tier 1, \$400 base PMPM) or shared savings/risk based on total cost of care (tier 2, \$650 base PMPM); replaces evaluation and management fees

APM indicates alternative payment model; PMPM, per member per month; PTAC, Physician-Focused Payment Model Technical Advisory Committee.

<sup>a</sup>APM for Prostate Cancer Care submitted by the Large Urology Group Practice Association.

<sup>b</sup>Incident End-Stage Renal Disease Clinical Episode Payment Model submitted by Renal Physicians Association.

<sup>c</sup>Hospice and Palliative Care: Patient and Caregiver Support for Serious Illness submitted by the American Academy of Hospice and Palliative Medicine.

Source: Data sourced from PTAC proposals.<sup>4</sup>

who may be harmed by models that, in tying reimbursement to quality, inadvertently encourage physicians to avoid caring for those patients with the greatest medical and social needs.<sup>9</sup> Using evidence from other countries is one approach taken by some proposals to demonstrate the validity of their measures. Experience and learning gained by testing novel quality measures designed by specialists will likely provide valuable evidence for future payment models. Finally, the process of incorporating novel measures might also allow payers to assess the effectiveness of such measures in changing provider behavior.

### Case Management

The proposals also frequently featured case management, often as a key contributor to savings. Twelve of the 24 proposals requested a payment for tasks such as patient monitoring and surveillance. For example, one model<sup>10</sup> proposed payments for population health management of elderly patients with chronic conditions, and another<sup>11</sup> proposed bundled payments for services that would include home visits and follow-up for patients recovering from acute incidents. Today, patient engagement and monitoring—which are often considered valuable and cost-effective—are not typically reimbursed by CMS. For instance, the Government Accountability Office showed in a report<sup>12</sup> that provider groups frequently cite inadequate payment as a significant barrier to the use of telehealth in Medicare. At least half of the proposals advocated for lowering that barrier.

Most of the new models proposed per-member-per-month (PMPM) payments to cover the cost of these services. The COPD and Asthma Monitoring Project (CAMP) proposal,<sup>13</sup> for example, requested a \$175 PMPM fee for remote monitoring of high-risk patients with COPD and asthma, citing studies whose findings suggest that

Medicare will ultimately save money.<sup>14-16</sup> Proposals that featured case management similarly argued for monitoring and surveillance of patients with ESRD,<sup>17</sup> prostate cancer,<sup>18</sup> and inflammatory bowel disease,<sup>19</sup> as well as in other clinical scenarios, such as palliative care.<sup>20</sup> **Table 2<sup>4</sup>** includes selected case management features and proposed funding mechanisms.

These proposals requested that CMS reward them for preventing unnecessary interventions through monitoring and incremental adjustments in care. For the providers, the proposed PMPM payments offset the costs of the time and resources required to engage in these functions. For CMS, these requests present an interesting alternative path toward potential cost control and quality improvement outside the centralized development of APMs. However, PMPM payments involve no risk sharing and are subject to the same FFS-based incentives that policy makers are looking to mitigate.

To enhance the effectiveness of case management, many proposals sought to engage allied professionals, including nurses, social workers, nutritionists, pharmacists, midwives, physical therapists, and others, in care delivery. For instance, the Annual Wellness Visit proposal<sup>21</sup> requested that nurses be allowed to perform Medicare-billable annual wellness visits under physician supervision to increase the capability of understaffed rural health clinics. These providers already play critical roles today, but formalizing their contributions within specialty-based APMs at the request of physicians themselves is a notable development. For example, the Patient-Centered Headache Care Payment proposal,<sup>22</sup> submitted by the American Academy of Neurology, includes a patient care coordinator as part of the Headache Care Team who is responsible for periodic patient follow-up with questionnaires, headache diaries, and referral tracking and management—important tasks that are not currently paid for by Medicare.

An issue that surfaces in the proposals is whether models based on case management services can be effective in smaller group practices with fewer patients and allied providers. These new payment models may encourage provider consolidation, as larger organizations are likely in a better position to manage financial risk and comply with quality reporting and health information technology (IT) requirements. Nonetheless, most of the proposals attempt to address how small practices could participate in the new APMs. Some, such as Project Sonar,<sup>18</sup> propose that small practices form larger purchasing coalitions to contract with shared service providers.<sup>23</sup> The contracted services may include quality and outcomes reporting, IT requirements, and care management, allowing small group and solo providers to engage in these important functions. The proposals indicate that this approach is being piloted in various settings across the country. The proposed models could further encourage participation among small practices by facilitating integration with MIPS—a feature that is often overlooked by models that focus on the Advanced APM track of MACRA—which is otherwise less accessible for small practices. Lastly, proposed models that rely on a specific quality management or accounting system may struggle to engage small practices, as they may face high switching costs for infrastructure and need more flexibility.

Many proposals emphasized care coordination, suggesting that additional revenues through chronic care management codes may not be adequately offsetting practice costs of coordination. However, specialty-based models inherently face challenges in coordinating across a range of specialists caring for a given patient, particularly compared with a primary care–based APM in which an internist or family physician naturally coordinates the care team. This challenge may be exacerbated by the lack of well-accepted standards for what roles specialists should play in cases where specialists and primary care physicians both coordinate care; the potential for disrupting team dynamics and confusing patients is not trivial. Therefore, the proposed models could be improved by more specific delineations of provider roles and responsibilities, particularly with respect to how the patient’s primary care provider fits into the model. Moreover, the models would benefit from clearer guidance on how savings could be shared among members of the care team. Given the lack of precedent, establishing standards for the distribution of responsibilities and incentives across specialties could be a meaningful contribution of PTAC. That said, policy makers should be cautious about the potential of coordination to generate savings, given sparse evidence that care coordination actually lowers spending (although it may improve patient care).<sup>24</sup>

### Technological Innovations

Several groups proposed the implementation of innovative technologies to support care delivery. For example, Project CAMP<sup>12</sup> proposed a smartphone application to track patient-reported symptoms, computerized decision support and “smart alarms” for pulmonologists, and Bluetooth-enabled digital peak flow meters that transmit clinical data to providers in real time. The Home Hospitalization

proposal<sup>25</sup> relies on Bluetooth-enabled medical devices (eg, blood-pressure cuff, pulse oximeter, scale, stethoscope) for biometric data tracking as part of its tablet-based telehealth platform that also features video communication. Selected technological innovations in the proposed models are described in [Table 3](#).<sup>4</sup>

Providers view new technologies as a way to improve patient engagement and increase the value of care. However, a central question remains as to who will pay for such technologies. Five of the proposals requested payments for the use of new technologies. However, CMS does not usually fund start-up costs behind new technologies, especially those not approved by the FDA. HHS, in a recent comment on this matter, indicated that payment models testing proprietary technology, such as Project CAMP’s peak flow meter, will not be pursued.<sup>26</sup> Thus, whether paying for such new technologies will induce investment in telehealth and whether it can save money remain open questions. The risk of underinvestment in technologies that benefit patients through improved monitoring or decision making also continues to exist. To this end, CMS might consider increasing chronic care management fees to account for the technologies needed to manage patients in the digital age. That aside, the proposed models would benefit by considering more creative ways to support new technologies than simply requesting new billing codes. Innovative strategies may include folding the start-up costs into an enhanced bundled payment or sharing risk with the companies that manufacture the technologies, which are approaches taken by a few proposals.

### Legal Considerations

Five of the proposals requested safe harbor designations from Stark laws, suggesting that these laws—which exist at both the federal and state levels and prohibit physicians from making referrals to those with whom a financial relationship exists—may act as unintended barriers to improving value in care delivery. The American Hospital Association advocated in Congressional testimony for exceptions under the antikickback statute to advance new APMs, arguing that the statute’s strict liability penalizes providers seeking to collaborate and create efficiencies.<sup>27</sup> The AMA currently supports a US Senate bill that would allow such exceptions.<sup>28</sup> Most recently, 2 former HHS secretaries called for safe harbor exceptions to Stark laws, which they argue have become roadblocks in the move toward a value-based system by making hospitals reluctant to reward physicians for best practices and causing confusion from inconsistent interpretation.<sup>29</sup> Given that APMs rely on more teamwork among providers across specialties, exemptions from antikickback statutes may facilitate contractual agreements among providers. Whether such relief may be generalized in APMs through federal regulation or whether decisions will be made on a case-by-case basis is unknown. A recent Request for Information from CMS calling for ideas on Stark law reform signals momentum on this issue.<sup>30</sup> However, although safe harbor designations and other waivers of antikickback provisions may facilitate the formation of APMs that span the care continuum, policy makers should continue to

**TABLE 3.** Selected Technological Innovations in New Payment Models Submitted to the PTAC<sup>4</sup>

Proposal	Technological Innovations	Proposed Funding for Technology
ACS-Brandeis Advanced APM <sup>a</sup>	Uses the Episode Groupers for Medicare software to translate administrative claims data into clinically meaningful episodes of care defined by clinical conditions or major procedures	Built into cost of bundle/borne by the APM
COPD and Asthma Monitoring Project (CAMP) <sup>b</sup>	Proposes new technological infrastructure, including mobile application to track member input and better engage participants, computerized decision support, smart alarms, and Bluetooth-enabled digital peak flow meters with software transmitting data	\$200 fee for Bluetooth Peak Flow Meter + \$175/month fee for remote monitoring management; HHS signaled it will deny payment for peak flow meter (proprietary)
Multiprovider, Bundled Payment Model for Chronic Hepatitis C Virus Treatment <sup>c</sup>	Telementoring of primary care providers by specialists and telehealth offerings for patients	Built into \$760 bundled payment/borne by the providers who receive the bundle
Oncology Bundled Payment Program Using CNA-Guided Care <sup>d</sup>	Uses a proprietary system (known as CNA) of coding and classification in which care choices are modulated based on prior outcomes for similar patients; CNA codes standardize diagnoses and workups and help inform treatment lane for each patient	Built into cost of bundle/borne by the APM; concerns raised by PTAC about proprietary nature of Cota software
Project Sonar Gastroenterology <sup>e</sup>	Cloud-based chronic care management platform for IBD, Crohn disease; clinical decision support tools based on evidence-based guidelines; risk assessment of patients and care management algorithms providing predictive analytics	Built into \$70 PMPM care management payments
Home Hospitalization: Acute Care in the Home <sup>f</sup>	Tablet-based telehealth platform; incorporates video communication and biometric data tracking via Bluetooth-enabled peripheral devices (eg, blood pressure cuff, pulse oximeter, scale, stethoscope)	Built into episodic payments per home hospitalization/borne by APM

ACS indicates American College of Surgeons; APM, alternative payment model; COPD, chronic obstructive pulmonary disease; IBD, inflammatory bowel disease; PMPM, per member per month; PTAC, Physician-Focused Payment Model Technical Advisory Committee.

<sup>a</sup>ACS-Brandeis Advanced APM submitted by ACS.

<sup>b</sup>COPD and Asthma Monitoring Project (CAMP) submitted by Pulmonary Medicine Associates.

<sup>c</sup>Multiprovider, Bundled Payment Model for Chronic Hepatitis C Virus Treatment submitted by Bureau of Communicable Disease at New York City Department of Health and Mental Hygiene.

<sup>d</sup>Oncology Bundled Payment Program Using CNA-Guided Care submitted by Hackensack Meridian Health and Cota.

<sup>e</sup>Project Sonar Gastroenterology submitted by the Illinois Gastroenterology Group and SonarMD, LLC.

<sup>f</sup>Home Hospitalization: Acute Care in the Home submitted by Personalized Recovery Care, LLC.

Source: Data sourced from PTAC proposals.<sup>4</sup>

critically assess financial relationships that have the potential to create perverse incentives for overutilization.

### Future Outlook

The Affordable Care Act commenced a move toward value-based payments. In the last decade, new payment models have largely been designed by payers and policy makers and mostly focus on the role of primary care providers. The payment models submitted to the PTAC, in contrast, were designed by providers themselves with an explicit goal of improving the value of care in specialty care settings. Among these are some potentially innovative ideas, such as longitudinal accountability centered on specialty care, more granular measurement of quality using clinical data, care coordination for chronic illness, and novel technology that aids in patient monitoring and communication. These models propose to increase value through financial risk on the costs of care, albeit with limited downside risk. As of November 2018, 13 of these proposals had been recommended for testing or implementation, 5 had not been recommended, and others were still being considered. More than a dozen additional letters of intent have been submitted to the PTAC, indicating continued momentum in this effort. Most of these future proposals will also focus on specialties, such

as radiation oncology, orthopedic surgery, and allergy, asthma, and immunology.<sup>5</sup>

Of note, it is unclear how these proposed models would interact with existing APMs. Many of the proposals overlap clinically with existing models, such as Bundled Payments for Care Improvement models and the Medicare Shared Savings Program (MSSP). This overlap raises 2 issues. First, it may be unclear how to reconcile costs of care when the same patient is included in different models. Second, when participating in parallel programs, evaluation of the impact of each model becomes more challenging methodologically. Some have called for more guidance from CMS on potential interactions and if certain models may take precedence in financial reconciliation or distributions of shared savings or losses.<sup>31</sup> Several models considered this overlap in their APM design. For example, the Comprehensive Care Physician Payment Model indicated how its proposals could be added as supplemental payments or penalties on top of MSSP ACOs.<sup>32</sup> However, most proposals did not address possible model interactions.

### Conclusions

These payment model proposals by healthcare providers offer initial insight into the characteristics of value-based payment

arrangements that specialists in the United States may be willing to accept. In addition, they provide guidance on where physicians may see opportunities to improve the delivery of care. They may help inform the future direction of payment reform—toward more risk for specialties, a focus on case management, and new technologies to improve patient engagement. Many of these models face obstacles, from the reorganization of provider organizations to legal barriers, and pose certain risks that need to be mitigated, including safety concerns around untested quality measures and preservation of some FFS incentives. Regardless, these models suggest that some providers, especially specialists, might support payment reform if it is done in a way that incorporates their input. Ultimately, the road from payment reform to delivery system improvement is lengthy—requiring ingenuity, diligence, and commitment from providers willing to challenge the status quo. This new work by forward-thinking providers to shape payment and accountability for themselves is an important step in this journey. ■

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## REFERENCES

1. CMS, HHS. Medicare program: cancellation of Advancing Care Coordination Through Episode Payment and Cardiac Rehabilitation Incentive payment models; changes to Comprehensive Care for Joint Replacement payment model (CMS-5524-P). *Fed Regist*. 2017;82(1158):39310-39333.
2. Centers for Medicare & Medicaid Services: Innovation Center new direction. CMS website. <https://www.cms.gov/Files/x/newdirection-rfi.pdf>. Accessed November 25, 2017.
3. Bowen A, Burton N, Muhlestein D. Medicare alternative payment models: not every provider has a path forward. Leavitt Partners website. [leavittpartners.com/whitepaper/medicare-alternative-payment-models-not-every-provider-path-forward](https://leavittpartners.com/whitepaper/medicare-alternative-payment-models-not-every-provider-path-forward). Published September 11, 2017. Accessed December 5, 2017.
4. Proposal submissions: Physician-Focused Payment Model Technical Advisory Committee. Office of the Assistant Secretary for Planning and Evaluation website. [aspe.hhs.gov/proposal-submissions-physician-focused-payment-model-technical-advisory-committee](https://aspe.hhs.gov/proposal-submissions-physician-focused-payment-model-technical-advisory-committee). Accessed November 30, 2017.
5. CMS, HHS. Medicare program: Merit-Based Incentive Payment System (MIPS) and Alternative Payment Model (APM) incentive under the physician fee schedule, and criteria for physician-focused payment models. *Fed Regist*. 2016;81(214):77008-77831.
6. 2018 physician specialty data report: executive summary. Association of American Medical Colleges website. [aamc.org/download/492910/data/2018executivesummary.pdf](https://www.aamc.org/download/492910/data/2018executivesummary.pdf). Published 2018. Accessed July 29, 2019.
7. Fisher ES. Medicare's bundled payment program for joint replacement: promise and peril? *JAMA*. 2016;316(12):1262-1264. doi: 10.1001/jama.2016.12525.
8. Joynt Maddox KE, Orav EJ, Zheng J, Epstein AM. Evaluation of Medicare's bundled payments initiative for medical conditions. *N Engl J Med*. 2018;379(3):260-269. doi: 10.1056/NEJMsa1801569.
9. Joynt Maddox KE. Financial incentives and vulnerable populations—will alternative payment models help or hurt? *N Engl J Med*. 2018;378(11):977-979. doi: 10.1056/NEJMp1715455.
10. Coalition to Transform Advanced Care. Advanced Care Model (ACM) service delivery and advanced alternative payment model. Office of the Assistant Secretary for Planning and Evaluation website. [aspe.hhs.gov/system/files/pdf/255906/ProposaACMCTAC.pdf](https://aspe.hhs.gov/system/files/pdf/255906/ProposaACMCTAC.pdf). Published February 7, 2017. Accessed November 30, 2017.
11. Icahn School of Medicine at Mount Sinai. "HaH Plus" (Hospital at Home Plus): provider-focused payment model. Office of the Assistant Secretary for Planning and Evaluation website. [aspe.hhs.gov/system/files/pdf/255906/HaHPlusProviderFocusedPaymentModel.pdf](https://aspe.hhs.gov/system/files/pdf/255906/HaHPlusProviderFocusedPaymentModel.pdf). Published May 2, 2017. Accessed November 30, 2017.
12. Telehealth and remote patient monitoring use in Medicare and selected federal programs. Government Accountability Office website. [gao.gov/assets/690/684115.pdf](https://www.gao.gov/assets/690/684115.pdf). Published April 2017. Accessed November 30, 2017.
13. Pulmonary Medicine, Infectious Disease and Critical Care Consultants Medical Group Inc. The COPD and Asthma Monitoring Project (CAMP). Office of the Assistant Secretary for Planning and Evaluation website. [aspe.hhs.gov/system/files/pdf/253406/TheCOPDandAsthmaMonitoringProject-PMA.pdf](https://aspe.hhs.gov/system/files/pdf/253406/TheCOPDandAsthmaMonitoringProject-PMA.pdf). Published December 6, 2016. Accessed November 30, 2017.
14. Ho TW, Huang CT, Chiu HC, et al; HINT Study Group. Effectiveness of telemonitoring in patients with chronic obstructive pulmonary disease in Taiwan: a randomized controlled trial. *Sci Rep*. 2016;6:23797. doi: 10.1038/srep23797.
15. Segrelles Catvo G, Gómez-Suárez C, Soriano JB, et al. A home telehealth program for patients with severe COPD: the PROMETE study. *Respir Med*. 2014;108(3):453-462. doi: 10.1016/j.rmed.2013.12.003.
16. Achelrod D, Schreyögg J, Stargardt T. Health-economic evaluation of home telemonitoring for COPD in Germany: evidence from a large population-based cohort. *Eur J Health Econ*. 2017;18(7):869-882. doi: 10.1007/s10198-016-0834-x.
17. Renal Physicians Association. Incident ESRD clinical episode payment model. Office of the Assistant Secretary for Planning and Evaluation website. [aspe.hhs.gov/system/files/pdf/255906/IncidentESRDClinicalEpisodePaymentModel.pdf](https://aspe.hhs.gov/system/files/pdf/255906/IncidentESRDClinicalEpisodePaymentModel.pdf). Published May 25, 2017. Accessed November 30, 2017.
18. Large Urology Group Practice Association. LUGPA APM for initial therapy of newly diagnosed patients with organ-confined prostate cancer. Office of the Assistant Secretary for Planning and Evaluation website. [aspe.hhs.gov/system/files/pdf/255906/LUGPAAPM.pdf](https://aspe.hhs.gov/system/files/pdf/255906/LUGPAAPM.pdf). Published July 5, 2017. Accessed November 30, 2017.
19. Illinois Gastroenterology Group; SonarMD, LLC. Project Sonar. Office of the Assistant Secretary for Planning and Evaluation website. [aspe.hhs.gov/system/files/pdf/253406/ProjectSonarSonarMD.pdf](https://aspe.hhs.gov/system/files/pdf/253406/ProjectSonarSonarMD.pdf). Published December 21, 2016. Accessed November 30, 2017.
20. American Academy of Hospice and Palliative Medicine. Patient and Caregiver Support for Serious Illness. Office of the Assistant Secretary for Planning and Evaluation website. [aspe.hhs.gov/system/files/pdf/255906/ProposaAAHPM.pdf](https://aspe.hhs.gov/system/files/pdf/255906/ProposaAAHPM.pdf). Published August 15, 2017. Accessed November 30, 2017.
21. Mercy Accountable Care Organization. Annual Wellness Visit billing at rural health clinics. Office of the Assistant Secretary for Planning and Evaluation website. [aspe.hhs.gov/system/files/pdf/255906/ProposaMercyACO.pdf](https://aspe.hhs.gov/system/files/pdf/255906/ProposaMercyACO.pdf). Published August 14, 2017. Accessed November 30, 2017.
22. American Academy of Neurology. Patient-Centered Headache Care Payment: an alternative payment model for patient-centered headache care. Office of the Assistant Secretary for Planning and Evaluation website. [aspe.hhs.gov/system/files/pdf/255906/ProposaAAN.pdf](https://aspe.hhs.gov/system/files/pdf/255906/ProposaAAN.pdf). Published October 12, 2017. Accessed November 30, 2017.
23. Khullar D, Burke GC, Casalino LP. Can small physician practices survive? sharing services as a path to viability. *JAMA*. 2018;319(13):1321-1322. doi: 10.1001/jama.2017.21704.
24. McWilliams JM. Cost containment and the tale of care coordination. *N Engl J Med*. 2016;375(23):2218-2220. doi: 10.1056/NEJMp1610821.
25. Personalized Recovery Care, LLC. Home hospitalization: an alternative payment model for delivering acute care in the home. Office of the Assistant Secretary for Planning and Evaluation website. [aspe.hhs.gov/system/files/pdf/255906/ProposalPersonalizedRecoveryCare.pdf](https://aspe.hhs.gov/system/files/pdf/255906/ProposalPersonalizedRecoveryCare.pdf). Published October 27, 2017. Accessed November 31, 2017.
26. Price TE. Letter to Pulmonary Medicine, Infectious Disease and Critical Care Consultants Medical Group, Inc. Office of the Assistant Secretary for Planning and Evaluation website. [aspe.hhs.gov/system/files/pdf/257541/PTACPMACOPD.pdf](https://aspe.hhs.gov/system/files/pdf/257541/PTACPMACOPD.pdf). Published September 7, 2017. Accessed January 2, 2018.
27. AHA comments to House Ways and Means Committee on improving the physician self-referral (Stark) law. American Hospital Association website. [aha.org/letter/2016-01-29-aha-comments-house-ways-and-means-committee-improving-physician-self-referral](https://www.aha.org/letter/2016-01-29-aha-comments-house-ways-and-means-committee-improving-physician-self-referral). Published January 29, 2016. Accessed November 30, 2017.
28. Medicare Care Coordination Improvement Act of 2017, S 2051, 115th Cong. 1st Sess [2017].
29. Sebelius K, Thompson TG. Overcoming health-care challenges by moving from volume to value. The Hill website. [thehill.com/opinion/healthcare/397433-overcoming-health-care-challenges-by-moving-from-volume-to-value](https://www.thehill.com/opinion/healthcare/397433-overcoming-health-care-challenges-by-moving-from-volume-to-value). Published July 17, 2018. Accessed July 20, 2018.
30. CMS seeks public input on reducing the regulatory burdens of the Stark Law [news release]. Baltimore, MD: CMS; June 20, 2018. [cms.gov/newsroom/press-releases/cms-seeks-public-input-reducing-regulatory-burdens-stark-law](https://www.cms.gov/newsroom/press-releases/cms-seeks-public-input-reducing-regulatory-burdens-stark-law). Accessed November 30, 2018.
31. Kocot SL, White R, McCutcheon T. What is PTAC's role in fostering the development of APMs? *Health Affairs Blog* website. [healthaffairs.org/doi/10.1377/hblog20180323.888191/full](https://www.healthaffairs.org/doi/10.1377/hblog20180323.888191/full). Published March 26, 2018. Accessed July 20, 2018.
32. University of Chicago Medicine. The Comprehensive Care Physician Payment Model (CCP-PM). Office of the Assistant Secretary for Planning and Evaluation website. [aspe.hhs.gov/system/files/pdf/255906/ProposaUniversityofChicagoMedicine.pdf](https://aspe.hhs.gov/system/files/pdf/255906/ProposaUniversityofChicagoMedicine.pdf). Published March 1, 2018. Accessed June 12, 2018.

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**eAppendix Table. Key Characteristics of New Payment Models Submitted to the PTAC**

Proposal	Type(s) of Patients	Potential Number of Patients Impacted	Type(s) of Providers	Potential Number of Providers Impacted	Type of Services	Extent of Prospective Payment	Duration of Payment Coverage	Upside Gains	Downside Risk	Innovations
<b>ACS-Brandeis Advanced APM (submitted by American College of Surgeons)</b>	All time-limited procedures	13 million procedural episodes/year	General surgeons and surgical subspecialties	135,854 active surgeons <sup>1</sup>	54 procedural episodes in 10 clinical areas	Retrospective episode grouper; bundle of bundles (clustered episodes within APM); risk adjusted cost targets; shared savings/losses at entity, not physician, level	Performance period based on contract	Tiered quality model that creates a minimum floor for receiving shared saving; higher shared saving for those who demonstrate superior quality; capped at 15-20%	Limit to loss repayment negotiated in contract, capped at 8% below target price; stop-loss provisions and outlier protections	Episode Grouper for Medicare software - translates administrative claims data into clinically meaningful episodes of care defined by clinical conditions or major procedures
<b>Advanced Primary Care (submitted by American Academy of Family Physicians)</b>	Medicare beneficiaries	>30 million Medicare patients	Primary Care Practices	200,000 primary care physicians	Ambulatory, office-based, face-to-face evaluation and management (E/M) services	Prospective, risk-adjusted, primary care global payment (PMPM) for direct patient care + FFS for excluded services + a population-based payment	Mostly PMPM, some quarterly payments; performance period=1 year	Quarterly performance-based (quality & cost) incentive payments	Many services will be capitated through the global and population-based payments; loss of incentive payments	
<b>Annual Wellness Visit (AWV) Billing at Rural Health Clinics (RHC) (submitted by Mercy ACO)</b>	Medicare beneficiaries	16,000 Medicare beneficiaries in Mercy ACO	Primary care practitioners; expanding capabilities to nurses	37 RHCs with 152 PCPs, NPs, and PAs, and 500 RNs in Mercy ACO; 4,177 RHCs nationwide	Annual Wellness Visit and additional services	Allowing two all-inclusive rate payments for services performed the same day	N/A	Increased reimbursement for rural clinics	N/A	Allowing nurses under MD supervision to do annual wellness visits
<b>Colonoscopy AAPM for Colorectal Cancer Screening, Diagnosis, and Surveillance (submitted by Digestive Health Network)</b>	Medicare beneficiaries	1.81 million Medicare patients	Any physician that performs colonoscopies	11,500 gastroenterologists, 3,500 colorectal surgeons, 6,000 endoscopic surgeons, 18,000 general surgeons, 35,000 anesthesiologists, 35,000 nurse anesthetists, 18,000 pathologists, 209,000 PCPs	Colonoscopy, anesthesia, moderate sedation, pathology, radiology, and evaluation and management services	Prospective episode-based model w/retrospective reconciliation	1 year episode framework	Fixed, prospective payments	Downside payment adjustments for failures to meet quality benchmarks; stop-loss premium for ED visits within 7 days of endoscopic procedure	Moving colonoscopy services from HOPDs to ambulatory surgical centers; 24/7 access to clinical staff; public reporting of quality measures
<b>COPD and Asthma Monitoring (CAMP) Project (submitted by Pulmonary Medicine Associates)</b>	Medicare Beneficiaries with COPD/Asthma	3,757,478 Medicare beneficiaries with COPD and 1,715,074 Medicare beneficiaries with asthma	Pulmonologists monitoring asthma/COPD	12,392 practicing pulmonologists <sup>2</sup>	Continuous, interactive remote monitoring of Medicare patients with COPD and Asthma	New fees for peak flow meter and a PMPM fee for remote monitoring management; 2-tailed risk sharing model	Monthly fees; annual cost totals & risk pool targets	Spending reductions beyond 6% become profit up until a 20% cap	20% cap on liability	New technological infrastructure: smartphone app to track member input and better engage participants, computerized decision support, smart alarms, Bluetooth-enabled digital peak flow meters w/software transmitting data, web-based education courses

<b>End Stage Renal Disease Clinical Episode Payment Model (submitted by Renal Physicians Association)</b>	Patients with ESRD requiring transition to dialysis therapies	120,688 new ESRD cases per year	Nephrologists and internal medicine physicians	10,883 active nephrologists <sup>3</sup>	Dialysis care and transplants	Episode-of-care model	First 6 months of dialysis therapy	Quality metrics and outcomes determine shared savings payments; bonuses for pre-emptive kidney transplants	Losses start at 4% above target and are capped at 8% of average Part B revenue for attributed patient	Meant to promote better upstream patient education, financial incentives for pre-emptive renal transplant, indirect incentives for non-dialysis, medical management of patients with short life-expectancy and objective evaluation of residual renal function at dialysis initiation
<b>Multi-provider, Bundled Payment Model for Chronic Hepatitis C Virus (HCV) Treatment (submitted by Bureau of Communicable Disease at New York City Department of Health and Mental Hygiene)</b>	Medicare patients with HCV infection	4 million patients with chronic HCV infection; 481,185 in Medicare population	Physicians at hospital-based outpatient clinics, ID specialists, gastroenterologists, PCPs	71,000 practicing PCPs <sup>4</sup> , 7952 ID specialists, 13,626 gastroenterologists <sup>5</sup>	Physician time spent conferencing with care coordinators and other physicians, specialist time spent conducting tele-mentoring sessions and coordination services (medications, psychosocial issues, counseling)	Bundled payment (\$760/episode) tied to risk and quality metrics	Varies around a 10-month standard	Shared savings bonus payments for meeting benchmarks	Potential for moderate losses on bundle	Tele-mentoring of PCPs by specialists, and telehealth offerings for patients
<b>Hospice and Palliative Care: Patient and Caregiver Support for Serious Illness (submitted by the American Academy of Hospice and Palliative Medicine)</b>	Non-hospice patients with serious illness or multiple chronic conditions	2.75 million Medicare beneficiaries who could benefit from palliative care	Palliative care teams	7,054 physicians certified in hospice and palliative medicine <sup>6</sup>	Non-hospice palliative care services	Tiered monthly care management payments with either payment incentives or shared savings/risk based on total cost of care	1-year episode framework; replaces evaluation and management fees	Quality and spending metrics determine bonus or penalty, up to +/-4% of total care management fees for the year	Quality and spending metrics determine bonus or penalty, up to +/-4% of total care management fees for the year	Palliative care teams can include non-billing clinicians like nurses, social work, spiritual care professionals who are otherwise not paid by Medicare
<b>Hospital at Home Plus (HaH-Plus) (submitted by Icahn School of Medicine at Mount Sinai)</b>	Beneficiaries with selected acute illnesses and acuity levels who would otherwise be hospitalized	575,000 Medicare discharges could occur as HaH Plus episodes annually	For providers furnishing acute hospital-level services that are beyond the current scope and intensity of Medicare skilled home health care services and physician home visits	7,000 physicians	Home visits, 24/7 coverage, hospital-level post-acute care	New DRG-like Hospital at Home Plus payment to substitute for the acute inpatient payment to the hospital and attending MD	Bundled payment for acute episode + an additional 30 days of transition services	Performance-based payment linked to the total Medicare spend for the entire HaH-Plus episode and the APM entity's performance on quality metrics; can earn up to 100% of the difference between benchmark and actual cost up to a cap at 10% of benchmark	Entity is liable up to 100% of the losses up to a cap of 10% of the benchmark, depending on quality metrics attained	

<b>Bundled Payment for Low-risk Maternity/New born Care by Midwife-led Birth Centers (submitted by Minnesota Birth Center)</b>	Low risk mother/baby pairs in nonhospital settings i.e. birth centers	250-300 pregnant mothers per year in MN on Medicare; 2 million mothers per year on Medicare	Certified nurse midwives are primary providers, collaborate with OB/GYN medical director	11,826 certified nurse midwives <sup>7</sup>	Maternity and newborn care	Single perinatal bundled payment	Episode = 9 months of pregnancy plus 8 weeks postpartum	Based on bundle and performance metrics	Based on bundle and performance metrics	
<b>Oncology Bundles Payment w/CNA-guided care (submitted by Hackensack Meridian Health and Cota)</b>	Medicare patients with breast, colon, rectal or lung cancer	3000 new cases with these cancers per year in the health system that submitted the proposal; 9000 patients at scale; ~2.5 million Medicare patients with cancer <sup>8</sup>	Oncologists	143 oncologists in the health system that submitted the proposal; 11500 oncologists in the US <sup>9</sup>	Diagnostics, imaging, surgery, chemotherapy, physician visits – including follow up care, comorbidity management and routine care management	Prospective bundle payment determined by CNA codes - proprietary, data-driven method of "bundle building"	12 months of treatment	Performance metrics determine bonus payments	No downside risk for physicians	CNA=a system of coding and classification in which care choices are modulated based on prior outcomes for similar patients; CNA codes standardize diagnoses and workups and help inform treatment lane for each patient
<b>Advanced Care Model (ACM) Service Delivery (submitted by the Coalition to Transform Advanced Care)</b>	Advanced illness population in last year of life (complex criteria to determine eligibility)	1.5 million Medicare beneficiaries	Interdisciplinary care team including palliative care specialists	7,054 physicians certified in hospice and palliative medicine <sup>6</sup>	Population health management for advanced illness population in last year of life	Non-tiered PMPM (\$400); replaced palliative care provider FFS payment	12 months but can be extended if patient lives longer	Upside bonus for quality (funded by shared savings) based on metrics and spending targets; capped at \$250 monthly	Downside risk for total cost of care; loss capped at \$150 monthly	
<b>Project Sonar Gastroenterology (submitted by the Illinois Gastroenterology Group and SonarMD, LLC)</b>	Patients with inflammatory bowel disease	145,000 Medicare patients with inflammatory bowel disease	Gastroenterologists and nurse care managers	13,626 gastroenterologists in the US <sup>5</sup>	Deployment of care management and tech infrastructure; each patient is engaged monthly and on an ongoing basis; need for intervention is computationally predicted	Prospective payment with retrospective reconciliation	1-year, monthly PMPM payments	Quality and financial performance determine payment adjustments, bonus capped at 10%	Loss repayment up to a limit in contract with CMS; stop-loss provisions and outlier protections; penalties under performance based payment adjustments capped at 5%	Cloud-based chronic care management platform for IBD, Crohn's Disease; clinical decision support tools based on evidence-based guidelines; risk assessment of patients and care management algorithms providing predictive analytics; web-based communication platform

<b>APM for Prostate Cancer Care (submitted by the Large Urology Group Practice Association)</b>	Newly diagnosed prostate cancer patients with localized disease	63,000 new diagnoses of localized prostate cancer per year in Medicare population	Urologists	6,000 urologists	Initial therapy beginning with prostate biopsy and diagnosis and active surveillance to prevent acute interventions (radiation, prostatectomy, other therapies) in low-risk patients	2-part payment: \$75 monthly care management fee for initial and subsequent 12-month active surveillance episodes, a performance-based payment for enhancing utilization of active surveillance relative to a historical period	12-month episodes of care	Can earn up to 100% of savings (actual costs < benchmarks) up to 20% stop-gain limit	Entities whose costs exceed benchmarks must pay back up to 125% of the difference up to the 20% stop-loss limit	
<b>Intensive Care Management in Skilled Nursing Facility (SNF) (submitted by Avera Health)</b>	Nursing facility residents	2,519,140 stays in skilled nursing facilities (Medicare service use) <sup>10</sup>	Geriatrician-led care teams	45,070 physicians billing Medicare in a skilled nursing facility <sup>11</sup>	Telemedicine (24/7), care management, care transitions, training of long term care staff	One-time payment (\$252) for new admission care and a PMPM (\$55) payment for post-admission care; performance-based payment or shared savings	3-year periods; for the bundle track, the payment covers the entire LTC stay plus 30-day post-discharge period	Bonuses based on quality score, or shared savings based on a bundle capped at 10% of bundle	Shared losses in bundle track	
<b>Patient-Centered Headache Care Payment (submitted by American Academy of Neurology)</b>	Medicare beneficiaries that suffer migraines/severe headaches	6-7% of Medicare-eligible adults (3.5 million patient visits and 2 million ED visits for headaches)	Neurologists, PCPs, and headache specialists	16,366 neurologists in the US <sup>12</sup>	3 categories: diagnosis and initial treatment; continued care and management for well-controlled and for poorly controlled headaches	Fixed and add-on payments; optional bundled payments; replaces E&M payments for headaches	3 months one-time payment for diagnosis and initial treatment; monthly payments for 6 months for difficult-to-manage headaches; add-on monthly payments for a year for monitoring/management of well-controlled headaches	Payment adjustment starting in year 3 based on performance on quality/utilization metrics; starting at +/- 4% and growing to +/-9%	Payment adjustment starting in year 3 based on performance on quality/utilization metrics; starting at +/- 4% and growing to +/- 9%	Headache Care Team includes primary care physicians and additional health care team members such as a patient care coordinator, nutritionist, physical therapist, mental health provider, or pharmacist; tele-neurology
<b>Acute Unscheduled Care Model (AUCM): Enhancing Appropriate Admissions (submitted by American Academy of Emergency Physicians)</b>	Medicare FFS beneficiaries visiting ED who were not admitted for an acute care stay within 90 days prior to the ED visit	2,868,750 ED visits by Medicare FFS beneficiaries <sup>13</sup>	Emergency physicians and other ED providers	48,000 EM physicians; ~46,000 ED providers with enough volume to participate in AUCM	ED acute care transition services, telehealth services, and post-discharge home visits; goal is to avoid initial admissions while ensuring safe discharge and coordinating post-discharge follow-up	Retrospective payment adjustment	ED visit and 30 day post-discharge period	Composite quality score and patient safety metrics form baseline for shared savings, granted if target reduction rates in admissions or spending on post-discharge events meet or exceed targets	Downside risk (up to 8%) begins in year 3; may have to repay CMS for episode spending exceeding target price	Telehealth; first proposed avenue for emergency physicians to participate in Advanced APMs

<b>Home Hospitalization: Acute Care in the Home (submitted by Personalized Recovery Care, LLC)</b>	Medicare beneficiaries who require hospital-level care but can receive it at home	8% of hospitalizations in a medical-only model, 24% of hospitalizations in a Medical and Surgical model, and nearly 30%-50% in a model at-scale = 1,989,000 patients <sup>14</sup>	Internal medicine, cardiology, pulmonology, nephrology, rheumatology, orthopedics	71,000 practicing PCPs (coordinators of specialist care) <sup>4</sup>	Hospital-level care at home and related transitional services (including hospitalizations)	Modified episodic payment (retrospective bundled payment) including risk payment based on quality and per episode payment for home hospitalization	30 day episode of care	Up to 20% shared savings	Full risk related to the admitting condition for a period of 30 days, including readmissions; 10% cap	Telehealth platform (tablet-based) that incorporates video communication and biometric data tracking via Bluetooth-enabled peripheral devices, such as a blood-pressure cuff, pulse oximeter, scale, and stethoscope
<b>Wound Care in Private Outpatient Therapy Clinics with Physical or Occupational Therapy (submitted by BenchMark Rehab Partners)</b>	Patients whose primary referral is for wound care	Full program would touch 9,200 Medicare recipients per year for a total of 18,400 patients	Physical and occupational therapists	200 physical and occupational therapists operating in private, free-standing outpatient clinics nationwide	Wound care management	Fixed payment (\$250) for participation in program and reporting of data (research goal)	2 year trial and data gathering period (quarterly data reporting)	Clinician must prove wound healing, functional improvement, and control supplies to avoid refunding claim to Medicare	Must repay fixed payment if failure to demonstrate minimal clinical difference in any reported outcomes	
<b>Making Accountable Sustainable Oncology Networks (submitted by Innovative Oncology Business Solutions)</b>	Patients with cancer diagnoses	Initially limited to National Cancer Care Alliance oncology practices, which manage 250,000 cancer patients	Oncologists	11,500 oncologists if scaled nationally	Cancer care including physician visits, imaging, lab, radiation therapy, surgery, infusion, hospital outpatient care, inpatient care, medical home infrastructure, but not drugs	FFS payments for most services plus medical home payments and facility fees for infusions	Reconciliation happens every month; six months of experience needed to gather enough data	Shared savings based on total cost compared to target cost determined by Oncology Payment Category (OPC) for patient	2% quality pool, must return to CMS if quality metrics are not met	Cognitive Computing Platform that codifies evidence-based triage, diagnostic, and therapeutic pathways based on the patient; Data Science Processes that correlate Medicare claims with EHR data; mobile treatment plan app
<b>Comprehensive Care Physician Payment Model (submitted by University of Chicago Medicine)</b>	Medicare Part A and B patients who have been hospitalized in the last year (proxy for increased risk)	3.83 million eligible patients if scaled nationally (10% of traditional Medicare population)	Any primary care physician willing to provide both inpatient and outpatient care	19,150 clinicians if scaled nationally	Inpatient and outpatient care	Care continuity fee (PMPM payment) for participating physicians who meet benchmarks for providing their patients with both inpatient and outpatient care	Monthly bonuses, payable at end of each year	\$40 per new and renewed enrolled patient per month and \$10 per continued enrolled patient per month	\$10 penalty per enrolled patient per month if % provision of inpatient or outpatient care for panel falls below benchmarks	
<b>APM for Improved Quality and Cost in Providing Home Hemodialysis to Geriatric Patients Residing in Skilled Nursing Facilities (submitted by Dialyze Direct)</b>	Patients with ESRD dependent on dialysis who also reside in skilled nursing facilities	72,000 patients	Nephrologists	10,883 active nephrologists	Dialysis and associated ESRD-related care	Standard home dialysis physician payment model (~\$268 per month) with two novel incentive payments; based	Episode encompasses the time a patient resides in a SNF	1) One-time bonus payment for patient-education related to the proposed model of care (\$500), and 2) cost-sharing payment related to obviating certain transportation costs by providing on-site medical evaluation wherein 90% of savings are shared with provider	No downside risk	Repurposing a mode of dialysis technology (MFD) that is shorter, gentler, and more frequent (5x per week) for use in the home

<b>An Innovative Model for Primary Care Office Payment (submitted by an individual physician)</b>	Medicare patients	5000 Medicare patients for trial; 30 million patients at scale	Primary Care Physicians	200,000 primary care physicians	Primary Care	Capitated payment for outpatient services of \$60 PMPM for low and medium risk patients and \$90 PMPM for high risk patients	Monthly payments	100% of savings go to provider (capitated model)	Capitation-based risk	
<b>Bundled PCI Services in a Non-hospital Cath Lab (submitted by Clearwater Cardiovascular Consultants)</b>	Medicare patients needing percutaneous coronary intervention	90,000 patients	Interventional cardiologists	6,600 interventional cardiologists <sup>15</sup>	Outpatient percutaneous coronary intervention (PCI) services in a non-hospital outpatient cath lab	Bundled payments; global bundled price (physician professional & facility fees) of \$10,000 for single vessel PCI w/drug eluting stent & \$14,000 for two-vessel PCI w/drug eluting stent	Procedure + 90-day post-procedure costs	100% of savings if bundled payment exceeds costs	Bundle-based risk + 20% 90-Day Episode Risk Sharing (similar to BPCI Advanced Outpatient PCI)	

**Abbreviations:** PMPM = per member per month, ED = Emergency Department, FFS = fee for service, APM = Alternative Payment Model, ACO = Accountable Care Organization, PCP = primary care provider, NP = nurse practitioner, PA = physician assistant, MD = physician, RN = nurse, ID = infectious disease, US = United States

<sup>1</sup> American College of Surgeons. The Surgical Workforce in the United States: Profile and Recent Trends. April 2010. Accessed at <[http://www.acshpri.org/documents/ACSHPRI\\_Surgical\\_Workforce\\_in\\_US\\_apr2010.pdf](http://www.acshpri.org/documents/ACSHPRI_Surgical_Workforce_in_US_apr2010.pdf)>.

<sup>2</sup> Croft JB, Lu H, Zhang X, Holt JB. Geographic Accessibility of Pulmonologists for Adults With COPD: United States, 2013. *Chest*. 2016;150(3):544-553.

<sup>3</sup> Salsberg E, Quigley L, Mehfood N, Masselink L, Collins A. The US Adult Nephrology Workforce 2016. The American Society of Nephrology. Available at <[https://www.asn-online.org/education/training/workforce/Nephrology\\_Workforce\\_Study\\_Report\\_2016.pdf](https://www.asn-online.org/education/training/workforce/Nephrology_Workforce_Study_Report_2016.pdf)>.

<sup>4</sup> Agency for Healthcare Research and Quality. The Number of Practicing Primary Care Physicians in the United States. Department of Health and Human Services. Available at <<https://www.ahrq.gov/research/findings/factsheets/primary/pcwork1/index.html>>.

<sup>5</sup> Center for Workforce Studies. Physician Specialty Data Book. Association of American Medical Colleges. Available at <<https://members.aamc.org/eweb/upload/Physician%20Specialty%20Databook%202014.pdf>>.

<sup>6</sup> American Academy of Hospice and Palliative Medicine. Number of Certified Hospice and Palliative Medicine Physicians by Cosponsoring Specialty Board. Available at <<http://aahpm.org/hpm/number-certified>>.

<sup>7</sup> American College of Nurse-Midwives. Essential Facts about Midwives. Available at <<http://www.midwife.org/Essential-Facts-about-Midwives>>.

<sup>8</sup> Lochner K, Cox C, Bartee S, Wheatcroft G, Krometis J. Chronic Conditions Among Medicare Beneficiaries. The Centers for Medicare and Medicaid Services. 2012. Available at <<https://www.cms.gov/research-statistics-data-and-systems/statistics-trends-and-reports/chronic-conditions/downloads/2012chartbook.pdf>>.

<sup>9</sup> American Society of Clinical Oncology. The State of Cancer Care in America, 2015. Available at <<http://ascopubs.org/doi/full/10.1200/jop.2015.003772>>.

<sup>10</sup> Kaiser Family Foundation. Medicare Service Use: Skilled Nursing Facilities. Available at <<https://www.kff.org/medicare/state-indicator/skilled-nursing-facilities/?currentTimeframe=0&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D>>.

<sup>11</sup> Teno JM, Gozalo PL, Trivedi AN, Mitchell SL, Bunker JN, Mor V. Temporal Trends in the Numbers of Skilled Nursing Facility Specialists From 2007 Through 2014. *JAMA Intern Med*. 2017;177(9):1376-1378.

<sup>12</sup> Dall TM, Storm MV, Chakrabarti R, et al. Supply and demand analysis of the current and future US neurology workforce. *Neurology*. 2013;81(5):470-478.

<sup>13</sup> Jiang HJ, Weiss AJ, Barrett ML. Characteristics of Emergency Department Visits for Super-Utilizers by Payer, 2014. Healthcare Cost and Utilization Project, Agency for Healthcare and Research Quality. February 2017. Available at <<https://www.hcup-us.ahrq.gov/reports/statbriefs/sb221-Super-Utilizer-ED-Visits-Payer-2014.pdf>>.

<sup>14</sup> Centers for Medicare and Medicaid Services. 2016 CMS Statistics. Available at <[https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/CMS-Statistics-Reference-Booklet/Downloads/2016\\_CMS\\_Stats.pdf](https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/CMS-Statistics-Reference-Booklet/Downloads/2016_CMS_Stats.pdf)>.

<sup>15</sup> Bass TA. Interventional Cardiology US Workforce: Current Challenges. *Circulation: Cardiovascular Interventions*. 2014;7(6): 733-735.