

**Second Supplement to the Environmental Scan on Issues Related to
the Development of Population-Based Total Cost of Care (TCOC)
Models in the Broader Context of Alternative Payment Models (APMs)
and Physician-Focused Payment Models (PFPMs),
September 13, 2022**

The Office of the Assistant Secretary for Planning and Evaluation (ASPE) requested the development of the [*Environmental Scan on Issues Related to the Development of Population-Based Total Cost of Care \(TCOC\) Models in the Broader Context of Alternative Payment Models \(APMs\) and Physician-Focused Payment Models \(PFPMs\)*](#) to assist the Physician-Focused Payment Model Technical Advisory Committee (PTAC) in preparing for a series of theme-based discussions on the role that population-based TCOC models can play in optimizing health care delivery and value-based transformation in the context of alternative payment models (APMs) and physician-focused payment models (PFPMs) specifically. As a follow-up to the first theme-based discussion, which took place during the March 7-8, 2022 public meeting, a [*Supplement to the Environmental Scan on Issues Related to the Development of Population-Based Total Cost of Care \(TCOC\) Models in the Broader Context of Alternative Payment Models \(APMs\) and Physician-Focused Payment Models \(PFPMs\)*](#) was produced which provided additional information on innovations and best practices in care delivery. The Second Supplement to the Environmental Scanⁱ provides additional information on payment issues related to population-based TCOC models.

ⁱ This analysis was prepared under contract #HHSP233201500048IHSP23337014T between the Department of Health and Human Services' Office of Health Policy of ASPE and NORC at the University of Chicago. The opinions and views expressed in this analysis are those of the authors. They do not reflect the views of the Department of Health and Human Services, the contractor, or any other funding organizations. This analysis was completed on September 13, 2022.

Table of Contents

I. Introduction	7
II. Key Highlights	7
III. Medicare Spending Patterns Relevant to Population-Based TCOC Models	15
IV. Desired Features of Population-Based TCOC Models	17
V. Evaluating Payment Arrangements to Support Population-Based TCOC Models	18
V.A. Comparing Fee-for-Service to Capitation.....	19
V.B. Comparing Full Capitation and Partial Capitation Arrangements	21
V.C. Comparing Prospective and Retrospective Episode-Based Payment Arrangements.....	23
VI. Process Measures in Population-Based TCOC Models	23
VI.A. Number of Patient Encounters.....	24
VI.B. Ratio of Primary Care to Specialty Care Encounters	24
VII. Establishing Benchmarks in Population-Based TCOC Models	24
VII.A. Benchmarks Typically Used in Population-Based TCOC Models	24
VII.B. Methodologies for Creating Benchmarks.....	25
VII.C. Varying Benchmarks Based on Services Included in TCOC.....	28
VII.D. Approaches for Defining Control Groups for Evaluation and Benchmarking	30
VII.E. Addressing Potential Unintended Consequences Related to Benchmarking.....	31
VIII. Risk Adjustment in Population-Based TCOC Models	34
VIII.A. Potential Costs and Savings Related to Focusing on High-Cost Beneficiaries with Multiple Chronic Conditions.....	34
VIII.B. Options for Minimizing Risk Adjustment-Related Unintended Consequences.....	34
IX. Accountability and Risk Sharing in Population-Based TCOC Models	35
IX.A. Attribution and Voluntary Alignment.....	35
IX.B. Options for Distributing Shared Savings and Losses among ACOs, Primary Care, and Specialty Providers	36
IX.C. Options for Developing Phase-in Periods for Taking on Bidirectional Risk	38
IX.D. Options for Preventing Network Leakage	39
IX.E. Waivers to Facilitate Providers’ Ability to be Accountable for Patient Care	41
X. Options for Downstream Mechanisms to Pay Providers under Population-Based TCOC Models	43
X.A. Relationship between Payment Mechanisms and Encouraging Provider Participation in Population-Based TCOC Models	43
X.B. Examples from Prior PTAC Proposals	43
XI. Options for Including Accountability for Additional (non-Medicare Parts A or B) Costs in Population-Based TCOC Models	45
XII. Annotated Bibliography	46

Appendix A: Desired Vision and Culture, Care Delivery Features, and Payment Features for Population-Based TCOC Models86
Appendix B: Additional Information Needed from PTAC’s September Theme-Based Discussion on Population-Based TCOC Models87
Appendix C: Care Delivery Features and Potential Financial Incentives for Driving Value-Based and Patient-Centered Care.....88
Appendix D. Summary of the Care Delivery and Payment Model Characteristics of Ten Selected PTAC Proposals That Included TCOC-Related Components 149
XI. References..... 153

List of Exhibits

Exhibit 1. Desired Features of Population-Based Total Cost of Care (TCOC) Models.....	17
Exhibit 2. Opportunities and Challenges Associated with Selected Population-Based Payment Methodologies	22
Exhibit 3. Opportunities and Challenges Associated With Selected Episode-Based Payment Methodologies	23
Exhibit 4. Approaches to Benchmarking and Covered Services for Selected APMs.....	29
Exhibit 5. Federal Health Care Fraud and Abuse Laws	41
Exhibit 6. Highlights of Payment Methodology Innovations in Selected PTAC Proposals with TCOC- Related Components	44

List of Acronyms

Abbreviation	Term
AAFP	American Academy of Family Physicians
AAHPM	American Academy of Hospice and Palliative Medicine
ACA	Affordable Care Act
ACO	Accountable Care Organization
ACS	American College of Surgeons
AKS	Anti-Kickback Statute
APM	Alternative Payment Models
AS	Active surveillance
ASCO	American Society of Clinical Oncology
ASPE	Assistant Secretary for Planning and Evaluation
BPCI	Bundled Payments for Care Improvement
CBO	Congressional Budget Office
CKD	Chronic kidney disease
CMS	Centers for Medicare & Medicaid Services
CMMI	Center for Medicare and Medicaid Innovation
CMPL	Civil Monetary Penalties Law
COPD	Chronic obstructive pulmonary disease
CPC	Comprehensive Primary Care
CVD	Cardiovascular disease
DCE	Direct Contract Entity
DID	Difference-in-Difference
E&M	Evaluation and management
ED	Emergency department
EHR	Electronic health record
ESRD	End stage renal disease
ETC	ESRD Treatment Choices
FCA	False Claims Act
FFS	Fee-for-service
GPDC	Global and Professional Direct Contracting
HCC	Hierarchical condition category
HCO	Health care organizations
HRSN	Health-related social needs
LUGPA	Large Urology Group Practice Association
MA	Medicare Advantage
MCBS	Medicare Current Beneficiary Survey
MCP	Monthly Capitation Payment
MedPAC	Medicare Payment Advisory Committee
MEPS	Medicare Expenditure Panel Survey
MSSP	Medicare Shared Saving Program
NGACO	Next Generation Accountable Care Organization
PAC	Post-acute care
PAE	Patient activation and engagement
PBPM	Per-beneficiary per-month

Abbreviation	Term
PBPY	Per beneficiary per year
PCF	Primary Care First
PCP	Primary care providers
PHE	Public Health Emergency
PMPM	Per member per month
PTAC	Payment Model Technical Advisory Committee
PY	Performance year
QBP	Quality-based payment
SDOH	Social determinants of health
SNF	Skilled Nursing Facility
TCOC	Total Cost of Care
USPCC	U.S. Per Capita Cost
VTAPM	Vermont All-Payer Model

I. Introduction

The Physician-Focused Payment Model Technical Advisory Committee (PTAC) conducted the first of a series of three theme-based discussions focusing on the role that population-based total cost of care (TCOC) models can play in optimizing health care delivery and value-based transformation in the broader context of alternative payment models (APMs) and physician-focused payment models (PFPMs) specifically during the Committee's March 7-8, 2022 public meeting. Prior to the public meeting, the Office of the Assistant Secretary for Planning and Evaluation (ASPE) requested the development of the [Environmental Scan on Issues Related to the Development of Population-Based Total Cost of Care \(TCOC\) Models in the Broader Context of Alternative Payment Models \(APMs\) and Physician-Focused Payment Models \(PFPMs\)](#) (referred to in this document as "the original environmental scan") to provide background information for Committee members. Subsequently, ASPE requested the [Supplement to the Environmental Scan on Issues Related to the Development of Population-Based Total Cost of Care \(TCOC\) Models in the Broader Context of Alternative Payment Models \(APMs\) and Physician-Focused Payment Models \(PFPMs\)](#) to provide additional information on innovations and best practices in care delivery. The Second Supplement to the Environmental Scan (referred to as the Second Supplement) provides additional information on payment issues related to population-based TCOC models.ⁱⁱ

The rest of this document is organized as follows: Section II presents key highlights of findings from this supplement. Section III provides information on Medicare spending patterns to inform decisions about potential patients to focus on in population-based TCOC models. Section IV compares fee-for-service (FFS) with capitated payment models to inform decisions on ideal payment models. Section V describes process measures that can potentially be incorporated into quality measures in population-based TCOC models. Section VI discusses various options and considerations for establishing benchmarks and Section VII discusses options and considerations for risk adjustment in population-based TCOC models. Section VIII describes options for establishing accountability and sharing risk and Section IX reviews options for downstream payment models to compensate providers in population-based TCOC models. Finally, Section X presents options for including accountability for additional services in population-based TCOC models.

II. Key Highlights

This section presents high-level findings from this Second Supplement to the Environmental Scan.

Medicare Spending Patterns Relevant to Population-Based TCOC Models

In deciding what costs to target in population-based total cost of care (TCOC), it is important to understand which spending categories and which patients account for large portions of TCOC.

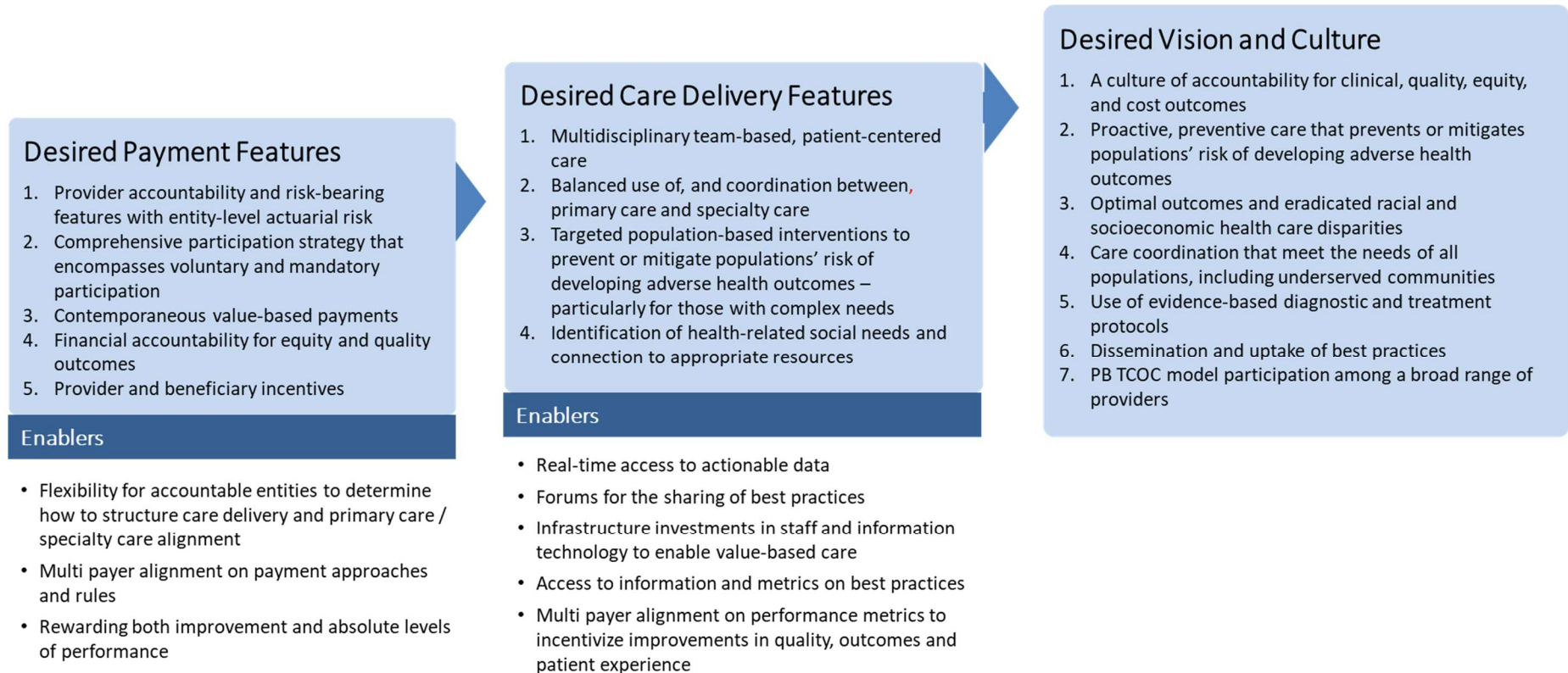
- In 2021, Medicare Part A and Part B spending accounted for 40 percent and 48 percent of total Medicare spending, respectively.¹

ⁱⁱ This analysis was prepared under contract #HHSP233201500048IHHSP23337014T between the Department of Health and Human Services' Office of Health Policy of the Assistant Secretary for Planning and Evaluation (ASPE) and NORC at the University of Chicago. The opinions and views expressed in this analysis are those of the authors. They do not reflect the views of the Department of Health and Human Services, the contractor, or any other funding organizations. This analysis was completed on August 18, 2022.

- Twenty-eight percent of beneficiaries had high costs in all three years between 2012 and 2014, while 72 percent had high costs for one to two years.² Persistently high-cost beneficiaries tend to be younger than 65 and non-white, to qualify for Medicare due to end stage renal disease (ESRD), and to reside in low-income areas. These persistently high-cost patients represented only 3 percent of the population in the study but accounted for nearly 20 percent of costs.
- Seventy two percent of all preventable spending was attributable to high-cost patients.³
- The top five high-cost conditions per beneficiary in 2017 were stroke, heart failure, chronic obstructive pulmonary disease (COPD), Alzheimer's disease/dementia, and atrial fibrillation.⁴

Desired Features of Population-Based TCOC Models

PTAC has identified several aspects of the desired vision and culture for encouraging care delivery transformation, desired care delivery features, desired payment features, and related enablers, as described in the following exhibit:



Evaluating Payment Arrangements to Support Population-Based TCOC Models

There is a range of payment models to support care delivery innovations in population-based TCOC models, from traditional fee-for-service (FFS) to partial and full capitation.

Comparing FFS with capitation. To understand the differences between outcomes in FFS and capitated models, it is important to explore research comparing Medicare beneficiaries in traditional FFS to those in Medicare Advantage (MA).

- Fifty-three percent of studies exploring quality of care and 65 percent of studies exploring end-of-life care quality supported MA over FFS.⁵ Studies on health outcomes were mixed, with 49 percent favoring MA, 43 percent finding no difference, and 8 percent favoring FFS. In terms of lower spending, half of the studies favored MA, 31 percent favored FFS, and 19 percent found no meaningful difference.
- FFS and MA beneficiaries had similar access to care, satisfaction with care, and emergency department (ED) visits. MA beneficiaries reported more favorably on some measures of patient-physician communication and self-efficacy.⁶
- MedPAC and other entities have expressed concerns that the incentives Centers for Medicare & Medicaid Services (CMS) provides to MA plans have the potential to produce unintended consequences for Medicare spending, quality of care, and utilization, as well as beneficiary cost sharing. CMS pays MA plans 104 percent of FFS rates, which historically was to attract participants, and since MA plans receive capitated payments per beneficiary per year (PBPY) based on a beneficiary's risk score, there are incentives for providers to increase coding intensity.⁷

Comparing full capitation and partial capitation arrangements. Since some providers may not be equipped to take on full capitation, there are options for partial capitation models to allow more providers to participate in population-based TCOC models.

- While full capitation models may better support primary and specialty care coordination and integration of clinical services, only limited types of entities may be prepared to take on full capitation. Some payers are testing partially capitated arrangements for primary care.
- Examples of partial capitation models include new Center for Medicare and Medicaid Innovation (CMMI) initiatives, such as the Global and Professional Direct Contracting Model (GPDC), to be relaunched in 2023 as Accountable Care Organization Realizing Equity, Access, and Community Health (ACO REACH); and the Primary Care First (PCF) Model.^{8,9} Evaluation results are not yet available for either model, and evidence for the impact of other partial capitation models is limited, and findings are mixed.^{10,11}

Comparing prospective episode-based payments and FFS-based episode-based payments (post-reconciliation) with single-sided or two-sided risk. Models that provide prospective, episode-based payments allow providers more flexibility to use “up-front” funding to implement care delivery innovation. However, these models are difficult to design in a way that provides an appropriate level of prospective payment. FFS episode-based payment models facilitate participation and “ramp-up” as most providers are already configured to provide care on a FFS basis. However, as with FFS payment models generally, they may lead to more provision of services than appropriate.

Process Measures in Population-Based TCOC Models

Quality of care can be assessed in terms of structure (capacity and systems), process (what providers do to improve health), and outcome (impact on health) measures.¹² While population-based TCOC models are typically focused on outcomes, subject matter experts (SMEs) and PTAC Committee Members discussed options for tracking process measures related to care at the Committee's June 2022 public meeting.

- Number of Patient Encounters: This measure can be an indicator of high-touch, proactive patient engagement. Although this measure has not been included for quality measurement previously, researchers have established the importance of patient activation and engagement in ACOs.^{13,14}
- Ratio of Primary Care to Specialty Care Encounters: This measure may promote more services in primary care settings. While such a measure has not been explicitly used in population-based TCOC models thus far, a lower percentage of Medicare beneficiaries receive the majority of their care from primary care providers (PCPs) compared to the general population.¹⁵

Establishing Benchmarks in Population-Based TCOC Models

Financial benchmarks are per-beneficiary-per-month spending targets that are compared with actual spending for aligned beneficiaries to determine an accountable entity's savings or losses for a performance period. Benchmark creation has two main objectives: 1) to establish incentives for participation in Alternative Payment Models (APMs), and 2) to attempt to constrain spending growth at desirable rates.¹⁶

Benchmarks Typically Used in Population-Based TCOC Models

- Some CMMI models use historical spending averages that are adjusted by national-only trends to determine cost benchmarks; others use blended historical averages that are adjusted by prospective trends.^{17,18, 19, 20}
- For MA plans, CMS establishes cost benchmarks for annual maximum per beneficiary payments that are determined based on average FFS spending per Medicare beneficiary.²¹ These benchmarks are established based on historical spending for patients associated with participating providers or those residing in a specific region.
- Since 2019, MSSP benchmarks are based on a blend of historical and regional spending, and benchmark growth is based on a blend of national and regional growth.
- In the ACO REACH Model (replacing GPDC in 2023), the benchmark is constructed
- using adjusted MA rates and the Medicare spending per capita growth is trended forward. The ACO REACH Model also includes a beneficiary-level health equity adjustment which increases the benchmark for ACOs with more underserved beneficiaries.²²

Strengths of Benchmark Approaches

- The benchmarking approach for MA enables plans that bid below the benchmark to receive a rebate (i.e., quality-based payment [QBP]) from CMS based on star ratings.²³
- ACOs under the Medicare Shared Saving Program (MSSP) Pathways to Success program typically performed better than those in the legacy track.²⁴

Weaknesses of Benchmark Approaches

- The current Medicare benchmarking approach relies on deriving its empirical basis from FFS beneficiaries, which are diminishing as enrollment numbers in MA and ACOs continue to increase.²⁵
- CMMI's stated goal of having every Medicare FFS beneficiary with Parts A and B in value-based payment models by 2030 may continue diminishing the size of the number of beneficiaries that are not in MA and ACOs.²⁶
- The issues with MA's quartile system approach to benchmarking are well documented.²⁷
- Rebased lowers an ACO's benchmarks based on organization-specific spending during the prior agreement period, but weakens the incentive to lower spending.²⁸
- CMMI models and other programs are moving toward a regional approach, which sets benchmarks based on ACO spending relative to other providers in the region. Regionalization can reduce complexities in benchmarking;²⁹ but may discourage the participation of high-spending ACOs.^{30, 31,32}

Benchmarking approaches for reducing TCOC and incentivizing wider participation in population-based TCOC models. MedPAC and other researchers have recommended methodologies for incentivizing more participation in population-based TCOC models.

- MedPAC recommended methodology updates for the MA benchmark policy. These include: an equal blend of per capita local area FFS spending with price-standardized per capita national FFS spending; a rebate of 75 percent or greater; a discount rate of 2 percent or greater; use of geographic markets as payment areas; use of the FFS population with both Part A and Part B coverage in benchmark setting; and elimination of the pre-Affordable Care Act (ACA) cap on benchmarks.³³
- The Congressional Budget Office (CBO) estimates that this recommended methodology would reduce MA spending by more than \$10 billion over five years relative to the current policy.^{34,35}
- In a broader vision for future population-based payment models, some researchers have outlined a general benchmarking approach that involves: setting benchmarks to provide an "on-ramp" for providers with high spending; slowly implementing convergence toward a regional average; updating benchmarks at rates below the projected FFS spending growth while decoupling them from realized FFS spending adjustments; avoiding rebasing; and subjecting benchmarks to policy updates informed by FFS spending and other trends.³⁶
- Other high-level suggestions include placing a greater emphasis on mandatory participation to mitigate the weaknesses of regional benchmarking;³⁷ using survey information in benchmarks to mitigate any perverse incentives for risk selection;³⁸ reverse engineering benchmarks from financial solvency and affordability goals to ensure they promote long-term sustainability and dynamic trends;³⁹ and building benchmarks that encourage accountable organizations to enroll all beneficiaries not currently participating in APMs.⁴⁰

Varying benchmarks based on services included in TCOC. Generally, TCOC benchmarks are based on discounted historical spending for a broad range of covered health care services, including inpatient and outpatient care.⁴¹ However, covered services included in TCOC may vary across different models.

Approaches for defining control groups for evaluation and benchmarking. Definitions of control groups identified for APM impact evaluation and benchmarking may differ, including Difference-in-Difference (DID) analysis to estimate impacts relative to a comparison group.⁴² Comparison groups may include

beneficiaries in APM markets and aligned to non-APM providers/entities and weighted to the intervention group by demographic, clinical, and market characteristics.^{43,44,45,46,47,48} Comparison groups for benchmarks can also be established based on a national reference population in the base period and may yield discordant results from DID estimates.

Addressing Potential Unintended Consequences Related to Benchmarking Potential unintended consequences related to TCOC benchmarking include changes in utilization for certain types of health care services; reduced access; limits on achievement or improvement; and cost shifting to consumers, which may reduce demand.⁴⁹ Additionally, there may be distinct implications for specialty care providers and practices.^{50,51,52} Specialty providers may face substantial infrastructure and operational costs associated with restructuring to align with model goals and/or partners.⁵³ Strategies for addressing unintended consequences include: monitoring performance measures capturing utilization and access as well as consumer out-of-pocket spending over time; using patient surveys; and stratifying measures by population characteristics to check for disparities.^{54,55,56}

Options for Minimizing Risk Adjustment-Related Unintended Consequences. Patient risk adjustment can be used to improve outcomes and contain cost among beneficiaries, yet it can also result in intensified coding to increase payments, or practices choosing lower-risk patients or dropping patients with declining health to avoid incurring large costs associated with more intensive health care services. Potential approaches for addressing these issues include: changing from retrospective to prospective attribution to enable greater predictability of attributed patient panels and more focused clinical management of at-risk beneficiaries; including a lock-in provision for high-risk beneficiaries experiencing health declines; shifting focus from adjusting for risk score growth instead of risk scores; allowing upward risk score adjustments shifting to risk tiers instead of risk scores, and incorporating patients' sociodemographic factors into risk adjustment models.^{57,58,59,60,61}

Accountability and Risk Sharing in Population-Based TCOC Models

Holding organizations and practitioners accountable for delivering high-quality, cost-efficient care is an essential feature of population-based TCOC models. However, methods for operationalizing accountability, vary across and within models.

Attribution and voluntary alignment. Beneficiary attribution refers to the methodology used to assign beneficiaries to a specific physician or ACO. Beneficiaries are typically attributed to providers or ACOs via claims-based or voluntary alignment. Under claims-based alignment, beneficiaries are assigned to the physician responsible for providing the plurality of their primary care services.⁶² One challenge presented by claims-based alignment is that patients often see multiple providers and may not have a clearly defined usual care provider. Voluntary alignment is the process by which beneficiaries select their primary care provider, typically a provider with whom they have a pre-existing relationship.^{63,64} Voluntary alignment is therefore seen as a strategy for promoting beneficiary engagement, freedom, and care coordination.⁶⁵ In addition to allowing more patient involvement in health care decision-making, voluntary alignment under direct contracting has been associated with improved health outcomes and satisfaction.⁶⁶ Similar to claims-based alignment, voluntary alignment helps providers to more efficiently track patient care and provides financial incentives for each additional patient-ACO connection, and has been associated with improved health outcomes and satisfaction.^{67,68,69,70}

Options for distributing shared savings and losses among ACOs, primary care, and specialty providers. Shared risk —both upside-only and bidirectional arrangements—provides the main mechanism for

establishing accountability in population-based total cost of care models. Distribution methodologies between CMMI and participating entities are standardized within each model and vary by risk tracks and distribution methods across models.

- No correlation has been demonstrated between the portion of shared savings given to PCPs, specialists, and/or hospitals versus infrastructure and an ACO's capacity to achieve savings.⁷¹ However, ACOs sharing over 50 percent of their savings with PCPs and specialists versus hospitals were more likely to have generated savings.⁷² ACOs with more than 10 participating entities were also more likely to have generated savings compared to smaller ACOs.⁷³
- Unlike the risk payments between CMMI and ACOs, there is generally less documentation regarding how ACOs allocate savings or losses internally.⁷⁴ Potential options include attribution incentive models, incremental incentives models, threshold incentives models, and endowment incentive models.^{75,76}

Options for developing phase-in periods for taking on bidirectional risk. Several population-based total cost of care models have incorporated phase-in periods for taking on bidirectional risk, such as MSSP's Pathways to Success. In addition to affording providers more time to acclimate to their new risk-bearing arrangement, phase-in periods could also help encourage otherwise hesitant providers to participate in bidirectional risk models.^{77,78} Longer transition periods may be particularly beneficial to less experienced ACOs and smaller organizations with less financial reserves and or infrastructure to support the adoption of bidirectional risk.⁷⁹ While some maintain that the success of ACO models hinges on providers' increased adoption of bidirectional risk, others argue that unaccommodating transitions to downside risk-bearing arrangements may lead ACOs to reconsider participation in APMs.^{80,81,82} There is evidence suggesting the existence of provider hesitancy to take on downside risk.^{83,84} After the Pathways to Success rule change in 2018, there was a net decrease in MSSP ACO contracts—the first decrease since the program's inception in 2012.⁸⁵ However, the number of MSSP ACOs participating in a bidirectional risk contract more than doubled between 2019 and 2020.⁸⁶

Options for preventing network leakage. ACOs aim to allow patients to obtain care from a wide network of providers, while incentivizing providers to optimize quality and cost of care. One of the most pressing challenges ACOs face in their efforts to improve care coordination is the issue of network leakage. When patients seek care outside of the ACO, usually for a specialist visit, they jeopardize the ACO's efforts to manage quality and cost because outside care often makes care coordination challenging and can result in duplicative or excess services and costs.^{87,88} Findings on leakage include: there is a PCP-to-specialist ratio "sweet spot" at about 45 percent; leakage is greatest among patients with medical comorbidities and in networks with a PCP-to-specialist ratio that was too high or too low, there are benefits to having an interconnected and geographically strategic network and expanding primary care capacities to minimize the need for additional outside services.^{89,90,91,92,93,94} Patient and provider satisfaction surveys have consistently shown the need for greater transparency, communication, and coordination between PCPs and specialists.⁹⁵ Potential solutions to prevent leakage include universal utilization of referral guidelines and investment in advanced health care system technology and infrastructure.^{96,97}

Waivers and Other Options to Facilitate Providers' Ability to be Accountable for Patient Care

- The U.S. Government is protected by five federal health care fraud and abuse laws. They are the False Claims Act (FCA), the Anti-Kickback Statute (AKS), the Physician Self-Referral Law (Stark Law), the Exclusion Authorities, and the Civil Monetary Penalties Law (CMPL).⁹⁸ The Anti-Kickback Statute

(AKS) prohibits the trading or agreement to refer Medicare and Medicaid patients in exchange for a gift or reward.⁹⁹

- Waivers enable ACOs to remain accountable for their beneficiaries without fear of infringing on the federal fraud and abuse laws.¹⁰⁰ The relevant waivers for Medicare ACOs include waivers for pre-participation, participation, shared savings, compliance with Stark Law, and patient incentives.¹⁰¹
- ACOs have also been offered beneficiary inducement waivers, such as waivers related to the Skilled Nursing Facility (SNF) 3-Day Rule. The SNF 3-Day Rule and post-discharge home visit waivers waive the requirement for a 3-day inpatient hospital stay prior to Medicare-covered skilled nursing and/or skilled rehabilitation care.^{102,103}

Options for Downstream Mechanisms to Pay Providers under Population-Based TCOC Models

- In order to maximize success, it is necessary for population-based TCOC models to focus on attracting individual providers to participate in the models. However, structuring incentives to providers, deciding what services to apply incentives to, and aligning incentives from the system level down to the clinician level are challenges.
- Providing proper incentives to providers and organizations is important because it results in higher provider participation, satisfaction, and retention rates.¹⁰⁴ Important features of provider incentives include the sufficiency of payment rate to cover the cost of services, performance requirements, accountability mechanisms, and the costs of participation.
- Several PTAC proposed models included examples of innovative payment methodologies that sought to increase provider participation in APMs, including the American Academy of Family Physicians (AAFP), American Academy of Hospice and Palliative Medicine (AAHPM), Coalition to Transform Advanced Care (C-TAC), UChicago, American College of Surgeons (ACS), American Society of Clinical Oncology (ASCO), Avera Health, Large Urology Group Practice Association (LUGPA), New York City Department of Health and Mental Hygiene (NYC DOHMH), and Illinois Gastroenterology Group (IGG)/Sonar MD.

Options for Including Accountability for Additional (non-Medicare Parts A or B) Costs in Population-Based TCOC Models

One key point of discussion among SMEs and Committee Members in the previous public meetings on population-based TCOC related to whether and how population-based TCOC models should cover services beyond Medicare Parts A and B.

- Part D spending is one potential area for obtaining additional cost savings. In 2021, Part D spending was approximately \$104.9 billion.¹⁰⁵
- Population-based TCOC models could include spending on social determinants of health (SDOH). One study found that there were many behavioral and social health factors, such as financial stress and psychiatric illness, that are associated with high costs.¹⁰⁶
- Care for beneficiaries dually enrolled in Medicare or Medicaid is also demonstrated to result in higher costs, suggesting that this may be an important population of focus for population-based TCOC models.¹⁰⁷

III. Medicare Spending Patterns Relevant to Population-Based TCOC Models

In deciding what costs to target in population-based TCOC, it is important to understand which spending categories and which patients account for large portions of TCOC. In 2021, Medicare Part A and Part B

spending accounted for 40 percent and 48 percent of total Medicare spending, respectively.¹⁰⁸ The average per-beneficiary cost for Part A in 2021 was \$5,667; the average per-beneficiary cost for Part B was \$7,414; and the total average per-beneficiary cost was \$15,309.¹⁰⁹ In comparison, the average total Medicare spending cost per beneficiary in 2001 was \$5,800, with the average annual growth rate being 4.7 percent from 2001 to 2021.¹¹⁰ Due to the COVID-19 Public Health Emergency (PHE), the Part A expenditures in 2022 for non-COVID-19-related issues are expected to be lower due to the influx of COVID-19 cases. However, toward the end of 2022 and early 2023, there is expected to be a rise in non-COVID-19-related procedures due to beneficiaries seeking services that had been delayed due to the pandemic.¹¹¹

Medicare beneficiaries contribute differently to spending depending on their health status. In 2018, the costliest one percent of Medicare beneficiaries accounted for 15 percent of overall Medicare Part A and Part B spending. Additionally, the costliest five percent of beneficiaries account for over 40 percent of Part A and B spending, and the costliest ten percent of beneficiaries account for 60 percent of Part A and B spending.¹¹²

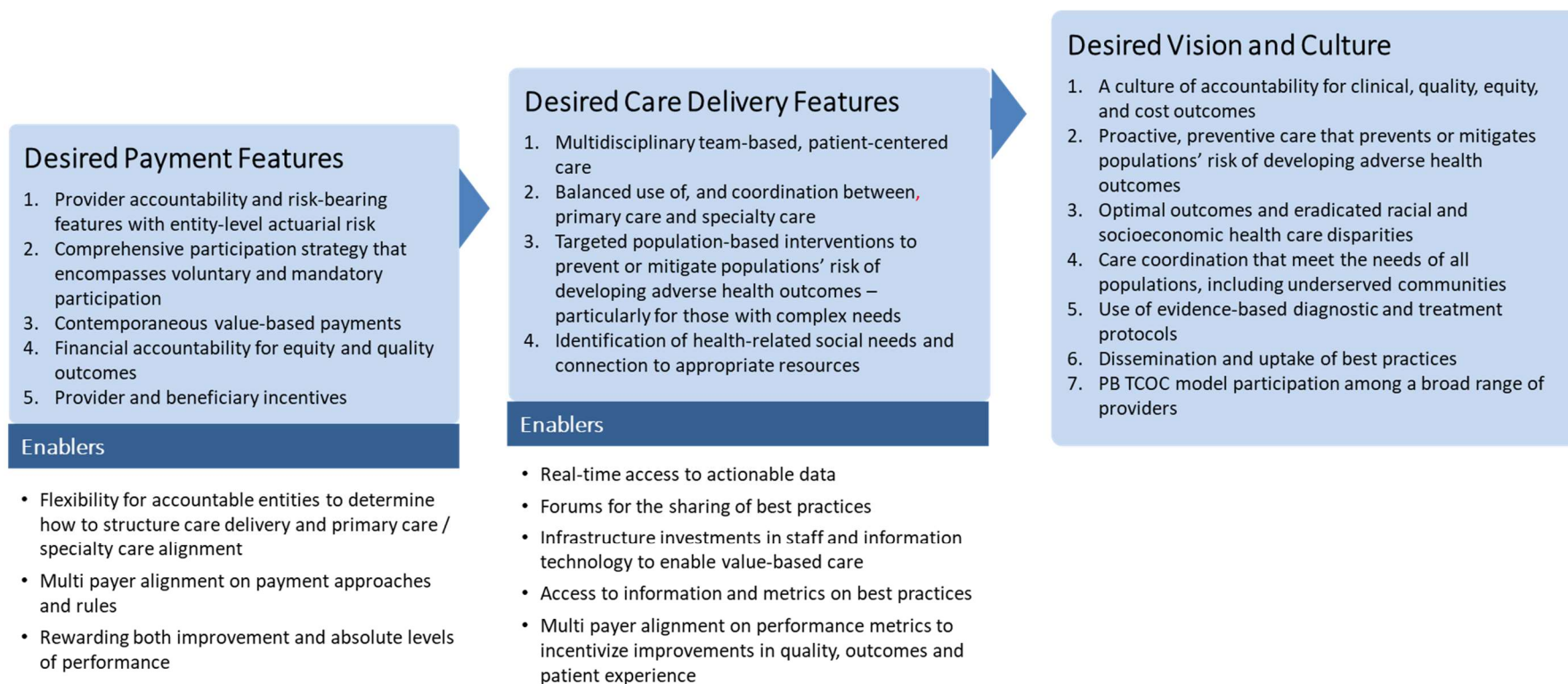
There is some fluctuation among which Medicare beneficiaries have high costs during a given year. A study of Medicare data from 2012 to 2014 found that 28 percent of the high-cost beneficiaries had high costs in all three years, while 72 percent had high costs during only one or two of those years. The persistently high-cost Medicare beneficiaries tended to be younger than 65 and dual-eligible. These beneficiaries were also more likely to be a racial or ethnic minority, live in low-income areas, and qualify for Medicare due to ESRD when compared with beneficiaries who were transiently high-cost or never high-cost.¹¹³ These persistently high-cost patients represented only 3 percent of the population; however, they contributed to almost 20 percent of all Medicare costs during the years of the study. The patients with consistently higher costs averaged \$64,434 per beneficiary in spending, while patients who were low-cost averaged \$4,538 in spending during the first year of the study. High-cost patients also tend to contribute to costs that could have been avoided. A study analyzing potentially preventable costs found that 72 percent of all preventable spending was attributable to high-cost patients.¹¹⁴ In 2014, the potentially preventable cost of a high-cost patient was \$11,534 versus \$510 for low-cost patients.¹¹⁵

Certain chronic conditions account for more spending than others. Cardiovascular disease (CVD), diabetes, hypertension, and cancer tend to be the most expensive illnesses.¹¹⁶ Chronic kidney disease (CKD) also accounts for a substantial amount of Medicare spending; overall, Medicare costs for people with CKD in 2019 were \$87.2 billion, or \$24,453 per beneficiary older than 65 years.¹¹⁷ In patients with advanced cancer, hospital care covered under Medicare Part A accounted for 48 percent of cancer-related Medicare spending.¹¹⁸ Additionally, patients diagnosed with Alzheimer's disease led to an 11 percent increase in cost per Alzheimer's patient every year.¹¹⁹ Lastly, data from CMS indicated that 20 chronic conditions costed about \$440,217.30 per beneficiary in 2018. The top five high-cost conditions per beneficiary are stroke at \$31,882.00, heart failure at \$28,604.50, COPD at \$25,446.50, Alzheimer's disease/dementia at \$25,100.20, and atrial fibrillation at \$25,027.90.¹²⁰

IV. Desired Features of Population-Based TCOC Models

The original [*Environmental Scan on Issues Related to the Development of Population-Based Total Cost of Care \(TCOC\) Models in the Broader Context of Alternative Payment Models \(APMs\) and Physician-Focused Payment Models \(PFPMs\)*](#)¹²¹ included some potential characteristics of future population-based TCOC models, and identified areas where additional information is needed. PTAC has developed additional insights based on discussions with subject matter experts during the March and June theme-based discussions. Exhibit 1 summarizes the desired care delivery and payment features of future population-based TCOC models that the Committee has identified. Additional information can be found in Appendix A and Appendix B.

Exhibit 1. Desired Features of Population-Based Total Cost of Care (TCOC) Models



PTAC has identified several aspects of the desired vision and culture for encouraging care delivery transformation, including:

- A culture of accountability for clinical, quality, and cost outcomes;
- Proactive, preventive care to avoid escalation of chronic and acute disease in patients with low risk and “rising risk”;
- Optimal outcomes and eradicated racial and socioeconomic health care disparities;
- Care coordination that meet the needs of all populations, including underserved communities;
- Use of evidence-based diagnostic and treatment protocols.
- Dissemination and uptake of best practices; and
- PB TCOC model participation among a broad range of providers.

Committee members have also identified several desired care delivery features of population-based TCOC models, including:

- Multidisciplinary team-based, patient-centered care;
- Balanced use of, and coordination between primary care and specialty care;
- Targeted population-based interventions to prevent or mitigate populations’ risk of developing adverse health outcomes – particularly for those with complex needs; and
- Identification of health-related social needs and connection to appropriate resources.

Enablers for facilitating the development of these care delivery features in population-based TCOC models include the availability of: real-time access to actionable data; forums for the sharing of best practices; infrastructure investments in staff and information technology to enable value-based care; access to information and metrics on best practices; and multi payer alignment on performance metrics to incentivize improvements in quality, outcomes and patient experience.

Additionally, PTAC has identified several desired payment features of population-based TCOC models, including:

- Provider accountability and risk-bearing features with entity-level actuarial risk;
- Comprehensive participation strategy that encompasses voluntary and mandatory participation;
- Contemporaneous value-based payments;
- Financial accountability for equity and quality outcomes; and
- Provider and beneficiary incentives.

Enablers for facilitating the incorporation of these payment features in population-based TCOC models include: flexibility for accountable entities to determine how to structure care delivery and primary care / specialty care alignment; multi payer alignment on payment approaches and rules; and rewarding both improvement and absolute levels of performance.

V. Evaluating Payment Arrangements to Support Population-Based TCOC Models

In the original [*Environmental Scan on Issues Related to the Development of Population-Based Total Cost of Care \(TCOC\) Models in the Broader Context of Alternative Payment Models \(APMs\) and Physician-Focused Payment Models \(PFPs\)*](#),¹²² several payment arrangements to support population-based TCOC

models were discussed. During the September theme-based discussion, PTAC is considering which payment models can best support the desired vision and culture, and the desired care delivery features described in **Exhibit 1** (see Section IV for more information). This section provides a comparison of several options related to fee-for-service, capitation; and episode-based payments.

V.A. Comparing Fee-for-Service to Capitation

As explained in the [Supplement to the Environmental Scan on Issues Related to the Development of Population-Based Total Cost of Care \(TCOC\) Models in the Broader Context of Alternative Payment Models \(APMs\) and Physician-Focused Payment Models \(PFPMs\)](#),¹²³ there is a range of payment models that exist – ranging from traditional FFS, to FFS with shared savings, to partial and full capitation. This section compares capitation with FFS to capture important distinctions from both ends of the payment model spectrum.

In 2021, nearly half of Medicare beneficiaries were enrolled in Medicare Advantage (MA) managed care plans, which fully capitate payments to providers in their network.¹²⁴ The percentage of beneficiaries in MA has increased steadily over the past decade, and MA is expected to account for a majority of Medicare beneficiaries in the next few years.¹²⁵ Given MA’s considerable presence in the Medicare program, it is important to understand how processes and outcomes differ between MA and traditional FFS. Comparisons between FFS and MA are also relevant to efforts to promote health equity, as Black and Hispanic beneficiaries have been enrolling in MA at higher rates compared to White beneficiaries.¹²⁶

MA has the potential to improve efficiency and quality of care in Medicare. As the Executive Director of the Medicare Payment Advisory Committee (MedPAC) explained in recent Congressional testimony, “Because of the way Medicare pays Medicare Advantage plans, they have greater incentives than FFS providers to innovate and use care management techniques to deliver more efficient care.”¹²⁷ MA plans offer beneficiaries additional benefits and increased cost sharing stability (e.g., flat copayments) when compared with traditional FFS.¹²⁸ For instance, most MA plans offer vision and dental care, fitness benefits, and hearing aids.¹²⁹ They also provide health systems and clinicians with flexibility for payment and care delivery innovation, such as care management tools, advanced information sharing systems, and incentives to beneficiaries to choose more efficient providers.¹³⁰

The evidence supporting better care or health outcomes for beneficiaries in MA compared to FFS varies by topic and data source. In a recent systematic review, researchers found that 53 percent of studies exploring quality of care and 65 percent of studies exploring end-of-life care quality found that MA outperformed FFS.¹³¹ Studies were mixed regarding health outcomes, with 49 percent of studies finding that MA outperformed FFS, 43 percent finding no difference, and 8 percent finding that FFS outperformed MA. In terms of spending, half of the studies included found that MA had significantly lower spending, 31 percent found that FFS had significantly lower spending, and 19 percent found no meaningful difference.

A study by Avalere for the Better Medicare Alliance using MA encounter data, found that high-cost, high-need beneficiaries in MA had greater rates of several standard care services, including pneumonia vaccines, eye exams for diabetes, depression screenings, and physician office visits within 14 days of hospital discharge compared to FFS beneficiaries.¹³² The analysis also found lower rates of avoidable hospitalizations and 30-day readmissions, lower costs for inpatient and Part D drugs, and higher costs for physician services and tests in primary care for MA relative to traditional Medicare.

A cross-sectional multivariate analysis of 2012 through 2016 national survey data examined the relationship between capitation and outcomes for patients with certain chronic diseases visiting either primary care practices or medical specialists.¹³³ About 9 percent of the patients in the study received care at practices which received capitated payments as the primary revenue source. This study found that patients receiving care from capitated practices did not have better outcomes in adjusted or unadjusted models.

The Commonwealth Fund conducted a study comparing Medicare FFS and MA beneficiaries using data from the 2018 Medicare Current Beneficiary Survey (MCBS).¹³⁴ Its analysis revealed that similar proportions of MA and FFS beneficiaries reported waiting more than a month for physician office visits and challenges in accessing care due to high out-of-pocket costs or services not being covered. A comparable share of beneficiaries in MA and FFS had ED visits, and among those with ED visits, there was no difference between MA and FFS beneficiaries reporting that the issue leading to their ED visit could have been addressed in a usual care setting. Similar proportions reported being satisfied with various dimensions of care, including doctor's concern, information about medical conditions, care by specialists, information obtained by phone, and quality of medical care. Despite many findings in this study suggesting similar performance by MA and FFS, the authors noted that a greater percentage of beneficiaries in MA reported that health care professionals discussed goals and priorities for managing chronic conditions or reviewed medications with them, and that they received written instructions after hospitalizations compared to beneficiaries in FFS Medicare. However, there were no differences in the percentage of beneficiaries with diabetes reporting that their blood sugar was under control all or most of the time or that they engaged in any diabetes self-care behavior, though a higher percentage of MA beneficiaries with diabetes were confident they could control or manage their condition.

While some studies indicate that MA has outperformed or had similar results as FFS in certain areas, MedPAC and other entities have expressed concerns that the incentives CMS provides to MA plans have the potential to produce unintended consequences for Medicare spending, quality of care, and utilization, as well as beneficiary cost sharing. First, CMS pays MA plans approximately 104 percent of what traditional Medicare would have spent on the same beneficiary, on average, and Medicare spending for MA is \$321 PBPY more than for FFS beneficiaries (based on 2019 data).¹³⁵ MedPAC estimates that the cost of providing extra benefits to beneficiaries in MA plans as of 2022 is at an all-time high of nearly \$2,000 PBPY noting that:

“These types of extra benefits can help attract enrollment in MA plans, although information about how these benefits are utilized is unknown to the Medicare program, and evidence is lacking about how effective those benefits are in terms of improving quality and health outcomes.”

Additionally, since MA plans receive capitated payments PBPY based on a beneficiary's risk score, there are incentives for providers to increase coding intensity. MedPAC found that MA risk scores were 9.5 percent higher than scores for similar beneficiaries in FFS in 2020.¹³⁶ While CMS exercised its legal authority to reduce risk scores to improve comparability between MA and FFS beneficiaries, MA risk scores were still 3.6 percent higher than if the beneficiaries were in FFS, resulting in an estimated \$12 billion overpayment. MedPAC also noted limitations in measuring quality and utilization in MA, including the prevalence of the use of process measures over outcome measures for determining star ratings and incomplete encounter data. Additionally, the Kaiser Family Foundation found that MA

beneficiaries faced higher cost sharing for hospital stays of five days or more, since many MA plans charge daily copayments while traditional Medicare beneficiaries face one yearly deductible for hospital stays and no copayments until day 60.¹³⁷

As encounter data become more robust, future research may explore quality and utilization measures in MA compared to FFS in greater detail. Researchers can also engage health plans and providers to better understand how MA supports care coordination, care delivery innovation, and infrastructure investments.

V.B. Comparing Full Capitation and Partial Capitation Arrangements

Alternative Payment Models can include capitation as the payment mechanism for some or all of the TCOC. In fully capitated models, the entirety of the patient's care is paid for on a capitated basis. Examples of fully capitated systems include Kaiser Permanente and Medicare Advantage. In partially capitated models, a portion of the patient's cost of care is paid for via capitation and the remainder is paid based on FFS. While capitation of only a part of the patient's care would not in itself constitute a TCOC model, models that include capitation for part of the TCOC can incorporate additional elements.¹³⁸ For example, an entity in a partially capitated TCOC arrangement might receive capitated primary care payments and take on risk for hospital, post-acute, and other elements of the TCOC. Examples of partial capitation models include new CMMI initiatives, such as the Global and Professional Direct Contracting (GPDC) Model, discussed below.

CMMI has recently launched models that include capitation of part of the TCOC; however, results are not yet available. The Global and Professional Direct Contracting (GPDC) Model (which has now been restructured as ACO REACH), launched in 2021, offers two levels of capitated payment options.¹³⁹ Entities in the higher-risk "Global" option choose either Total Care Capitation, covering all Parts A and B services, or Primary Care Capitation, covering primary care services. Entities taking less risk in the "Professional" track receive Primary Care Capitation payments. Since beneficiaries are not limited to providers in the model, they may continue to visit providers outside the model that receive FFS payments; the model also includes a layer of "preferred" providers that receive some of their compensation through capitation and some through FFS. While the participating entities receive capitated payments, at the end of the year, spending is compared to a benchmark, and the entities realize shared savings or losses.

CMS also launched the Primary Care First (PCF) Model in 2021, which is a multi-payer model including MA plans, state Medicaid agencies, and commercial plans. CMS has set a detailed payment structure for how the model operates for FFS Medicare beneficiaries, includes a hybrid of per member per month (PMPM) payments and flat visit fee payments for primary care.¹⁴⁰ In addition, some providers receive incentive payments if total costs of care for attributed patients are below expected costs. Payment structures vary across other payers partnering with the model. Precise payment structures for each payer's model will differ; CMS has expressed that, for payer partners, it would prefer models with at least 50 percent of primary care payments paid for under capitation.¹⁴¹

Recent evidence on the impact of partial capitation models is limited, and findings are mixed. In Hawaii, the Population-Based Payments for Primary Care (3PC) model, led by Blue Cross Blue Shield of Hawaii, paid primary care providers a risk-adjusted capitated payment of \$8 to \$70 PMPM (higher rates for patients with higher utilization).¹⁴² The program was not associated with a significant change in TCOC. Primary care spending decreased, but prescription drug spending increased, and other cost components did not change. The study's authors found small improvements in quality measures such as advanced care planning and blood pressure control among people with diabetes.

An analysis of Maryland’s Total Patient Revenue global payment pilot, which provided global budgets for hospital care from 2010 to 2013, found that spending declined at the hospitals in the experiment. However, Maryland’s TCOC increased, indicating likely cost shifting to providers outside the model.¹⁴³ This reflects the benefit of including shared risk for the portion of care outside the capitated portion.

Evidence is currently insufficient to make overall comparisons of the impacts of partial capitation to full capitation. Conceptually, full capitation models should better support coordinated primary and specialty care coordination and integration of clinical services,¹⁴⁴ since such models need to directly engage with providers of many types who are responsible for all care for patient population. However, only limited types of entities would likely be prepared to take on capitation for the TCOC. Evaluations of CMMI’s new initiatives in primary care models will expand the research base on models that combine partial capitation and shared savings.

Exhibit 2 summarizes some of the challenges and opportunities associated with full and partial capitation, in comparison with payment models that have a FFS-based architecture with retrospective shared savings and / or losses. Appendix C includes additional information about the opportunities and challenges associated with various payment methodologies for incentivizing the various desired care delivery features that have been identified by Committee members.

Exhibit 2. Opportunities and Challenges Associated with Selected Population-Based Payment Methodologies

Methodology	Opportunities	Challenges	Example
Full Capitation	Increased incentives to engage in care transformation; flexibility in care networks; clarity about provider-population alignment	Risk of under-provision of care and lower access; determining prospective budgets	Medicare Advantage
Partial Capitation	Flexibility in care delivery innovations; facilitate transition to increased risk	Risk adjustment; progressive difficulty performing against benchmark	Global and Professional Direct Contracting Model (now ACO REACH)
FFS with retrospective shared savings +/- losses	Balance between access and reduction of avoidable services; ramp up for providers with less PB-TCOC experience	Time delay in understanding performance and delivering financial incentives (from reconciliation); risk of over-provision of care	Medicare Shared Savings Program

V.C. Comparing Prospective and Retrospective Episode-Based Payment Arrangements

Prospective methodologies, such as the Bundled Payments for Care Improvement Initiative Model 4ⁱⁱⁱ; Employers Centers of Excellence Network, and fee for service methodologies, such as the Comprehensive Care for Joint Replacement Model, both have merits as well as challenges with their implementation. While prospective payment structures offer more flexibility in care delivery innovations, it is difficult to determine their budgets. FFS models are easier to ramp up for providers with less population-based TCOC experience, yet they present risk with the over-provision of care.

Exhibit 3 summarizes some of the challenges and opportunities associated with prospective and retrospective episode-based payment arrangements. Appendix C includes additional information about the opportunities and challenges associated with various episode-based payment methodologies for incentivizing the various desired care delivery features that have been identified by Committee members.

Exhibit 3. Opportunities and Challenges Associated With Selected Episode-Based Payment Methodologies

Methodology	Opportunities	Challenges	Example
Prospective	Increased incentives to engage in care transformation; flexibility in care delivery innovations; clarity about provider-population alignment	Risk of under-provision of care and lower access; determining prospective budgets	Bundled Payments for Care Improvement Initiative Model 4*; Employers Centers of Excellence Network
FFS with retrospective shared savings +/- losses	Balance between access and reduction of avoidable services; ramp up for providers with less episode-based TCOC experience	Risk adjustment; progressive difficulty performing against benchmarks; time delay in understanding performance and delivering financial incentives (from reconciliation); risk of over-provision of care	Bundled Payments for Care Improvement Initiative Models 1-3*; Comprehensive Care for Joint Replacement Model

VI. Process Measures in Population-Based TCOC Models

Quality of care can be assessed in terms of structure (capacity and systems), process (what providers do to improve health), and outcome (impact on health) measures.¹⁴⁵ While population-based TCOC models

ⁱⁱⁱ The Bundled Payments for Care Improvement (BPCI) Initiative included four models of care that bundled payments for services received during certain episodes of care with the aim of improving quality and care coordination while reducing cost to Medicare. BPCI Models 1-3 focused on retrospective payments; however, Model 4 involved a single, prospectively determined bundled payment for the episode of care.

are typically focused on outcomes, options for tracking process measures of care were discussed during the June 2022 PTAC public meeting. Process of care measures could assess aspects of care delivery that are desired in population-based TCOC models.

VI.A. Number of Patient Encounters

One process measure that was mentioned during the June public meeting was the number of patient encounters as an indicator of high-touch, proactive patient engagement, and meeting patients where they are. Although this measure has not been included for quality measurement in past or current population-based TCOC models, researchers have explored the importance of patient engagement in ACOs. In a case study of private-sector ACOs, a study found that patient engagement was an important factor contributing to successful implementation.¹⁴⁶ In a survey of physicians participating in Medicare ACOs, most respondents agreed that patient activation and engagement (PAE) was critical to the success of ACOs; that it would improve quality of care, health outcomes, and patient retention; and that it would lower costs.¹⁴⁷ However, less than half of PCPs were trained in PAE, and small proportions of physician compensation were based on PAE measures, suggesting the need for expanded training on and financial incentives tied to PAE.

VI.B. Ratio of Primary Care to Specialty Care Encounters

Another intermediate measure that was discussed during the June public meeting is the ratio of primary care to specialty care encounters, with the goal of encouraging more services in primary care settings. While this kind of measure has not been explicitly used in population-based TCOC models thus far, researchers have explored the percentage of patients obtaining most of their care from primary care providers compared to specialists, and the proportion of medical visits with primary care compared to specialty providers. In an analysis of data from the Medicare Expenditure Panel Survey (MEPS), the majority of patients (55 percent) predominantly visited generalists (i.e., family practice, general practice, geriatrics, internal medicine, and pediatrics), 36 percent predominantly visited specialists, and the remainder visited generalists and specialists equally.¹⁴⁸ However, among Medicare beneficiaries, 50 percent predominantly saw specialists, and 40 percent predominantly saw generalists, suggesting the potential for increasing the use of primary care as their usual source of care. Another study found that 46.4 percent of all office-based physician visits in 2016 were to primary care providers, 27 percent were to other medical specialties, and 26.5 percent were to surgical specialists.¹⁴⁹

VII. Establishing Benchmarks in Population-Based TCOC Models

Benchmark creation has two main objectives: 1) to establish incentives for participation in APMs, and 2) to attempt to constrain spending growth at desirable rates.¹⁵⁰ This section summarizes different methodologies for developing benchmarks in APMs and describes the variation in benchmarks based on payer type, APM type, and the specific services considered part of TCOC. It also describes approaches for selecting control groups when setting benchmarks and any unintended consequences of benchmarks.

VII.A. Benchmarks Typically Used in Population-Based TCOC Models

Some CMMI models use historical spending averages that are adjusted by national-only trends to determine cost benchmarks. The Maryland (MD) All-Payer Model cost benchmark is established by trending forward actual 2013 Medicare spending in MD at the national Medicare spending growth rates. Similarly, the Bundled Payments for Care Improvement (BPCI) Initiative creates participant-specific cost

benchmarks by applying a discount (range, 2 to 3 percent) on historical episode payments that are updated with national spending trends.¹⁵¹ Other CMMI programs or models use blended historical averages that are adjusted by prospective regional trend information. For example, the NGACO benchmarking methodology for performance year (PY) 4 and beyond (2019 or later) uses a prospective regional trend based on the U.S. Per Capita Cost (USPCC) growth trend to adjust benchmarks that are primarily based on an ACO's baseline expenditure over a two-year period.^{152, 153} Under the "Pathways to Success" Final Rule, MSSP also incorporates regional benchmark adjustments for ACOs in all agreement periods. These adjustments for MSSP ACOs are based on FFS expenditures and a blend of regional and national growth rates, with increasing weight placed on the national growth component as an ACO's penetration in its regional service area increases.¹⁵⁴

For MA plans, CMS establishes cost benchmarks for annual maximum per beneficiary payments that are determined based on average FFS spending per Medicare beneficiary. County benchmarks are set at one of four levels based on 95, 100, 107.5, or 115 percent of the FFS projected spending per beneficiary. These FFS projections are risk adjusted based on county-level geographic variation in historical costs (i.e., rural counties with low Medicare spending have higher benchmarks than average). MA plans then bid against these benchmarks to provide Medicare Parts A and B coverage at a proposed level of savings.¹⁵⁵ Benchmarks can be raised by 5 percent for bidding plans with four or more quality stars and 10 percent for high performing plans in certain counties.¹⁵⁶

The ACO REACH Model, which is replacing the GPDC Model in January 2023, builds on the prospective trend benchmarking experience of NGACO and further aligns APMs with MA payment methodologies. The USPCC, geographic adjustments, and regional expenditures are all applied to an ACO's historical baseline expenditures to calculate the benchmark. Regional expenditures are based on a slightly modified MA Rate Book (i.e., the ACO REACH/KCC Rate Book), which establishes county-level rates for health care services. As the model progresses, the percentage of the cost benchmark contributed by regional expenditures will increase.¹⁵⁷ As part of the redesign of GPDC and subsequent launch of ACO REACH, CMMI also added a beneficiary-level health equity adjustment which increases the benchmark for ACOs providing care to higher proportions of underserved beneficiaries.¹⁵⁸

VII.B. Methodologies for Creating Benchmarks

As described above, Medicare APMs use a variety of benchmarking approaches that incorporate historical trends, regional adjustments, and other adjustments unique to different models. This section highlights the strengths and weaknesses of these approaches and outlines additional benchmark methodologies that could reduce TCOC and incentivize wider participation in population-based TCOC models.

Strengths of Benchmark Approaches

The benchmarking approach for MA enables plans that bid below the benchmark to receive a rebate (i.e., quality-based payment [QBP]) from CMS. The rebate amounts are proportions of the difference used to provide supplemental benefits to Medicare beneficiaries;¹⁵⁹ MA plans with three stars or fewer receive 50 percent of the difference, three-and-a-half to four-star plans receive 65 percent of the difference, and four-and-a-half to five-star plans receive 70 percent of the difference.¹⁶⁰ MA plans are required to use rebate funds to provide additional benefits to enrollees in the form of lower cost sharing and premiums or the provision of further supplemental benefits.¹⁶¹

Part of the motivation for MSSP's Pathways to Success Final Rule was to improve the accuracy of financial benchmarks. While the industry reaction to this redesign has been mixed, ACOs under the Pathways participation option typically performed better than the ACOs under the legacy track. In 2019, Pathway ACOs showed net per-beneficiary savings of \$169 compared to \$106 for legacy track ACOs. Rural ACO performance also improved; in the first six months of Pathways participation, rural ACOs generated \$158 net per-beneficiary savings, compared to an average of \$64 per-beneficiary savings for all rural ACOs in 2019.¹⁶² Weaknesses of the Pathways to Success benchmark revisions are discussed in the next section.

Weaknesses of Benchmark Approaches

The current Medicare benchmarking approach that relies on deriving its empirical basis from the external sectors (i.e., Medicare beneficiaries not enrolled in MA or ACOs) works well by providing a standard for risk contracts to beat. However, the external sectors are diminishing as enrollment numbers in MA and ACOs continue to increase. At the current rate of growth, nearly 70 percent of the Medicare population could be enrolled in an MA plan by the end of 2030.¹⁶³ CMMI's stated goal of having every Medicare FFS beneficiary with Parts A and B in a care relationship with accountability for quality and TCOC by 2030 may continue diminishing the size of the external sectors by encouraging voluntary alignment with CMMI ACOs.¹⁶⁴

Quartile system weaknesses for MA. The issues with MA's quartile system approach to benchmarking are well documented. County-level benchmarks are based on FFS spending projections for Medicare beneficiaries that are enrolled only in Part A or only in Part B; however, MA plans must provide coverage for both Parts A and B services, causing inaccurate spending projections.¹⁶⁵ Furthermore, the quartile-based benchmarks support higher payments to MA plans in areas where FFS spending is low and fails to leverage the efficiency of MA plans in counties where FFS spending is high. In some low-spending counties, MA benchmarks are 9 percent higher than FFS expenditures.¹⁶⁶ Benchmarks set explicitly above FFS expenditure levels are one of the factors driving increased MA enrollment.¹⁶⁷ The quartile system also drives large differences in benchmarks despite small differences in county-level FFS spending.¹⁶⁸ Benchmark differences cause MA beneficiaries in certain counties to receive fewer supplemental benefits because MA plans may be ineligible for their entire QBP because of the 2008 benchmark cap.¹⁶⁹

Rebasing. Rebasing is the practice of lowering an ACO's benchmarks upon contract renewal based on organization-specific spending during the prior agreement period. Factoring an ACO's impact on FFS spending weakens the incentive to lower spending, especially for ACOs that account for a substantial share of regional spending.¹⁷⁰ Offsetting the reward of shared savings in one performance year by diminishing the potential for rewards in subsequent performance years is commonly referred to as the "ratchet effect." Rebasing and the ratchet effect are causing ACOs to leave the MSSP program: 45 percent of ACOs from the 2016 cohort and nearly 33 percent of 2012-2013 cohort ACOs exited the program in 2019 when they were due for rebasing under the new Pathways to Success benchmarking methodology.¹⁷¹ The ratchet effect also has theoretical implications at the population level. Setting benchmarks in a voluntary program relative to average FFS spending may discourage the participation of organizations that are unable to be more efficient than average or who serve higher-risk beneficiaries.¹⁷²

Regionalization. Researchers have noted that care delivery transformation operates on a local level and that implementation is influenced by regional context.¹⁷³ In addition to differences in market conditions

and factors such as experience with HIE and population health initiatives, regional context also shapes referral networks and care coordination across PCPs, specialists, and community-based organizations.¹⁷⁴ CMMI models and other programs are moving toward a regional approach, which sets benchmarks based on ACO spending relative to other providers in the region. Regionalization can reduce complexities in benchmarking;¹⁷⁵ however, data suggest that it also discourages the participation of high-spending ACOs and subsidizes the low-spending ACOs in each region as the higher-spending ACOs in each region are disproportionately leaving MSSP.^{176, 177, 178}

Benchmarking Approaches for Reducing TCOC and Incentivizing Wider Participation in Population-Based TCOC Models

This section outlines suggestions for improving benchmarks in APMs from several researchers. In several reports to Congress,^{179, 180} MedPAC has recommended methodology updates for the MA benchmark policy. These include:

- A relatively equal blend of per capita local area FFS spending with price-standardized per capita national FFS spending;
- A rebate of 75 percent or greater;
- A discount rate of 2 percent or greater;
- Use of geographic markets as payment areas;
- Use of the FFS population with both Part A and Part B coverage in benchmark setting; and
- Elimination of the pre-ACA cap on benchmarks.

A summary assessment by the Congressional Budget Office (CBO) of these various recommendations did not reference any adverse effects for beneficiary access to coverage, and a simulation suggests that CMS could feasibly implement this new benchmark methodology with little impact on MA plan participation. The CBO estimates that this recommended methodology would reduce MA spending by more than \$10 billion over five years relative to the current policy.^{181,182}

In a broader vision for future population-based payment models, researchers have outlined a general benchmarking approach that involves:

- Setting benchmarks to provide an “on-ramp” for providers with high spending;
- Slowly implementing convergence toward a regional average;
- Updating benchmarks at rates below the projected FFS spending growth while decoupling them from realized FFS spending adjustments to allow new benchmarks to grow faster than FFS spending;
- Avoiding rebasing; and
- Subjecting benchmarks to policy updates informed by FFS spending and other trends.¹⁸³

They state this approach strengthens ACO incentives to lower spending by removing the impact of the organization’s impact on spending from its benchmark determination. This approach also incorporates some historical spending to address any deficiencies in risk adjustment because historical spending reflects an organization’s efficiency and the costs of its patient population. Overall, the blended approach proposed by McWilliams¹⁸⁴ preserves an element of competition between organizations while building flexibility into the benchmarks to protect against unexpected changes in spending due to important new technologies, changes in evidence, or unforeseen circumstances.

MedPAC¹⁸⁵ and McWilliams¹⁸⁶ provide the most comprehensive recommendations for benchmark methodologies that reduce TCOC and encourage more participation in population-based TCOC models. Other high-level suggestions include placing a greater emphasis on mandatory participation to mitigate the weaknesses of regional benchmarking;¹⁸⁷ using survey information (e.g., Consumer Assessment of Healthcare Providers and Systems [CAHPS]) in benchmarks to mitigate any perverse incentives for risk selection or negative impacts on ACOs serving higher-risk beneficiaries;¹⁸⁸ reverse engineering benchmarks from financial solvency and affordability goals to ensure they promote long-term sustainability while accounting for dynamic trends;¹⁸⁹ and building benchmarks that encourage accountable organizations to enroll all beneficiaries not currently participating in APMs.¹⁹⁰

VII.C. Varying Benchmarks Based on Services Included in TCOC

Generally, TCOC benchmarks are based on discounted historical spending for a broad range of covered health care services, including inpatient and outpatient care, laboratory and radiology services, and prescription drugs.¹⁹¹ However, covered services included in TCOC may vary based on several factors:

1. Purpose and level of the benchmark (e.g., to control health care costs; state-, market-, payer-, or entity-level);¹⁹²
2. What is considered medically necessary for covered conditions or populations, which may exclude some experimental treatments, vision or dental services, cosmetic procedures, infertility treatments, or specialty drugs;¹⁹³
3. Whether carve-outs exist for certain services (e.g., prescription drugs, behavioral health care);¹⁹⁴
4. Populations included in the APM (e.g., federal or commercial beneficiaries and uninsured individuals; pediatric or adult populations; whether individuals are residents of a particular region and/or receive care in a particular region);^{195,196}
5. Population characteristics, including patient choice,¹⁹⁷ health status,¹⁹⁸ and SDOH or HRSNs;¹⁹⁹
6. Health plan characteristics, such as patient cost-sharing;²⁰⁰
7. Characteristics of the health care market, such as health plan and provider/entity competition; or
8. Policy landscape.

Several strategies that APMs and state health care programs use to capture these different components are summarized:

- Vermont All-Payer Model: includes claims and non-claims data, beneficiary cost sharing, and health plan costs for federally and commercially insured beneficiaries, as well as uninsured individuals in TCOC benchmarks²⁰¹
- Ohio Department of Medicaid Comprehensive Primary Care (CPC): compares practice TCOC relative to both historical self-performance and peer practices²⁰²
- Maryland TCOC: incorporates different factors in its regression-based approach to establish cost benchmarks for FFS and commercial populations^{203,204,205}
- Massachusetts Primary Care ACO: sets performance benchmarks based on an “attainment threshold” (i.e., minimum level of performance to earn achievement points) and an “excellence benchmark” (i.e., level of performance needed to earn the maximum number of achievement points)²⁰⁶

APMs may adopt different approaches to calculate benchmarks to best capture TCOC with respect to the APM’s scope and entities. Approaches to benchmarking and covered services for several APMs are provided in Exhibit 4.

Exhibit 4. Approaches to Benchmarking and Covered Services for Selected APMs

Model	Covered Services ²⁰⁷	Approach to Benchmarking
MSSP ^{208,209}	<ul style="list-style-type: none"> • Medicare Parts A and B services • Physician-administered prescription drugs under Part B • Self-administered prescription drugs (Part D) are not covered • Offers post-acute care (PAC) services without a prior 3-day hospital stay 	<ul style="list-style-type: none"> • Average annual expenditures for attributed beneficiaries prior to ACO forming (three-year lookback) • Updated annually based on national Medicare expenditure growth trends and rebased every three years
BPCI ²¹⁰	<p>Model 4 (2013 – present)</p> <ul style="list-style-type: none"> • Single, prospectively determined bundled payment to the hospital that includes all services • Participants can select up to 48 different clinical episodes • Prescription drugs covered under Part D are not included • Prescription drugs in Part B are included as part of bundled payments • Waivers for SNF stay without a prior 3-day hospital stay and post-discharge home visit 	<ul style="list-style-type: none"> • Benchmark Price for Clinical Episodes based on risk-adjusted claims-based historical data • Target Price for each Clinical Episode category for each Episode Initiator based on 3% discount to Benchmark Price • Preliminary Target Prices for hospitals are provided prospectively and rebased annually, and are based on individual past performance, treated patient case mix, and hospital peer group characteristics and trends • Final Target Prices are based on actual patient case mix and capped peer group trends
MA ²¹¹	<ul style="list-style-type: none"> • Medicare Parts A and B services • Physician-administered prescription drugs under Part B • Most MA plans offer a Medicare Advantage-Part D (MA-PD) plan for self-administered prescription drugs • Offers PAC services without a prior 3-day hospital stay 	<ul style="list-style-type: none"> • Based on average per beneficiary FFS spending and adjusted for market • Range from 95% to 115% of FFS spending for urban and rural counties, respectively
NGACO ²¹²	<ul style="list-style-type: none"> • Medicare Parts A and B services • Physician-administered prescription drugs under Part B • Self-administered prescription drugs (Part D) are not covered • Offers PAC services without a prior 3-day hospital stay 	<ul style="list-style-type: none"> • Sum of component expenditure benchmarks for Aged and Disabled and ESRD beneficiaries • Applies Discount (based on selected risk arrangement), Quality Withhold (percentage of PY Adjusted Benchmark Expenditure), and Earned Quality Bonus (obtained by multiplying the NGACO’s PY Quality Withhold and quality score) • PBPM benchmarks are adjusted for months of beneficiary alignment

Model	Covered Services ²⁰⁷	Approach to Benchmarking
GPDC ^{213,214}	<ul style="list-style-type: none"> • Medicare Parts and B services • Physician-administered prescription drugs under Part B • Self-administered prescription drugs (Part D) are not covered • Offers PAC services without a prior 3-day hospital stay 	<ul style="list-style-type: none"> • Compares PBPM FFS expenditures for aligned Aged and Disabled and ESRD beneficiaries during the PY to historical or regional (i.e., based on the MA Rate Book) expenditures • Excludes Part D costs • Under the Professional Option only, the PY Benchmark includes a discount that increases from 2% to 5% from PY1 to PY5
MD all-payer ^{215,216}	<ul style="list-style-type: none"> • Hospital services • Services provided by hospital-based physicians and services delivered during post-discharge episodes • Care management by primary care practice • Physician-administered prescription drugs under Part B • Self-administered prescription drugs (Part D) are not covered; however, Maryland state-level programs allow discounts for self-administered medication • PAC services are covered 	<ul style="list-style-type: none"> • Include all-payer hospital spending growth per capita, Medicare hospital spending growth per beneficiary, and Medicare all-provider spending growth per beneficiary

VII.D. Approaches for Defining Control Groups for Evaluation and Benchmarking

Definitions of control groups identified for APM impact evaluation and benchmarking may differ to best reflect the goals of each task.

APM impact evaluation. APM impact evaluation using a Difference-in-Difference (DID) design aims to estimate model participants’ effect on spending for their aligned beneficiaries (i.e., treatment group) relative to alignment-eligible beneficiaries (i.e., control group) receiving usual care in the same markets.²¹⁷ Spending estimates quantify changes in performance years relative to base years for each provider/entity and its control group.

For a given APM, control groups include individuals/beneficiaries who were treated by APM-eligible providers/entities and who meet APM eligibility criteria, which may include enrollment duration in Medicare FFS Parts A and B;^{218,219} U.S., state, or county residence;^{220,221,222} or alignment (e.g., prospective or retrospective; claims-based or voluntary).^{223,224,225}

Other APM-specific beneficiary characteristics may include health status or clinical characteristics. For example, for GPDC, Medicare FFS beneficiaries eligible for alignment to a High Needs Direct Contract Entity (DCE) must also have one or more mobility impairments, show evidence of frailty or functional disability, and/or have a hierarchical condition category (HCC) risk score greater than or equal to 3.0 or a risk score between 2.0 and 3.0 and at least two unplanned inpatient hospitalizations in the prior year.²²⁶

From the population of APM alignment-eligible beneficiaries, selected control group beneficiaries are those in APM markets and aligned to non-APM providers/entities for a given period of time during the

base period or performance year.^{227 228} Control group beneficiaries are weighted (e.g., propensity score weighting, entropy balancing)^{229 230} to be most similar to the model's treatment group based on key characteristics, including beneficiary demographic and clinical characteristics, as well as community and market factors.^{231 232} This approach enables estimation of the average treatment effect on the treated, which is essential to assessing APM impact.

Comparison groups for benchmarking. As described in Exhibit 3, TCOC benchmarking approaches differ by APM. Whereas evaluation control groups reflect the population of beneficiaries similar to those in the treatment group in the same markets during the same time period but who were not aligned to the model, benchmark comparison groups are historical. For example, comparisons are made between provider/entity performance year spending and the provider's/entity's own spending data in the base period,^{233,234} in MSSP, spending benchmarks are tailored to reflect historical ACO performance, calculating financial benchmarks using spending for the ACO's aligned beneficiaries during a pre-model base period and capturing market changes over time.²³⁵

Comparison groups for benchmarks can also be established based on a national reference population in the base period; in NGACO, shared savings and losses are based on PY spending relative to base period spending in a national reference population, including all potentially aligned beneficiaries, with regional adjustments.²³⁶ Distinct benchmarks may also be established based on payer/coverage, such as in the Vermont All-Payer Model, which implemented separate TCOC per Beneficiary Growth Targets for All-Payer and Medicare beneficiary populations.²³⁷

VI.E. Addressing Potential Unintended Consequences Related to Benchmarking

TCOC benchmarking is intended to hold providers/entities accountable for aligned beneficiary health care spending while incentivizing APM participation. Depending on the structure of the APM, unintended consequences may affect providers, including participating providers/entities and their partners, as well as non-participating providers. Unintended consequences may also have an impact on individuals and health care processes and outcomes within and outside a given APM.²³⁸

Potential unintended consequences related to TCOC benchmarking include discordance between evaluation estimates and benchmarks, changes in utilization for certain types of health care services, reduced access, limits on achievement or improvement, and cost shifting to consumers (which may reduce demand), and the exacerbation of health-related inequities.^{239,240} Additionally, there may be distinct implications for specialty care providers and practices.^{241,242,243}

Discordance between evaluation estimates and benchmarks. Within a given APM, impact evaluation DID estimates and financial benchmarks may yield discordant results for some entities. For example, in NGACO, some ACOs that received shared savings payouts also increased gross spending relative to their comparison group. This may have incentivized ACOs that increased net spending to remain in the model. Additionally, some ACOs that paid out shared losses also decreased spending relative to their comparison group, which may have encouraged these ACOs to exit the model.

Utilization. In APMs with TCOC benchmarking, providers/entities may respond by engaging in activities to reduce wasteful utilization, which may include decreasing low-value care or avoidable care, such as ED visits for non-emergent conditions or inpatient readmissions;²⁴⁴ unnecessary procedures or services; and high-cost prescription drugs or services for which there are lower-cost alternatives.^{245 246} However, in their efforts to reduce costs, providers/entities may also reduce medically necessary care or inappropriately reduce utilization of some health care services.^{247 248} This practice may have adverse effects on patients and, especially, vulnerable or marginalized populations.²⁴⁹

Access. With reduced utilization,^{250,251,252,253,254,255} decreased provider-patient face time,^{256,257} and provider consolidation,²⁵⁸ patients within and outside APMs may experience longer wait times or increased travel times for routine and/or specialty care.^{259,260}

TCOC benchmarking resulting in shared losses may also have substantial effects on providers/entities, especially smaller providers/entities. Providers/entities may experience financial instability or insolvency related to participation in APMs if shared losses in mandatory models are too burdensome. For example, under the ESRD Treatment Choices (ETC) Model, participants' home dialysis rates and transplant rates are compared to achievement benchmarks in non-ETC markets and to historical regional performance, with maximum penalties ranging from 6 percent to 11 percent of dialysis Monthly Capitation Payment (MCP) claims billing over the course of the model. Because these MCP claims represent a large proportion of nephrology practices' income, participation in the model may contribute to some practice closures, decreasing patient access to kidney care.²⁶¹

Limits on achievement or improvement. Over time, even high-performing providers/entities may struggle to achieve shared savings. For example, under MSSP benchmarking and rebasing methodologies, individual benchmarks are based on historical performance. After an ACO's initial three-year contract period, each subsequent period is based on prior involvement in the model, limiting potential to achieve and sustain savings. Researchers noted that to receive shared savings in the second contract period, ACOs had to reduce spending by an additional 2-3.9 percent, and that health care organizations that provided efficient, high-value care prior to model implementation may have limited opportunities to realize additional spending reductions. Subsequently, these organizations may choose to not participate in the model, or to exit the model after one contract period.²⁶²

In addition, some APMs, such as Medicare Advantage, include caps on shared savings based on regional variation in Medicare spending. These caps on shared savings may reduce payouts to providers/entities, limiting reinvestment in plan benefits.^{263,264,265}

Health Equity. Spending benchmarks have the potential to inadvertently perpetuate health-related inequities. For example, spending targets that fail to account for patients' clinical and social needs may incentivize providers to cherry pick healthier patients with decreased social risk. Although not always feasible, some APMs that mandate participation have included larger proportions of beneficiaries from traditionally underserved communities compared to APMs with voluntary participation—i.e., APMs in which providers are more likely to cherry pick favorable beneficiaries.²⁶⁶ It is also important to note that reduced spending may not always be indicative of improved efficiency, something that benchmarks often fail to consider. For some beneficiaries, particularly those from traditionally underserved communities, decreases in spending may actually be due to underuse or insufficient access to care.²⁶⁷ Additionally, when benchmarks are tied to provider incentives, those delivering care to disadvantaged patient populations may be unfairly penalized if incentive calculations do not account for variance in patient population across models.²⁶⁸

Cost shifting. In APMs with TCOC benchmarking, plans may shift costs to consumers as a strategy to reduce demand and, subsequently, decrease utilization. Cost shifting may include increasing premiums, deductibles, and copayments or coinsurance shares.²⁶⁹

Implications for specialists. Specialty care providers and practices may face unique challenges under TCOC benchmarks. Specialty care providers/practices may be the focus of APMs (e.g., ETC,²⁷⁰ KCC,²⁷¹ OCM²⁷²), or may integrate with other providers/entities to participate in accountable care models. In either case, specialty care providers/practices may face substantial infrastructure and operations costs associated with restructuring to align with model goals and/or partners. However, upfront investments

in model participation may not be met with proportional shared savings, and these expenditures may not hold long-term value if they or their partners choose to exit the model.²⁷³

Researchers have noted that there is a broad spectrum of employment for specialists, including single-specialty private practices, multi-specialty independent group practices, and hospital-based employment in specialty centers or large regional multi-hospital systems; this can affect participation in APMs, along with practice size, physician alignment, and referral networks. For example, smaller practices may be more agile, but lower patient volume will lead to larger effects of random variation on shared risk. Larger practices can take advantage of economies of scale and given higher patient volume and market share, may be more attractive partners.²⁷⁴

Strategies to address unintended consequence. Several strategies could be implemented to ensure that spending reductions relative to benchmarks in TCOC models do not negatively affect health care outcomes or patient experience with care.

1. Performance measures capturing utilization and access can be monitored over time. For example, existing APM evaluations consider performance across cost, utilization, access, and quality domains using claims-based data.^{275,276} Additionally, change in consumer out-of-pocket spending could be a valuable indicator of cost shifting.²⁷⁷
2. Patient surveys could also be used to capture perceived changes in utilization (e.g., changes in provider referral behavior; patient choice to delay or avoid care due to increased costs) or access to care (e.g., complaints about provider availability and wait times).²⁷⁸
3. Performance measures and survey responses can be stratified by population characteristics (e.g., by patient zip code of residence, Medicaid eligibility, race/ethnicity, and SDOH or HRSNs) to ensure that changes in utilization, access, or quality do not disproportionately impact disadvantaged or marginalized populations.^{279,280} Additionally, APMs could implement quality metrics that account for social needs screenings and referrals to social services and other community-based organizations.²⁸¹
4. Spending associated with disadvantaged or marginalized populations could be excluded from overall spending benchmarks. For example, the forthcoming Enhancing Oncology Model plans to offer additional funds to help care for dual-eligible beneficiaries; these payments will not be included in total spending targets.²⁸²
5. When benchmarks are tied to incentives, methods for determining performance-based incentives could prioritize relative improvement in patient outcomes, or these methods may vary incentive frameworks depending on the population served on the population served.²⁸³

Providers/entities may also identify opportunities to sustain monetary payouts over time. To increase opportunities to achieve shared savings over time, providers/entities in APMs with historical benchmarks based on self-performance may set more attainable goals, such as smaller percent reductions in aligned beneficiary spending. Although these providers/entities would have less of an impact on spending in the short term, they would increase their ability to sustain shared savings after rebasing for future contract periods. APM design could also alter schedules for rebasing (e.g., from three years to five years); although this would help providers/entities sustain shared savings, without incorporating different data into benchmarks (such as regional or national expenditure data instead of historical self-performance), researchers note that challenges to long-term improvements are only delayed, not eliminated.²⁸⁴

VIII. Risk Adjustment in Population-Based TCOC Models

PTAC's June public meeting included a discussion about the importance of risk adjustment methods that appropriately account for the costs of managing high-need patients but do not encourage upcoding or other unintended consequences, such as favoring the enrollment of lower-risk patients who are associated with lower health care costs over higher-risk patients.

VIII.A. Potential Costs and Savings Related to Focusing on High-Cost Beneficiaries with Multiple Chronic Conditions

Many population-based TCOC models to date have either focused on or achieved stronger impacts among high-cost and high-risk beneficiaries. CMMI's Next Generation Accountable Care Organization (NGACO) Model and the Medicaid Comprehensive Medication Management-Wrap (CMM-Wrap) program are recent examples.²⁸⁵ The NGACO Model ran from 2016 to 2019, and enabled ACO provider groups to assume higher levels of financial risk and reward than were available under the Shared Savings Program. An evaluation of the model found greater gross spending reductions for beneficiaries with eight or more chronic conditions compared to the rest of aligned beneficiaries. NGACO beneficiaries with eight or more chronic conditions had 2.5 percent or \$755 savings per beneficiary per year in 2019, with cumulative savings over the first four years of the model of 1.5 percent or \$456 per beneficiary per year for beneficiaries with eight or more chronic conditions.²⁸⁶

The CMM-Wrap program was piloted by California's Medi-Cal program in 2017 for its Medicaid population. To expand on typical medication management programs, CMM-Wrap integrated an artificial intelligence platform with health plan data, clinical pharmacists trained in disease management, telephonic patient engagement, and closed-loop provider coordination. An evaluation of the program focused on middle-aged Medicaid members with an average of 10 medications for chronic conditions and found TCOC savings of \$554 per member per month through reductions in emergency department visits, hospitalizations, and hospital bed days.²⁸⁷

Given high-risk beneficiaries may require more intensive or more frequent health care services than their lower-risk counterparts, high-risk beneficiaries may reap greater benefits from TCOC models that can work to contain costs through patient-centered care coordination. However, risk adjustment is necessary to ensure reasonable comparisons across entities, who may serve diverse patient populations with different patterns of utilization within and across categories of patient risk, and make sure that entities are not penalized in TCOC models for serving a higher-risk pool.

VIII.B. Options for Minimizing Risk Adjustment-Related Unintended Consequences

Risk adjustment for characteristics beyond the entity's control helps enable fair comparisons across entities and minimizes risk selection, where entities may select healthier, lower-cost patients and avoid higher-risk patients (e.g., patients with multiple chronic conditions). However, with risk adjustment, entities may have the opportunity to engage in coding intensive practices to improve quality scores or financial performance.

To minimize the potential for coding intensity, policies could focus on changing from retrospective to prospective attribution to enable greater predictability of attributed patient panels and more focused clinical management of at-risk beneficiaries. This would also help protect against clinicians and health care organizations (HCOs) avoiding higher-risk beneficiaries before attribution, as beneficiaries will be attributed to a clinician or an HCO only if they received care from that entity in the prior year.²⁸⁸ A lock-

in provision for high-risk beneficiaries experiencing health declines could also reduce the likelihood of ACOs dropping these patients. For example, a 2006 lock-in provision proved successful in limiting mid-year disenrollment of MA enrollees, particularly for beneficiaries experiencing health declines. This provision resulted in reductions in favorable risk selection in MA over time, as MA enrollees reported 8.1 percent lower utilization than traditional Medicare enrollees in 2006-2007 compared to 17.7 percent lower in 2001-2003.²⁸⁹

To reduce the incidence of HCOs dropping chronically ill patients in APMs, focus could be shifted to adjust for risk score changes instead of risk score levels before attribution, which could also preserve incentives to care for beneficiaries with deteriorating health.²⁹⁰ Another option to prevent HCOs from dropping increasingly sicker beneficiaries is to allow upward risk score adjustments; for example, in a study of the MSSP, researchers found that a one-time benchmark increase of up to 3 percent could allow practices to account for unexpected higher use due to increased complexity and health care needs among all attributed beneficiaries.²⁹¹ Although upwardly adjusting risk scores has proven successful at deterring coding intensity, this practice might discourage ACOs from caring for high-risk beneficiaries.²⁹² To ensure ACOs continue to care for these beneficiaries, APMs could use risk tiers instead of risk scores. This would allow practices to determine how beneficiaries' risk scores generally compare to others' while not facing the same incentives to favor enrollment of beneficiaries who may be less costly than their counterparts who fall within the same tier.²⁹³

Increasingly more evidence demonstrates how patients' SDOH or HRSNs inform their health care needs; SDOH and HRSNs predict spending and provide a more comprehensive understanding of the services patients need.²⁹⁴ Therefore, incorporating patients' SDOH or HRSNs into risk adjustment models may enable more accurate representation of entities' risk pools. However, risk adjustment based on SDOH or HRSNs can mask or worsen disparities if included in models where there is no conceptual relationship between the SDOH/HRSN and the outcome.²⁹⁵ Measure stratification is an alternative approach that can avoid over-penalizing providers serving higher proportions of disadvantaged patients while revealing disparities in care.²⁹⁶ In addition, the development of a risk score validation system would improve consistency with coding across practices while also reducing incentives to code more intensively;²⁹⁷ for example, electronic health record (EHR) or chart review could be used to validate risk scores.

IX. Accountability and Risk Sharing in Population-Based TCOC Models

Holding organizations and practitioners accountable for delivering high-quality, cost-efficient care is an essential feature of population-based TCOC models. Methods for operationalizing accountability, however, vary across and within models. This section explores accountability from various angles, beginning with a discussion of voluntary versus claims-based alignment. Next, the section highlights different approaches that previous and ongoing CMMI models have used to incorporate accountability. Finally, the section concludes with a discussion of network leakage and methods for facilitating provider participation in accountable care relationships.

IX.A. Attribution and Voluntary Alignment

Beneficiary attribution or alignment refers to the methodology used to assign beneficiaries to a specific physician or ACO. Beneficiaries are typically attributed to providers or ACOs via claims-based or voluntary alignment. Providers and ACOs are particularly interested in attribution methodologies given that their ability to generate savings is, at least in part, a function of their patient population. Experts and others involved in the design of ACO-based models have also pointed to the attribution process as a

potential mechanism for encouraging beneficiary engagement, which in turn could help facilitate accountable, patient-centered care.²⁹⁸

Under claims-based alignment, beneficiaries are assigned to the physician responsible for providing the plurality of their primary care services, as defined by claims utilization data.²⁹⁹ Claims-based alignment can be either prospective or retrospective. Under prospective alignment, beneficiaries are assigned to an ACO or to another risk-bearing organization based on services administered in prior years. Retrospective alignment assigns beneficiaries based on services provided during the performance year. One challenge presented by claims-based alignment is that patients often see multiple providers, including both PCPs and specialists, and therefore may not have a clearly defined usual care provider. In addition, claims-based alignment is considered less conducive to prioritizing patient preferences.³⁰⁰

In contrast, voluntary alignment is the process by which beneficiaries elect their primary care provider, typically a provider with whom they have a pre-existing relationship.³⁰¹ If the provider to which a beneficiary is aligned participates in an ACO model, the beneficiary is also associated with that ACO.³⁰² In most models that offer voluntary alignment, voluntary alignment takes precedence over claims-based alignment.³⁰³ In addition to empowering beneficiaries to play a more active role in their own health care, voluntary alignment has been associated with improved health outcomes and patient satisfaction.³⁰⁴ Some also argue that voluntary alignment increases patient willingness to communicate with their providers, allowing providers to more effectively deliver patient-centered care.³⁰⁵

Strategies to manage both voluntary and claims-based alignment vary across models, some of which include:

- Medicare Shared Savings Program (MSSP): Uses claims-based alignment, and beneficiaries can choose to voluntarily align.³⁰⁶
- Pioneer ACOs: In partnership with CMS, Pioneer ACOs used a randomized trial to compare the feasibility and utility of voluntary and claims-based alignment methods; however, results from the study were not included in the evaluation reports.³⁰⁷
- Next Generation ACOs (NGACO): Voluntary alignment is offered to beneficiaries, but utilization is low. Based on an evaluation of the NGACO Model following the third performance year, 1.1 percent of beneficiaries voluntarily aligned in 2016, 0.6 percent in 2017, and 0 percent in 2018.³⁰⁸
- Global and Professional Direct Contracting (GPDC)/ACO REACH: Relies on both voluntary and claims-based alignment; New Entrant DCEs primarily rely on voluntary alignment, whereas Standard and High Needs Population ACOs anticipate using both voluntary and claims-based alignment.³⁰⁹

IX.B. Options for Distributing Shared Savings and Losses among ACOs, Primary Care, and Specialty Providers

Shared risk—both upside-only and bidirectional arrangements—provide the main mechanism for establishing accountability in population-based total cost of care models. In upside-only risk arrangements, ACOs that meet their financial and quality targets share in savings. Under bidirectional risk arrangements, ACOs that fail to meet their benchmarks are also contracted to share in losses.³¹⁰ Upon completion of the model performance year, the total amount of shared savings or losses is calculated and adjusted for quality and patient risk. Distribution of these savings or losses occurs at two levels: first, between CMMI and participating entities (i.e., ACOs or DCEs), and then within entities (e.g., between ACOs and participating or preferred providers).

Distribution methodologies between CMMI and participating entities are standardized within each model. Participating ACOs enter into a risk-bearing arrangement with CMMI, which then serves as the blueprint for the distribution of savings or losses between CMMI and participating ACOs. Models typically offer multiple participation tracks, each presenting a different risk potential. For example, MSSP initially allowed participants to select from one of four tracks that ranged from upside-only risk (50 percent) to increasing levels of bidirectional risk (50 to 75 percent).³¹¹ In 2018, CMS announced changes to MSSP, effective July 2019, which sought to accelerate ACO adoption of bidirectional risk by reducing the amount of time ACOs are permitted to spend on the upside-only track and further limiting the percentage of savings available to those in an upside-only arrangement.³¹²

In contrast to MSSP, the NGACO and GPDC/ACO REACH Models both consist of two bidirectional risk tracks and do not offer an upside-only option. NGACOs can elect between the partial risk track (80 percent) and full risk track (100 percent). GPDC/ACO REACH participants can choose between the professional track (50 percent) and the global track (100 percent).

Once total savings or losses have been calculated, ACOs are responsible for managing the internal distribution of these funds. In addition to paying or penalizing providers, ACOs are often responsible for also determining how much money to invest in or withhold from infrastructure enhancements.³¹³ Although distribution approaches vary across and within models, it is common for providers (whether individual practitioners or provider groups) to receive a share of savings or be penalized for a share of losses that is contingent on quality of care.^{314,315} Although preferred providers may share in savings in certain models, such as NGACO, they are not factored into CMS's quality calculations.³¹⁶ In other models, such as the Vermont All-Payer Model (VTAPM), risk is distributed according to net patient service revenue so that larger hospitals shoulder more financial risk.³¹⁷ In addition to highlighting the need for allocation methodologies that are sensitive to provider-level performance, researchers have also noted the importance of approaches that encourage cross-specialty care and buy-in from stakeholders.³¹⁸ For example, distribution approaches that reward or penalize providers exclusively based on attribution volume may disadvantage specialists or other non-attributed providers, therefore disincentivizing cross-specialty coordination.³¹⁹

In some models, such as MSSP, ACOs are required to articulate their shared savings plan in their program application and then report these plans on public-facing ACO websites.³²⁰ Under the MSSP model, participants are granted flexibility in how they allocate their savings, which is intended to encourage ACOs to identify optimal allocation strategies.³²¹ On average, participating ACOs allocated 63 percent of savings to PCPs, specialists, and/or hospitals, and allocated 33 percent of savings to infrastructure.³²² Twenty-nine ACOs also reported allocating a portion of savings for other purposes, such as strategic partners or investment activities.³²³ In addition, 16 ACOs highlighted programs that they intended to launch using shared savings, which included, for example, hiring case managers and providing educational programs for patients.³²⁴ The study did not, however, identify a correlation between the portion of shared savings given to PCPs, specialists, and or hospitals versus infrastructure and an ACO's capacity to achieve savings.³²⁵ However, ACOs sharing over 50 percent of their savings to PCPs and specialists, as compared to those sharing over 50 percent of their savings with hospitals, were more likely to have generated savings; this was also true of ACOs that distributed over 60 percent of savings to PCPs.³²⁶ Lastly, ACOs with more than 10 participating entities were also more likely to have generated savings compared to smaller ACOs.³²⁷

Unlike the risk payments between CMMI and ACOs, there is generally less documentation regarding how ACOs allocate savings or losses internally.³²⁸ MSSP is relatively unique in terms of the extent to which risk payment allocation methodologies have been made available and analyzed by researchers. In contrast, ACOs participating in the NGACO Model were not required to disclose their distribution processes and did not want to share this proprietary information. Similarly, given that GPDC/ACO REACH allocation methodologies are not standardized across ACOs, evaluators are required to assess participation contracts for each individual ACO in the model. How ACOs allocate their funds, however, is directly linked to an ACO's potential to incent provider behavior, reinvest in key infrastructure such as EHR technology, and ultimately, disrupt care delivery through successful implementation of value-based care.

Although model evaluators often lack the data needed to assess the implementation and efficacy of ACO plans for allocating savings or losses, researchers have proposed theoretical models for such processes.^{329,330} In one study, researchers outline four potential allocation models that ACOs could implement when dividing savings among their providers:³³¹

- Attribution Incentive Model: Savings are allocated proportional to the number of beneficiaries served.
- Incremental Incentive Model: Savings are divided based on performance, but the model weights payments proportional to the number of beneficiaries served.
- Threshold Incentive Model: Providers are first required to meet a minimum savings threshold and are then paid based on quality and cost measures.
- Endowment Incentive Model: Uses upfront incentive payments to support providers, similar to the prospective payment system from VTAPM.³³²

The study is most supportive of the Threshold Incentive Model; the authors argue that providers are most responsive to incentives that are tied to individual performance and that this model offers the most analytically advanced framework for implementing such an approach.³³³ It is important to note, however, that the four models presented in the study only offer guidance on how to divide savings among providers and do not address approaches for investing in infrastructure. Additionally, some ACOs have avoided using savings to incentivize providers due to a lack of sufficient performance-related data at the provider level.³³⁴

IX.C. Options for Developing Phase-in Periods for Taking on Bidirectional Risk

Several population-based total cost of care models have incorporated phase-in periods for taking on bidirectional risk. In addition to affording providers more time to acclimate to their new risk-bearing arrangement, phase-in periods could also help encourage otherwise hesitant providers to participate in bidirectional risk models.^{335,336} Longer transition periods may be particularly beneficial to less experienced ACOs and smaller organizations with less financial reserves and or infrastructure to support the adoption of bidirectional risk.³³⁷

MSSP's Pathways to Success Program offers perhaps the most extensive set of options for organizations and providers transitioning to bidirectional risk arrangements. The Program's BASIC track consists of a five-stage glide path; the first two stages include upside-only risk, and bidirectional risk is then progressively introduced during the latter three stages.³³⁸ After each performance year, participants progress to the next stage, which, depending on the particular phase, results in an increased potential for both upside and downside risk, as well as less conservative risk corridors.³³⁹ More experienced

participants have the option to directly enter into the bidirectional risk track (i.e., the ENHANCED track), which offers even greater potential for shared savings and losses than the final stage of the BASIC track.³⁴⁰

In contrast to MSSP, the NGACO and GPDC/ACO REACH Models do not offer phase-in options. NGACO was intended for ACOs with experience coordinating care at the population level and was therefore designed to give participants the opportunity to assume greater financial risk than in earlier models, such as MSSP.³⁴¹ That being said, the NGACO Model includes certain features intended to support participants in risk-bearing arrangements such as through post-attribution adjustment of patient risk scores, which is an enticing feature for ACOs concerned about the impacts of having to care for beneficiaries who become sicker post-attribution.³⁴² The GPDC/ACO REACH Models offer even more support to less experienced ACOs, such as those entering the model as New Entrant DCEs/ACOs. For example, GPDC/ACO REACH requires participants under the professional track to assume only 50 percent risk versus the 80 percent risk required under NGACO's partial risk track. Additionally, once in effect in 2023, ACO REACH will reduce GPDC's 5 percent quality withhold down to 2 percent and also plans to introduce a health equity benchmark adjustment.³⁴³ Under ACO REACH, New Entrant and High Needs Population ACOs will also be permitted to maintain lower minimum numbers of aligned beneficiaries compared to Standard ACOs; requirements for the number of aligned beneficiaries will grow incrementally each performance year.³⁴⁴

While some maintain that the success of ACO models hinges on providers' increased adoption of bidirectional risk, others argue that forced or expedited transitions to downside risk bearing arrangements may lead ACOs to reconsider participation in APMs.^{345,346,347} There is evidence suggesting provider hesitancy to take on downside risk. A 2016 study by the National Association of ACOs reported a 261 percent increase in ACO participation in upside-only Medicare models between 2012 and 2016 compared to a 62 percent increase in two-sided ACO models.³⁴⁸ Similarly, according to the National Survey of ACOs, the percent of ACOs with a downside risk contract increased only 5 percentage points between 2012 and 2018.³⁴⁹

The Pathways to Success program, which gave rise to the 2018 rule change limiting the amount of time MSSP ACOs can be in an upside-only risk arrangement, produced mixed results. In the year following the rule change, there was a net decrease in ACO contracts—the first decrease since the program's inception in 2012.³⁵⁰ Although the total number of patients covered by ACOs grew by three million during that same time period, the increase is primarily attributed to the expansion of commercial ACOs.³⁵¹ However, more recent research points to an increased willingness of ACOs to take on downside risk; the number of MSSP ACOs participating in a bidirectional risk contract more than doubled between 2019 and 2020, and the total number of Medicare beneficiaries served by physicians in ACOs grew from 10.4 to 11.2 million.³⁵² Additionally, even though the ACO attrition rate was slightly higher in 2020 compared to 2019, nearly half of providers who left their 2019-affiliated ACO participated with a different ACO in 2020.³⁵³

IX.D. Options for Preventing Network Leakage

ACOs aim to allow patients to obtain care from a wide network of providers, while incentivizing providers to optimize quality and cost of care. One of the most pressing challenges ACOs face in their efforts to improve care coordination is the issue of leakage. When patients seek care outside of the ACO, usually for a specialist visit, they jeopardize quality and cost management efforts since outside care often makes care coordination challenging and can result in duplicative or excess services and costs.^{354,355} Leakage may occur when out-of-network appointments are more convenient and when beneficiaries are unclear about which providers are in-network vs. out-of-network.³⁵⁶ Research has

demonstrated a PCP-to-specialist ratio “sweet spot” at about 45 percent, with communities below or above the ideal percentage of community spending and utilization showing higher expenses and greater leakage.³⁵⁷ In other words, communities were vulnerable to leakage when they had a shortage of specialists overall or had a shortage for certain services but numerous specialists for other services.³⁵⁸ At the patient-level, researchers found most specialty care, particularly among medically complicated patients, was administered outside the ACO.³⁵⁹

Network composition and provider heterogeneity play a key role in the amount of health care leakage. Analyses have shown the benefits of an interconnected and geographically strategic network.³⁶⁰ For example, patients with chronic illnesses often rely on regular appointments with specialists, so the proximity and availability of both primary care physicians, as well as specialist services, are essential to provide necessary care and maintain patient satisfaction.³⁶¹ This reflects the importance of having a diverse group of providers within any given network, since beneficiaries in networks with fewer options may be more likely to seek out-of-network specialist care. This may be the case for geographically isolated communities that tend to have weaker and fewer connections with specialists. These communities may be more vulnerable to leakage unless ACOs are able to improve local resources.

An alternative strategy for addressing leakage is to expand primary care capacities, minimizing the need for additional outside services.³⁶² Expanding primary care services may include utilizing telehealth consultations, co-location, or group visits.^{363,364} Each of these strategies would address concerns with lack of care coordination, wait times, and geographic barriers. For unavoidable specialist consultations, ACOs can partner with health management firms to establish out-of-ACO networks specialists to maintain some level of coordination and efficiency.³⁶⁵ Overall, considering community assets and barriers when developing and evaluating ACO networks can help predict future network leakage and identify opportunities and strategies to mitigate it. This information may be particularly useful during new patient enrollment because it can be used to inform which ACO networks best match a patient’s health risk profile; for example, a medically complicated patient may need access to a larger network with a wide range of specialists, whereas a less complicated patient may be able to receive any necessary care at their local primary care provider. Thus, using this information during patient enrollment may improve patient satisfaction and decrease out-of-network care, thereby reducing leakage.³⁶⁶

In terms of specialty care leakage, normally, a patient initiates care by visiting a PCP that then recommends an in-network specialist for additional consultation. Unfortunately, this trade-off often jeopardizes care coordination and patient choice, particularly if the beneficiary’s preferred specialist is out-of-network.³⁶⁷ Patient and provider satisfaction surveys have consistently shown the need for greater transparency, communication, and coordination between PCPs and specialists.³⁶⁸ For instance, PCPs reported not knowing if their patient saw the referred specialist, patients reported having to cancel appointments due to slow lab result transfers, and specialists reported not receiving clear information about the referral.³⁶⁹ Luckily, the increased use of electronic health records has helped to improve the timeliness of physician communication and record sharing.

The first step for addressing lack of coordination requires a mutual understanding of the issue. Universal utilization of referral guidelines to formalize and clarify what types of referrals should be made, what types of communication is preferred by the PCP and specialist, what types of tests should be ordered prior to the referral, and what information should be shared are also recommended. However,

researchers also stress that these guidelines must be crafted by both PCPs and specialists to be effective.³⁷⁰ These initiatives to educate patients and providers not only facilitate greater transparency and promote physician coordination but can also improve patient satisfaction.

The final overarching strategy for improving care coordination between PCPs and specialists involves the investment in advanced health care system technology and infrastructure. Research has found greater reported satisfaction when patients are able to schedule appointments online, and physicians have access to a database with quick, reliable, and up-to-date information about their patients and other physicians.³⁷¹ Improved EHR adoption and directionality also allow ACOs to link appointments to referrals, better track medical records and scheduling history, improve information sharing to and from out-of-network providers, and monitor and manage leakage.³⁷² For out-of-network patients, one of the main challenges is EHR systems may not be compatible, which inhibits or slows information sharing between a PCP and specialist. In summary, efforts to upgrade health care technology, accompanied by reduced specialist wait times, and common best practices for documenting and handling referrals have been shown to improve care quality, coordination, and costs.

IX.E. Waivers to Facilitate Providers’ Ability to be Accountable for Patient Care

ACOs are responsible for providing high-quality and cost-efficient care to their beneficiaries, and waivers enable them to advance these goals and remain accountable for their beneficiaries without fear of infringing on the federal fraud and abuse laws.³⁷³ The U.S. Government provides several federal health care fraud and abuse laws, as described in Exhibit 5.

Exhibit 5. Federal Health Care Fraud and Abuse Laws³⁷⁴

Law	Description
False Claims Act (FCA)	Ensures government health care charges are reasonable and support high-quality services
Anti-Kickback Statute (AKS)	Prohibits the trading or agreement to refer Medicare or Medicaid patients in exchange for a gift, reward, or anything of value
Physician Self-Referral Law (Stark Law)	Prohibits physicians from referring to providers or health services with which they have a financial relationship. Services could include lab, physical and occupational therapy, outpatient, radiology and imaging, home health, prescription drug, and hospital services, along with prosthetics, devices, and supplies
Exclusion Statute	Prohibits beneficiaries and physicians convicted of health care-related fraud, theft, or other misconduct from participating in federal health care programs
Civil Monetary Penalties Law (CMPL)	States that health care fraud and abuse can result in penalties of up to \$50,000 per violation

The relevant amendments for Medicare ACOs include waivers for pre-participation, participation, shared savings, compliance with the AKS and Stark Laws, and patient incentives.³⁷⁵ The pre-participation, participation, AKS, and Stark Law waivers allow the ACO provider or participant to manage referral options in a way that encourages use of providers in the ACO network.³⁷⁶ This may also include efforts to connect with and recruit new providers to expand MSSP ACO networks.³⁷⁷ The shared savings waiver gives ACOs the freedom to choose how their shared savings to be distributed or used.³⁷⁸ Lastly, patient

incentive waivers allow an ACO to offer all Medicare beneficiaries (regardless of whether they are affiliated with an ACO or not) certain non-monetary preventive items or services, such as in-kind health services, or services that are preventive and/or advance clinical goals.³⁷⁹

The Shared Savings Program waivers, initiated during the Affordable Care Act, negate certain fraud and abuse laws to carry out the provisions of the MSSP and other ACOs. The Shared Savings Program was designed to promote accountability for the Medicare population, coordinate patient services, and foster initiatives to improve infrastructure and health care processes.³⁸⁰ However, the intertwined nature of the network, such as the provider partnerships and financial arrangements that help the ACO network achieve program goals, is not always aligned with federal fraud and abuse laws.³⁸¹ As a result, these waivers have enabled the program to investigate new payment and care models. The pre-participation, participation, shared savings, compliance with Stark Law, and patient incentives waivers provide flexibility to pursue a variety of start-up and operating activities for the MSSP, for example. They allow the MSSP ACOs to promote evidence-based medicine and patient engagement, maintain quality and cost measure reporting, coordinate care via telehealth and patient monitoring, meet quality performance standards, and assess population need.³⁸²

Fraud and abuse waivers have been issued for a variety of ACOs and are applicable as beneficiary inducements. These other waivers perform a similar purpose to the MSSP waivers, as they enable additional flexibility to support program initiatives and goals. For example, the Vermont All-Payer ACO Model incentivizes the collaboration between numerous care delivery and public health systems.³⁸³ Additionally, various fraud and abuse laws were waived to carry out testing of the GPDC Model.³⁸⁴ These fraud and abuse law waivers allow the direct contracting entity to negotiate and instigate certain start-up arrangements during the Implementation Period in the interest of program quality, care coordination, and cost-reduction goals. Other noteworthy fraud and abuse waivers have been issued to advance program goals within the Pioneer ACO Model, the Next Generation ACO Model, the Medicare Advantage Value-Based Insurance Design Model, and the Bundled Payments for Care Improvement Advanced (BPCI Advanced).³⁸⁵

In addition to beneficiary inducement waivers, there are also enhancement waivers such as the Skilled Nursing Facility (SNF) 3-Day Rule. The SNF 3-Day Rule Waiver waives the requirement for a 3-day inpatient hospital stay prior to Medicare-covered skilled nursing and/or skilled rehabilitation care.³⁸⁶ The waiver does not create a new benefit or expand coverage but provides participating ACOs additional flexibility to improve care quality and decrease health care costs.³⁸⁷ Similarly, the post-discharge home visit waiver allows NGACOs additional flexibility in billing for evaluation and management home visits. This waiver allows physicians to contract with licensed clinicians to provide home care under the supervision of a Next Generation Participant or Preferred Provider, rather than requiring direct supervision.³⁸⁸

X. Options for Downstream Mechanisms to Pay Providers under Population-Based TCOC Models

X.A. Relationship between Payment Mechanisms and Encouraging Provider Participation in Population-Based TCOC Models

The rapid transition into value-based payment models from the traditional FFS system has resulted in significant organizational impact and cultural change. However, population-based TCOC models must also focus on attracting individual providers to participate. Structuring incentives to providers, deciding what services to apply incentives to, and aligning incentives from the system level down to the clinician level are challenges. Misaligned incentives can lead to metrics that are not tied with the end goal of the model and may lessen the impact of population-based TCOC models.

Providing proper incentives to providers and organizations is important because it results in higher provider satisfaction with payment mechanisms and, subsequently, improved retention rates.³⁸⁹ Current research suggests that providers' behaviors are influenced by characteristics of payment mechanisms that they use in their practice. Some of those characteristics include the sufficiency of payment rates to cover the cost of services, performance requirements, and accountability mechanisms. Financial incentives are also intended to offset costs of participation.³⁹⁰ This gives providers the ability to invest in resources and infrastructure to participate in APMs, thereby encouraging provider engagement with APMs. Designing payment mechanisms in ways that encourage provider participation and engagement while containing costs has supported improvements in issues related to health care access, equity, efficiency, and quality.

To encourage participation and engagement in APMs, it is essential that incentives for containing costs and improving quality align and can be implemented across a broad provider and patient population. Alignment of incentives can support appropriate utilization, cost reduction, and higher quality of care. In addition, depending on model scope, APMs can use appropriate incentives to successfully target improvements in patient experience with care, care processes, and health care outcomes.³⁹¹ Moreover, tailoring incentives to specific types of providers (e.g., inpatient vs. outpatient care, post-acute vs. long-term care) may help providers meet the different needs of the populations they serve.

X.B. Examples from Prior PTAC Proposals

The original [*Environmental Scan on Issues Related to the Development of Population-Based Total Cost of Care \(TCOC\) Models in the Broader Context of Alternative Payment Models \(APMs\) and Physician-Focused Payment Models \(PFPMs\)*](#)³⁹² identified ten previous submitters that discussed the use of TCOC measures in their payment methodology and performance reporting as part of their PTAC proposal submissions.

Several of these ten proposed models included examples of innovative payment methodologies that were designed to encourage provider participation and engagement in alternative payment models. These payment methodology innovations are described in Exhibit 6. Additional information about these proposals can be found in Appendix D.

Exhibit 6. Highlights of Payment Methodology Innovations in Selected PTAC Proposals with TCOC-Related Components

Submitter Name	Payment Mechanism	Payment Methodology Innovations
AAFP	<ul style="list-style-type: none"> • Per-beneficiary per-month (PBPM) global payment (Level 1: Ambulatory, office-based, face-to-face evaluation and management [E&M] services; Level 2: All E&M services regardless of site of service) • PBPM population-based payment (covers non-face-to-face services such as increased staffing) • Quarterly performance-based incentive payments • Fee-for-service (FFS) limited to services not covered by the global payment (primarily non-E&M) 	<ul style="list-style-type: none"> • Prospective, risk-adjusted population-based global payment for primary care • Practice prospectively awarded incentive payments that may have to be repaid based on performance
AAHPM	PBPM payment with opportunity for shared risk/savings	<ul style="list-style-type: none"> • Tier 1: Up-front base PBPM payments with performance-based incentives/penalties • Tier 2: Up-front base PBPM payments with performance-based shared savings/losses linked to TCOC
C-TAC	Capitated PBPM payment with downside risk for TCOC and upside bonus for quality performance, subject to maximum payment and loss amounts	<ul style="list-style-type: none"> • Wage-adjusted PMPM payments for the last 12 months of life • Quality bonus payments or shared losses based on the TCOC for the last 12 months of life with a 4 percent minimum shared savings/loss rate. Upside quality bonus payments would be operational in Years 1-2; shared loss would begin in Year 3.
UChicago	Supplemental PBPM payment with shared risk	PBPM care continuity fee (for physicians who meet benchmarks for providing their patients with both inpatient and outpatient care)
ACS	Episode-based model with continued FFS and shared risk/savings	Incentive payments made retrospectively based on difference between observed and expected episode spending
ASCO	<ul style="list-style-type: none"> • Track 1 practices receive FFS payments • Track 2 practices have option to bundle a portion (either 50% or 100%) of what would otherwise be reimbursed via FFS payments • Both tracks receive add-on care management payments worth 2-3% of TCOC • Both tracks receive add-on performance payments worth 2-3% of TCOC 	<ul style="list-style-type: none"> • Prospective care management payments • Bundled payments (50%-100% of the value of specified services)

Submitter Name	Payment Mechanism	Payment Methodology Innovations
Avera Health	One-time payment for new admission and a PBPM payment with two separate shared risk options (Performance-Based Payment and the Shared Savings Model)	Prospective “Regular Payments” (\$252 one-time payment for new admissions and \$55 PBPM payment) that are dependent on quality and financial performance
LUGPA	<ul style="list-style-type: none"> • Monthly care management fee (PBPM payment) • Performance-based payment for enhancing utilization of active surveillance (AS) 	<ul style="list-style-type: none"> • Prospective care management payment • Retrospective performance payment based on the difference between the target amount and actual episode spending amount
NYC DoHMH	Bundled episode-based payment replacing FFS, with shared risk/savings	Prospective bundled payment
IGG/SonarMD	<ul style="list-style-type: none"> • PBPM payment with two-sided risk • Additional monthly payment to support ongoing monitoring 	<ul style="list-style-type: none"> • Prospective PMPM payment model with retrospective reconciliation • Additional monthly payment for non-face-to-face services by clinical staff, overseen by the physician

XI. Options for Including Accountability for Additional (non-Medicare Parts A or B) Costs in Population-Based TCOC Models

One key point of discussion during PTAC’s March and June public meetings on population-based TCOC models related to whether the definition of TCOC for these models should include services beyond Medicare Parts A and B. For example, including outpatient prescription drugs was identified as a potential opportunity for improving accountability for quality and costs. In 2021, Part D spending was approximately \$104.9 billion, of which \$0.5 billion is federal administrative fees and \$104.4 billion is benefits.³⁹³ Even with such high spending, Medicare beneficiaries tend to have a considerable amount of spending on out-of-pocket costs for drugs.³⁹⁴ In 2019, 1.5 million Part D enrollees spent almost half, \$1.8 billion, of the total out of pocket drug spending for the year.³⁹⁴ Opportunities were also identified related to addressing HRSNs and SDOH. One study found that there were many behavioral and social health factors associated with higher costs.³⁹⁵

Understanding the needs and costs associated with dually enrolled beneficiaries could provide insight into spending patterns and develop a better understanding of the potential consequences associated with adding spending categories. These individuals tend to be younger and eligible for Medicare because they have a disability or end-stage renal disease.³⁹⁶ On average, the costs for dually enrolled individuals were \$3,618 higher than for non-dually enrolled individuals. Dually enrolled patients have much higher levels of risk and spending in comparison to non-dually enrolled patients from 2006-2013, the years studied.³⁹⁷ Many low-income beneficiaries tend to not access dental, vision, and hearing care in comparison to high-income beneficiaries.³⁹⁸ More recently, individuals are enrolling in MA plans that offer these benefits and fill the gap; however, patients are still paying high out of pocket costs.³⁹⁹

XII. Annotated Bibliography

Supplement to the Environmental Scan on Issues Related to the Development of Population-Based Total Cost of Care (TCOC) Models in the Broader Context of Alternative Payment Models (APMs) and Physician-Focused Payment Models (PFPs), Part 2

Annotated Bibliography

Advisory Board. Taking advantage of Medicare ACO waivers. Published July 12, 2013. Accessed July 27, 2022. <https://www.advisory.com/Daily-Briefing/2013/07/12/Law-review>

Subtopic(s): Accountability and Risk Sharing in Population-based Total Cost of Care (TCOC) Models

Type of Source: Interview

Objective: To summarize an interview with Mike Segal from the firm Broad & Casse on the future of Medicare Shared Savings Program (MSSP) Accountable Care Organization (ACO) waivers.

Main Findings: The Centers for Medicare & Medicaid Services (CMS) and the Department of Health and Human Services' (HHS) Office of Inspector General (OIG) shared that the waivers may be reduced in the future, potentially exposing ACO applicants to heightened liability in the MSSP. The interview covers how ACOs can use these Waivers to provide services which contribute to population health management.

Strengths/Limitations: The interview gives a few key points concerning ACOs, but it is not a comprehensive analysis or a peer reviewed paper.

Generalizability to Medicare Population: Moderate; the interview discussed MSSP ACO wavers, but they are not applicable to the Medicare population as a whole.

Methods: N/A

Apte SM and Patel K. 2016. Payment Reform: Unprecedented and Evolving Impact on Gynecologic Oncology. *Frontiers in Oncology*. <https://www.frontiersin.org/articles/10.3389/fonc.2016.00084>.

Subtopic(s): Establishing Benchmarks in Population-based TCOC Models

Type of Source: Journal article

Objective: To review payment reforms impacting gynecological oncology care.

Main Findings: The article discusses how the Medicare Access and Children's Health Insurance Plan (CHIP) Reauthorization Act in 2015, the Medicare Oncology Care Model (OCM), and how various private payers were implementing new APMs would impact gynecological oncology care.

Strengths/Limitations:

Generalizability to Medicare Population: Moderate; the article discusses a Medicare payment model and the CHIP Reauthorization Act but not the Medicare population as a whole.

Methods: This is a policy review article in which the authors reviewed different payment reform policies.

Better Medicare Alliance. Positive Outcomes for High-Need, High-Cost Beneficiaries in Medicare Advantage Compared to Traditional Fee-For-Service Medicare.

<https://www.bettermedicarealliance.org/wp-content/uploads/2020/12/BMA-High-Need-Report.pdf>

Subtopic(s): Evaluating Payment Arrangements to Support Population-based TCOC Models

Type of Source: Report

Objective: To examine whether integrated care and care management in Medicare Advantage (MA) resulted in better outcomes for high-need, high-cost patients.

Main Findings: This study found better outcomes in MA than traditional fee-for-service (FFS) Medicare for all study populations on 17 or 22 clinical quality of care measurements; higher rates of physician office visits within 14 days of a hospital discharge for all high-need, high-cost populations; higher rates of outpatient visits in MA compared to traditional FFS Medicare; and lower rates of avoidable hospitalizations for acute conditions for all high-need, high-cost populations in MA compared to traditional FFS Medicare.

Strengths/Limitations: This retrospective observational analysis was not designed to examine causal relationships.

Generalizability to Medicare Population: Strong; study evaluated MA vs traditional FFS Medicare beneficiaries.

Methods: Peer reviewed algorithm for identifying high-need, high-cost beneficiaries, as well as propensity score matching.

Brooks GA, Li L, Uno H, Hassett MJ, Landon BE, Schrag D. Acute Hospital Care Is The Chief Driver Of Regional Spending Variation In Medicare Patients With Advanced Cancer. *Health Affairs*.

2014;33(10):1793-1800. doi:[10.1377/hlthaff.2014.0280](https://doi.org/10.1377/hlthaff.2014.0280)

Subtopic(s): Medicare Spending Patterns Relevant to Population-based TCOC Models

Type of Source: Journal article

Objective: To identify drivers of regional spending variation for Medicare patients with advanced cancer.

Main Findings: Acute hospital care was the largest component of spending and the chief driver of regional spending variation, accounting for 48 percent of spending and 67 percent of variation. In contrast, chemotherapy accounted for 16 percent of spending and 10 percent of variation. Hospice care constituted 5 percent of spending. However, variation in hospice spending was fully offset by opposing variation in other categories.

Strengths/Limitations:

Generalizability to Medicare Population: Strong; study focused on spending variation for Medicare patients.

Methods: Linked Surveillance, Epidemiology, and End Results program (SEER) and Medicare data to calculate the contribution of 13 cancer-related service categories to spending.

Centers for Medicare & Medicaid Services. Primary Care First: Payment and Attribution Methodologies; 2022:116. <https://innovation.cms.gov/media/document/payment-and-attribution-methodologies-py20>

Subtopic(s): Evaluating Payment Arrangements to Support Population-based TCOC Models

Type of Source: Model overview document

Objective: To provide an overview of the payment and attribution methodologies employed by the Primary Care First (PCF) Model.

Main Findings: PCF, which began in 2021, is an Alternative Payment Model (APM) offering primary care practices greater financial risk in return for increased flexibility and opportunities to receive performance-based payments. Participating practices receive capitated payments, flat payments per visit, and performance-based payments, which are tied to one of two outcome measures: acute hospital utilization or total per capita cost. The model also adjusts reimbursement based on patient risk; practices serving patient populations with complex or chronic needs are given larger population-based payments, which are prospective, monthly payments sent out quarterly.

Strengths/Limitations: NA

Generalizability to Medicare Population: Strong; this is a Medicare model.

Methods: N/A

Center for Medicare and Medicaid Innovation. CPC+ Payment Methodologies: Beneficiary Attribution, Care Management Fee, Performance-Based Incentive Payment, and Payment Under the Medicare Physician Fee Schedule for Program Year 2018. U.S. Department of Health & Human Services; 2017. <https://innovation.cms.gov/files/x/cpcplus-methodology.pdf>

Subtopic(s): Risk Adjustment in Population-based TCOC Models

Type of Source: Model overview document

Objective: To provide an overview of the methodologies that the Centers for Medicare & Medicaid Services (CMS) used for the Comprehensive Primary Care Plus (CPC+) payment model being tested in Medicare FFS in Program Year 2018.

Main Findings: The report reviews the attribution and payment elements, the beneficiary attribution, the Care Management Fee, the Performance-Based Incentive Payment, and the Payment under the Medicare Physician Fee Schedule for CPC+.

Strengths/Limitations: This is a comprehensive synopsis of the CPC+ model.

Generalizability to Medicare Population: Moderate; the report focuses on Medicare CPC+.

Methods: N/A

Chernew ME, de Loera-Brust A, Rathi V, McWilliams JM. MSSP Participation Following Recent Rule Changes: What Does It Tell Us? 2019. *Health Affairs Forefront*. <https://www.healthaffairs.org/doi/10.1377/forefront.20191120.903566/full/>

Subtopic(s): Establishing Benchmarks in Population-based TCOC Models

Type of Source: Blog post

Objective: To evaluate MSSP participation following the 2018 rule changes.

Main Findings: The number of ACOs participating in MSSP decreased in 2019 for the first time since the Program's inception in 2012. This was due to a record low number of ACOs joining the program and a record high number of ACOs leaving the program. As of 2019, MSSP participating ACOs included less than 40 percent of the original 2012-2013 cohort. The blog highlights three program features that they believe negatively influence ACO participation: rebasing of benchmarks (i.e., lowering ACO spending targets), regionalization of benchmarks (i.e., setting benchmarks based on an ACO's spending relative to others in their region), and accelerated downside risk. They also argue that MSSP benchmarking rules may not fully capture an ACO's savings potential, as evidenced by prior research on the Pioneer ACO program that suggests that ACOs that left the program saved as much as ACOs that remained in the Program.

Strengths/Limitations: Although the blog suggests several factors associated with the rule changes that likely influenced participation in the Model, the study does not employ a causal

design. Additionally, the study only analyzes data from the year after the rule changes and is therefore unable to assess how participation evolved once ACOs had more time to adjust to the new rules.

Generalizability to Medicare Population: Strong; the blog analyzes a Medicare model.

Methods: Descriptive analyses of CMS data on MSSP participation between 2012 and 2019.

Connecticut Office of Health Strategy. "CT OHS' Cost Growth Benchmark Unintended Adverse Consequences Measurement Plan." February 2, 2021. <https://portal.ct.gov/-/media/OHS/Cost-Growth-Benchmark/Reports-and-Updates/Unintended-Adverse-Consequences-Measurement-Plan.pdf>.

Subtopic(s): Establishing Benchmarks in Population-based TCOC Models

Type of Source: Report

Objective: To highlight potential unintended consequences resulting from Connecticut's cost growth benchmark plan.

Main Findings: The report identifies potential unintended consequences of the cost growth benchmark including reduced access to care—particularly for marginalized populations—and consumers shouldering health care costs that were previously covered by insurers. The report goes on to outline an approach for evaluating these potential adverse consequences. Several measures and methodologies for studying underutilization and access to care are presented, such as member experience surveys.

Strengths/Limitations: The study design incorporates analyses of several types of data sources.

Generalizability to Medicare Population: Moderate; benchmark plan applies to several patient populations including Medicare beneficiaries.

Methods: Quantitative analyses of utilization and spending data, and consumer surveys.

Deloitte. CMS Finalizes Redesign of Medicare Shared Savings Program. Reg Pulse Blog. Published March 26, 2019. Accessed July 25, 2022. <https://www2.deloitte.com/us/en/pages/regulatory/articles/mssp-aco-pathways-to-success-shared-savings-program-changes.html>

Subtopic(s): Accountability and Risk Sharing in Population-based TCOC Models

Type of Source: Blog post

Objective: To outline the 2018 rule change to MSSP and to discuss potential impacts.

Main Findings: The rule introduced a new distinction between experienced and inexperienced ACOs and requires experienced ACOs to more rapidly take on downside risk. The new rule created two tracks: BASIC, which allows ACOs to begin with upside only risk, and ENHANCED, which offers the greatest level of two-sided risk. The blog also highlights modifications related to benchmarking, beneficiary alignment, and waivers, among others. The blog notes that according to CMS, by 2028, there will be 36 fewer ACOs participating in the Model.

Strengths/Limitations: The blog does not include a methodology section outlining, which sources were reviewed or how they analyzed the new rule.

Generalizability to Medicare Population: Strong; the blog focusses on a Medicare model.

Methods: N/A

DiGiorgio AM, Menger RP. Commentary: An Analysis of Medicare Reimbursement for Neurosurgeon Office Visits: 2010 Compared to 2018. *Neurosurgery*. 2021;89 (2): E128.
<https://doi.org/10.1093/neuros/nyab172>.

Subtopic(s): Establishing Benchmarks in Population-based TCOC Models

Type of Source: Editorial

Objective: To review the study by Harrington et al, “An Analysis of Medicare Reimbursement for Neurosurgeon Office Visits” 2010 Compared to 2018.”

Main Findings: The review provides positive feedback on the Harrington et al study, noting how the data presented in the study demonstrate ways in which providers seek to reduce costs incurred when serving Medicare patients. Some of these practices include reducing the number of Medicare patients seen and upcoding. The review also highlights the significant amount of time that providers spend working with electronic medical records (16 minutes per encounter and nearly six hours per day), which the authors believe results in decreased face-time with patients. The review indicates that neurosurgeons are moving away from FFS to MA and APMs.

Strengths/Limitations: N/A

Generalizability to Medicare Population: Strong; the review addresses a study of Medicare patients.

Methods: N/A

Dinh CT, Liao JM, Navathe AS. Implications of coding and risk-adjustment in primary care payment reform. *Journal of Hospital Management and Health Policy*. 2019;(3).
<https://jhmhp.amegroups.com/article/view/5058/html>

Subtopic(s): Risk Adjustment in Population-based TCOC Models

Type of Source: Journal article

Objective: To comment on Markovitz et al.’s analysis of risk adjustment in the MSSP, summarize risk adjustment in select Medicare payment models, and propose policy changes.

Main Findings: The authors note that ensuring fair and appropriate risk adjustment is critical to the success of APMs and serves many functions. The authors suggest changing from retrospective to prospective attribution, to encourage predictability and protect against providers avoiding higher risk beneficiaries before attribution. The authors also suggest adjusting for risk score growth instead of risk score levels before attribution, to prevent providers from dropping chronically or acutely ill patients in APMs. They highlight that developing a mechanism for risk adjustment could give the opportunity to compare risk regionally and nationally.

Strengths/Limitations: N/A

Generalizability to Medicare Population: Strong; the authors discuss the impacts of payment reform within the context of the Medicare population.

Methods: N/A

Drake M. Total Cost of Care Shared Savings Methodology. Ohio Department of Medicaid. 2019.
<https://medicaid.ohio.gov/static/Providers/PaymentInnovation/CPC/Webinar-20190830.pdf>.

Subtopic(s): Establishing Benchmarks in Population-based TCOC Models

Type of Source: Presentation

Objective: To present Ohio’s TCOC shared savings methodology.

Main Findings: Shared savings for Ohio’s Comprehensive Primary Care program uses an annual retrospective payment determined by TCOC. Certain requirements related to quality and efficiency need to be satisfied for a participating practice to receive shared savings. Additionally, participating practices are required to have at least 60,000 attributed beneficiary months during the performance year. Shared savings payments are risk-adjusted and can be based on TCOC relative to peer practices and or relative to a practice’s baseline TCOC benchmarks.

Strengths/Limitations: N/A

Generalizability to Medicare Population: Moderate; the presentation focuses on Medicaid, though may be applicable to dual-eligible beneficiaries. Some practices outlined in the presentation may also be transferable to Medicare.

Methods: N/A

DuGoff E, Tabak R, Diduch T, Garth V. Quality, Health, and Spending in Medicare Advantage and Traditional Medicare. *The American Journal of Managed Care*. 2021; 27(9).

<https://www.ajmc.com/view/quality-health-and-spending-in-medicare-advantage-and-traditional-medicare>

Subtopic(s): Evaluating Payment Arrangements to Support Population-based TCOC Models

Type of Source: Journal article

Objective: To compare MA with traditional Medicare with respect to quality, health, and spending outcomes.

Main Findings: Over half of the analyses reviewed provided evidence to suggest that compared to traditional Medicare, MA offers enhanced quality of care, better health outcomes, and reduced costs. In regard to quality of care, the most common area of study was end-of-life care, which was followed by post-acute care quality. Health outcomes were most commonly evaluated from the perspective of inpatient settings and focused on hospital readmissions. Cost-related analyses also tended to focus on inpatient spending as well as TCOC.

Strengths/Limitations: All of the studies included in the review were observational rather than experimental or quasi-experimental. The review employed a rigorous classification methodology to assess the strength of each study’s research design, which allowed the researchers to identify potential biases, such as those related to selection bias.

Generalizability to Medicare Population: Strong; the review focuses on MA and traditional Medicare.

Methods: Systematic review of peer reviewed literature published between January 2010 and May 2020.

Finke B, Davidson K, Rawal P. Addressing Challenges in Primary Care—Lessons to Guide Innovation. *JAMA Health Forum*. 2022;3(8):e222690. doi:[10.1001/jamahealthforum.2022.2690](https://doi.org/10.1001/jamahealthforum.2022.2690)

Subtopic(s): Medicare Spending Patterns Relevant to Population-based TCOC Models

Type of Source: Blog post

Objective: To understand the challenges to improving patient care by reflecting on lessons learned from Comprehensive Primary Care, Comprehensive Primary Care Plus, and Primary Care First Models.

Main Findings: The Comprehensive Primary Care (CPC) and Comprehensive Primary Care Plus (CPC+) demonstrated that practices can change care delivery, and CPC+ slowed the growth in ED visits, but it is difficult to detect changes in quality and total cost of care in a 5-year timeframe.

Additionally, it is vital to focus on equity, align multiple players, and understand regional differences in any primary care models.

Strengths/Limitations: Provides a comprehensive analysis of lessons learned for primary care models

Generalizability to Medicare Population: Strong; study focuses on Medicare models.

Methods: N/A

Figueroa J, Zhou X, Jha A. More Than One-Quarter of High-Cost Medicare Patients Have Persistent High Costs Over Three Years. The Commonwealth Foundation. Published online January 7, 2019.

<https://www.commonwealthfund.org/publications/journal-article/2019/jan/high-cost-medicare-patients-persistent-three-years>

Subtopic(s): Medicare Spending Patterns Relevant to Population-based TCOC Models

Type of Source: Report

Objective: To assess the extent to which high-cost Medicare patients continue to incur high costs over time (i.e., to determine the portion of and key traits associated with persistently high-cost beneficiaries).

Main Findings: 28 percent of high-cost patients in 2012 continued to be high-cost patients in 2013 and 2014. Interestingly, persistently high-cost patients were, on average, younger than transiently or never high-cost patients, more likely to be dual-eligible, qualify for Medicare due to end-stage renal disease, and also more likely to be racial or ethnic minorities. Compared to transiently high-cost patients, persistently high-cost patients were responsible for about four times as much spending in outpatient settings and on medication.

Strengths/Limitations: The study defines persistently high-cost patients as those who remained high-cost during the three-year study period—it is unclear if all of these patients would continue to incur high costs beyond three years.

Generalizability to Medicare Population: Strong; study focuses on Medicare patients.

Methods: Analysis of Medicare claims data between 2012 and 2014.

<https://doi.org/10.1001/jamahealthforum.2022.2690>

Fong JH. Out-of-pocket health spending among Medicare beneficiaries: Which chronic diseases are most costly? *PLOS ONE*. 2019;14(9):e0222539.

<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0222539>

Subtopic(s): Medicare Spending Patterns Relevant to Population-based TCOC Models

Type of Source: Journal article

Objective: To examine which chronic diseases are most costly for out-of-pocket spending among Medicare beneficiaries.

Main Findings: Cardiovascular disease, diabetes, hypertension and cancer, induce significantly higher adjusted out-of-pocket spending among older adults than other conditions. Prescription drug spending is the most important aspect of additional expenses for cardiovascular disease, diabetes and hypertension. For cancer, the highest costs involve most non-inpatient services. The researchers conclude that health professionals and policy makers must recognize that certain chronic diseases have high expenses on senior citizens and ensure they are interventions to support the high costs.

Strengths/Limitations: The researchers acknowledge the limitations in their evaluation, including that the Health and Retirement Study (HRS) excludes chronic illnesses such as dementia or viral diseases.

Generalizability to Medicare Population: Strong; study involves Medicare beneficiaries.

Methods: The study involves data from the 2014 HRS representing a weighted population of 35,939,270 Medicare beneficiaries above 65.

Freed M, Fuglesten J, Biniek, Damico A. Medicare Advantage in 2021: Premiums, Cost Sharing, Of-of-Pocket Limits and Supplemental Benefits. 2021. *Kaiser Family Foundation*.

<https://www.kff.org/medicare/issue-brief/medicare-advantage-in-2021-premiums-cost-sharing-out-of-pocket-limits-and-supplemental-benefits/>.

Subtopic(s): Establishing Benchmarks in Population-based TCOC Models

Type of Source: Journal article

Objective: To describe the premiums, post sharing, out-of-pocket limits and supplemental benefits of MA in 2021.

Main Findings: MA plans do not always result in lower costs than traditional Medicare plans. More than half of MA enrollees pay higher costs than traditional Medicare beneficiaries with no supplemental coverage for a 6-day hospital stay. Additional data is needed on service utilization and out-of-pocket spending patterns for MA to determine the value and quality of the MA program.

Strengths/Limitations: The analysis does not take into account deductibles that some MA enrollees face or the maximum out-of-pocket limits under MA, which would cap the amount enrollees pay for their care, including hospitalizations. It is possible that some MA enrollees would reach their out-of-pocket limit during their inpatient stay, particularly if they had incurred high expenses prior to an inpatient admission.

Generalizability to Medicare Population: Strong; analysis involves Medicare beneficiaries.

Methods: Internal Kaiser Family Foundation (KFF) analysis.

Gillock C. What is Voluntary Alignment in Global & Professional Direct Contracting (GPDC)? Pearl Health. Published November 23, 2021. Accessed July 29, 2022. <https://pearlhealth.com/blog/healthcare-101/what-is-voluntary-alignment-in-global-professional-direct-contracting-gpdc/>

Subtopic(s): Accountability and Risk Sharing in Population-based TCOC Models

Type of Source: Blog post

Objective: To explain the concept of voluntary alignment in the GPDC model.

Main Findings: The authors of this blog post discuss the historical context, benefits, and process and considerations for voluntary alignment. The benefits include those for the patient, the provider, and for the U.S. health care system as a whole.

Strengths/Limitations: The blog post was written by Pearl Health, not CMS. Pearl Health works with physician partners to help them succeed in Direct Contracting.

Generalizability to Medicare Population: Strong; voluntary alignment affects Medicare programs.

Methods: Internal Pearl Health analysis.

Gondi S, Chokshi D. 2020. "Financial Stability as a Goal of Payment Reform—A Lesson From COVID-19." *JAMA Health Forum* 1 (8): e201012. <https://doi.org/10.1001/jamahealthforum.2020.1012>.

Subtopic(s): Establishing Benchmarks in Population-based TCOC Models

Type of Source: Journal article

Objective: To explain how the goals and mechanisms to achieve value-based care must be improved based on the lessons learned from the COVID-19 pandemic.

Main Findings: To date, APMs have had modest effects on health outcomes or spending. The authors conclude the need for increased financial stability to advance value-based care became clear due to the COVID-19 pandemic. Increased financial stability as a goal of payment reform would allow for increased progress on cost containment, prevention, and health equity.

Strengths/Limitations: This is an opinion piece from the authors.

Generalizability to Medicare Population: Strong; APMs involve Medicare beneficiaries.

Methods: N/A

Han MA, Clarke R, Ettner SL, Steers WN, Leng M, Mangione CM. Predictors of Out-of-ACO Care in the Medicare Shared Savings Program. *Med Care*. 2016;54(7):679-688.

<https://doi.org/10.1097/mlr.0000000000000541>

Subtopic(s): Accountability and Risk Sharing in Population-based TCOC Models

Type of Source: Journal article

Objective: To determine predictors of out-of-ACO care in the MSSP.

Main Findings: The results from the study showed that 32.9 percent of total expenditures were paid to out-of-ACO providers and 89.8 percent of beneficiaries had out-of-ACO expenditures. Racial and ethnic minority groups spent less outside of the ACO than white patients. The study population included a significant amount of out-of-ACO expenditures.

Strengths/Limitations: Patients were excluded if they declined to share data with the ACO, were not retrospectively confirmed to be in the ACO, or had missing data on covariates. This missing data may have skewed the results.

Generalizability to Medicare Population: Strong; study addresses the MSSP.

Methods: Secondary data analysis using Centers for Medicare and Medicaid ACO Program Claim and Claim Line Feed dataset. The study involved two-part modeling to examine associations between patient-level predictors and likelihood and level of out-of-ACO expenditures.

Harvey HB, Vrushab GG, Gazelle S, and Pari VP. 2014. The Ephemeral Accountable Care Organization—An Unintended Consequence of the Medicare Shared Savings Program. *Journal of the American College of Radiology* 11 (2): 121–24. <https://doi.org/10.1016/j.jacr.2013.07.012>

Subtopic(s): Establishing Benchmarks in Population-based TCOC Models

Type of Source: Journal Article

Objective: To discuss the challenges and potential solutions with the benchmarking and rebasing methods of MSSP, specifically for radiologists.

Main Findings: MSSP's current method of calculating shared savings preferentially rewards incremental rather than sustained health care savings, which places participating ACOs in a difficult position and makes the long-term viability of the MSSP model uncertain.

Strengths/Limitations: Study does not detail its methodology.

Generalizability to Medicare Population: Strong; discussion focused on Medicare programs.

Methods: N/A

Health Payer Intelligence. AHCP: Current Medicare Advantage Benchmark Caps Penalize Seniors. August 13, 2021. <https://healthpayerintelligence.com/news/achp-current-medicare-advantage-benchmark-caps-penalize-seniors>.

Subtopic(s): Establishing Benchmarks in Population-based TCOC Models

Type of Source: Blog post

Objective: To describe how the current MA benchmark caps penalize senior citizens and the advantages of the Quality Payment Relief Act according to the Alliance of Community Health Plans.

Main Findings: Senior citizens may lose over a thousand dollars in MA benefits due to current MA benchmark caps. The Alliance of Community Health Plans supports the Quality Payment Relief Act, which would correct the use of MA benchmark caps and ensure seniors have access to expanded benefits, reduced premiums and lower co-pays.

Strengths/Limitations: This article mostly focuses on the viewpoint from the Alliance of Community Health Plans who may have their own biases.

Generalizability to Medicare Population: Strong; article addresses Medicare beneficiaries.

Methods: Internal analysis.

Hippen B, Reed A, Ketchersid T, Maddux F. Implications of the Advancing American Kidney Health Initiative for Kidney Transplant Centers. 2020. *American Journal of Transplantation* 20 (5): 1244–50. <https://doi.org/10.1111/ajt.15619>

Subtopic(s): Establishing Benchmarks in Population-based TCOC Models

Type of Source: Journal article

Objective: To describe the implications of the Advancing American Kidney Health Initiative (AAKHI) for kidney transplant centers.

Main Findings: The authors concluded that the role of the kidney transplant center in the new payment models under the AAKHI need to be revised to ensure they align with the incentives of all stakeholders. Currently, there are no clear advantages of kidney transplant programs in becoming risk-bearing partners. Both the mandatory and voluntary AAKH initiatives suggest opportunities for collaboration with nephrologists and dialysis providers.

Strengths/Limitations: This article is listed as a “personal viewpoint.”

Generalizability to Medicare Population: Strong; model involves Medicare beneficiaries.

Methods: Internal analysis.

Jaffery JB, Ronk K, Smith M. Does Beneficiary Switching Create Adverse Selection For Hospital-Based ACOs? *Health Affairs Forefront*. Published April 15, 2019. Accessed July 22, 2022. <https://www.healthaffairs.org/doi/10.1377/forefront.20190410.832542/full/>

Subtopic(s): Risk Adjustment in Population-based TCOC Models

Type of Source: Blog post

Objective: To discuss the financial performance of MSSP ACOs.

Main Findings: The authors present their belief that there is an alternative explanation for hospital-based ACOs’ worse financial performance, stating that as Medicare beneficiaries develop more complex diseases and new conditions, they increase utilization. This leads to requiring more specialized care, which is more likely be part of a hospital-based ACO than a physician-led one. They also support their beliefs with recent research on program financial performance.

Strengths/Limitations: N/A

Generalizability to Medicare Population: Strong; the blog post focuses on MSSP ACOs.

Methods: N/A

Jacobson G, Cicchiello A. Medicare Advantage: A Policy Primer. *Commonwealth Fund*. Published May 2022. Accessed July 22, 2022.

<https://www.commonwealthfund.org/publications/explainer/2022/may/medicare-advantage-policy-primer>

Subtopic(s): Establishing Benchmarks in Population-based TCOC Models

Type of Source: White paper

Objective: To provide an overview of the MA program and compare it to traditional Medicare.

Main Findings: The paper describes the different ways MA and traditional Medicare can be compared, such as benefits provided, quality of care, patient outcomes, and costs and presents some findings of recent studies on costs and explains factors impacting the higher costs of MA plans, like risk adjustment and patient coding. The paper also describes how MA payments are based on a system of benchmarks, bids, and quality incentives.

Strengths/Limitations: This white paper provides a thorough explanation of the MA program and metrics used to assess its strengths and weaknesses compared to traditional Medicare. However, it is not a peer reviewed article.

Generalizability to Medicare Population: Strong; the paper focuses on Medicare.

Methods: N/A

Johnston KJ, Joynt Maddox KE. The Role Of Social, Cognitive, And Functional Risk Factors In Medicare Spending For Dual And Nondual Enrollees. *Health Affairs*. 2019;38(4):569-576.

<https://doi.org/10.1377/hlthaff.2018.05032>

Subtopic(s): Options for Including Accountability for Additional (non-Medicare Part A or B) Costs in Population-based TCOC Models

Type of Source: Journal article

Objective: To assess the impact on medical claims of an artificial intelligence (AI) platform that identifies members and provides decision support to clinicians in performing interventions with Medicaid beneficiaries similar to medication therapy management (MTM) and comprehensive medication management (CMM).

Main Findings: The study found that CMM, along with advanced AI, substantially reduces the TCOC and utilization as measured by claims. Clinical decision support, including AI, longitudinal lab data, information visualization, and action plan simulation, enable more efficient, effective, and investigative interventions. The researchers concluded that Medicaid and Medicare involvement in AI CMM services would substantially decrease government health care expenditures and reduce costs for the health plans.

Strengths/Limitations: This study is unique because MTM is typically reimbursed for the Medicare population and studies evaluating the impact of MTM and CMM services on the Medicaid population are lacking.

Generalizability to Medicare Population: Strong; the study involved Medicaid and Medicare members and makes conclusions about Medicare spending.

Methods: This study involved mixed-effects regression models to account for trends in cost, as measured by actual claims. The analysis considered cost and utilization data from August 2017 through April 2019. Interventions occurred between January 2018 and February 2019.

Kapoor D, Shore N, Kirsh G, Henderson J, Cohen T, Latino K. The LUGPA Alternative Payment Model for Initial Therapy of Newly Diagnosed Patients With Organ-Confined Prostate Cancer: Rationale and Development. 2017. *Reviews in Urology* 19 (4): 235–45. <https://doi.org/10.3909/riu0779>

Subtopic(s): Establishing Benchmarks in Population-based TCOC Models

Type of Source: Journal article

Objective: To explain the rationale and development of the LUGPA APM for patients with organ-confined prostate cancer.

Main Findings: Currently, there are no urology-specific APMs available, so most urologists are compelled to participate in Merit-based Incentive Payment System (MIPS). The LUGPA APM is an episode-based model currently under development. Their goal is to align incentives for physicians to advance surveillance of patients to avoid potentially unnecessary interventions. The LUGPA APM supports the goals of the triple aim in improving the patient experience, enhancing population health and reducing expenditures. The LUGPA APM is designed to appeal to urologists, including practices that are large, small, independent, and hospital-owned.

Strengths/Limitations: The LUGPA APM is currently under development, so the authors have not been able to assess the APM since it has been implemented.

Generalizability to Medicare Population: Strong; the LUGPA APM involves Medicare beneficiaries.

Methods: N/A

Khullar D, Zhang Y, Kaushal R. Potentially Preventable Spending Among High-Cost Medicare Patients: Implications for Healthcare Delivery. *J Gen Intern Med*. 2020;35(10):2845-2852.

<https://doi.org/10.1377/hlthaff.2018.05032>

Subtopic(s): Medicare Spending Patterns Relevant to Population-based TCOC Models

Type of Source: Journal article

Objective: To examine the implications of potentially preventable spending among high-cost Medicare patients.

Main Findings: Potentially preventable spending was concentrated among high-cost patients who were seriously ill, frail, or had a serious mental illness. Interventions targeting these subgroups may be helpful for reducing preventable utilization. Conditions such as End Stage Renal Disease (ESRD) and opioid use disorder—while affecting a relatively small proportion of Medicare beneficiaries—are associated with high levels of per-patient preventable utilization.

Strengths/Limitations: The authors address the study's limitations, including that it is possible that not all spending is in fact preventable, and it is likely that some of this spending is outside the control of the health care system.

Generalizability to Medicare Population: Strong; study involves Medicare beneficiaries.

Methods: The researchers used Medicare claims and social determinants of health data to group patients into high-cost categories and quantify potentially preventable spending. The patients involved 556,053 Medicare FFS and dual-eligible beneficiaries with at least one health care encounter in the New York metropolitan area in 2014.

LaPointe J. Number of MSSP ACOs Taking Downside Risk Doubles, CMS Reports. Published January 14, 2020. Accessed August 1, 2022. <https://revcycleintelligence.com/news/number-of-mssp-acos-taking-downside-risk-doubles-cms-reports>

Subtopic(s): Accountability and Risk Sharing in Population-based TCOC Models

Type of Source: Blog post

Objective: To examine the report from CMS that the number of ACOs in the MSSP assuming downside financial risk doubled from 93 ACOs at the start of 2019 to 192 at the state of 2020.

Main Findings: In October 2019, CMS reported that MSSP ACOs generated \$1.7 billion in total savings in 2018. However, CMS found that ACOs assuming downside risk during the performance period produced greater savings than their peers in non-risk-based tracks. Many disagree with CMS' interpretation of MSSP participation and savings data, including the National Association of ACOs (NACCOS). NAACOS found that MSSP ACOs have been more successful than CMS has estimated.

Strengths/Limitations: Blog post only references NACCOS as the association that disagreed with CMS.

Generalizability to Medicare Population: Strong; post involves Medicare beneficiaries.

Methods: Reporting and analysis of CMS reports.

Li X, Evans JM. Incentivizing performance in health care: a rapid review, typology and qualitative study of unintended consequences. BMC Health Services Research. 2022;22(1):690.

<https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-022-08032-z>

Subtopic(s): Establishing Benchmarks in Population-based TCOC Models

Type of Source: Journal article

Objective: To develop a comprehensive typology of unintended consequences of "Performance Management" (PM) in health care and to describe multiple stakeholder perspectives of the unintended consequences of PM in cancer and renal care in Ontario, Canada.

Main Findings: The resulting typography from this research provides a common language for discourse on unintended consequences and supports comparable analyses of unintended consequences across PM and health care systems. Policy makers and managers can use the results of this study to inform the design and implementation of evidence-informed PM programs.

Strengths/Limitations: The authors address the study's limitations, including that relevant papers may have been missed due to the range of possible PM interventions and differences in terminology across disciplines.

Generalizability to Medicare Population: Weak; study does not involve Medicare.

Methods: The researchers conducted a review of unintended consequences of PM in health care to develop a typology of unintended consequences. They conducted a secondary analysis of data from a qualitative study involving semi-structured interviews with 147 participants involved with or impacted by a PM system used to oversee 40 care delivery networks in Ontario, Canada. Participants included administrators and clinical leads from the networks and the government agency managing the PM system.

Maloney S. The Use of Benchmarks for Payment in Medicare Advantage and Necessary Adjustments. *Better Medicare Alliance*. Accessed August 10, 2022.

<https://bettermedicarealliance.org/publication/the-use-of-benchmarks-for-payment-in-medicare-advantage-and-necessary-adjustments/>

Subtopic(s): Establishing Benchmarks in Population-based TCOC Models

Type of Source: Policy brief

Objective: To describe the use and function of payment benchmarks for MA and to urge CMS and Congress to make adjustments to address the MA benchmark cap and inaccuracy in calculations.

Main Findings: Benchmarks are the yearly determined maximum payments set by the CMS which is the average spending for traditional FFS Medicare per beneficiary by county which is also adjusted for geography. The brief describes inaccuracies in the average spending that is the basis of the MA benchmark due to MA including benefits under both Part A and Part B.

Strengths/Limitations: The brief gives a few key points concerning MA, but it is not a comprehensive analysis of the use of benchmarks.

Generalizability to Medicare Population: Strong; the brief focuses on MA.

Methods: N/A

Markovitz AA, Hollingsworth JM, Ayanian JZ, et al. Risk Adjustment In Medicare ACO Program Deters Coding Increases But May Lead ACOs To Drop High-Risk Beneficiaries. *Health Affairs*. 2019;38(2):253-261. <https://doi.org/10.1377/hlthaff.2018.05407>

Subtopic(s): Risk Adjustment in Population-based TCOC Models; Accountability and Risk Sharing in Population-based TCOC Models

Type of Source: Journal article

Objective: To examine whether beneficiaries' exposure to the MSSP was associated with changes in risk scores and whether risk scores were associated with entry to or exit from MSSP.

Main Findings: The report found that high-risk beneficiaries and providers with higher risk patients were more likely to exit MSSP ACOs. This indicates that the current system of risk adjustment was not actively encouraging ACOs to care for high-risk beneficiaries in the MSSP and successfully minimized coding increases.

Strengths/Limitations: One limitation was that administrative data cannot be used to determine whether risk score changes reflect changes in health status, health care status or coding practices. Another limitation was that the data was outdated, ending in 2014 so it may not be applicable to today's ACOs. Along with this, there are beneficiaries for whom these results may not be representative of due to moving in and out of FFS Medicare and the health system.

Generalizability to Medicare Population: Strong; study focuses on Medicare ACOs.

Methods: Sensitivity analysis, a linear spine model with splines, and a decomposition analysis were used in this study.

Maryland Hospital Association. "Maryland All-Payer Model Performance: Years 1 Through 5 (CY 2014 – CY 2018)." Accessed July 30, 2022. [https://www.mhaonline.org/docs/default-source/transforming-health-care/maryland-model-dashboard/medicare-waiver-performance-\(final\).pdf?sfvrsn=cf79d60d_18](https://www.mhaonline.org/docs/default-source/transforming-health-care/maryland-model-dashboard/medicare-waiver-performance-(final).pdf?sfvrsn=cf79d60d_18)

Subtopic(s): Establishing Benchmarks in Population-based TCOC Models

Type of Source: Report

Objective: To analyze the Maryland All-Payer Performance Model performance over the course of 5 years from CY2014 to CY2018.

Main Findings: The model's performance met or exceeded all of the target goals set forth within the given timeframe. The target goal for the Maryland Hospital acquired conditions rate (compared to Maryland) was a 30 percent decrease and the performance saw a 51.50 percent decrease. Similarly, the Medicare hospital spending growth per beneficiary (compared to national) target goal was \$330 million in cumulative savings at year 5 and the performance saw \$1.42 billion in cumulative savings. In the other areas of the model's target goals such as the all-payer hospital spending growth per capita (compared to Maryland), Medicare all-provider spending growth per beneficiary (compared to national), and Medicare readmission rate (compared to national) all target goals were met and exceeded.

Strengths/Limitations: The strength that this model has is that it has provided proper data and figures to support the claims that all target goals for the Maryland All-Payer Performance Model have been met. Some limitations include the lack of information provided when it comes to some of the challenges that the model came across. Providing some of the challenges would be appropriate in obtaining insight into areas in which the model requires strengthening.

Generalizability to Medicare Population: Strong; the model is implemented for and evaluates outcomes for Medicare beneficiaries.

Methods: The evaluation employed qualitative and quantitative analysis to provide the graphs and data included in the report.

Mathematica Policy Research. Evaluation of the Maryland Total Cost of Care Model: Implementation Report. July 2021. <https://innovation.cms.gov/data-and-reports/2021/md-tcoc-imp-eval-report>

Subtopic(s): Establishing Benchmarks in Population-based TCOC Models

Type of Source: Report

Objective: To evaluate the Maryland TCOC Model and examine the model's impact on costs and quality outcomes.

Main Findings: The report emphasizes that there are three pathways that the Maryland TCOC model can use for improved outcomes. Those pathways include the hospital and care partner pathway, the primary care and Care Transformation Organization (CTO) pathway, and the state accountability pathway. All three pathways are aimed at the same goal of reducing spending, improving quality of care, and improving population health and utilization.

Strengths/Limitations: One limitation is that this model is only being implemented in the state of Maryland so it may be hard to generalize the impacts of the model due to the population characteristics within the state in comparison the general U.S. population.

Generalizability to Medicare Population: Strong; the model is incorporated and affects many Medicare beneficiaries within the state of Maryland.

Methods: Various quantitative and qualitative methods were used for this report.

Mathematica Policy Research. Independent Evaluation of Comprehensive Primary Care Plus (CPC+): Fourth Annual Report. May 2022. <https://innovation.cms.gov/data-and-reports/2022/cpc-plus-fourth-annual-eval-report>.

Subtopic(s): Establishing Benchmarks in Population-based TCOC Models

Type of Source: Report

Objective: To provide and independent analysis of Comprehensive Primary Care Plus and examine its effectiveness in areas where the model has been implemented across the U.S.

Main Findings: The evaluation of the model focused on analyzing the first four years of the 5 year plan that was in place. They found that the stakeholders involved in CPC+ in PY 1 through PY 4 for 2017 starters remained the same overall with minimal fluctuations despite the COVID-19 pandemic. The makeup of those organizations/practices involved with the model was very diverse and the flow of diversity stayed constant over the course of the model's implementation. Two-thirds of practices that stopped participating in CPC+ did this because of organizational changes and one-quarter withdrew due to insufficient resources.

Strengths/Limitations: The model is not used across the U.S although there are various regions of the United States that have providers using the model. This could have an impact on the current outcomes of the model given the population makeup of those regions where the model is in use but accounting for these issues in the analysis and pointing it out may be beneficial.

Generalizability to Medicare Population: Strong; the model directly impacts some Medicare beneficiaries.

Methods: Various qualitative and quantitative analyses were done for this report.

Mathews JE. Improving the Medicare Advantage Program. Medicare Payment Advisory Commission. 2022. https://www.medpac.gov/wp-content/uploads/2022/06/EC-Medicare-Advantage-testimony-FINAL-v2_SEC.pdf

Subtopic(s): Evaluating Payment Arrangements to Support Population-based TCOC Models

Type of Source: Report

Objective: To evaluate ways that can support the improvement of the MA program.

Main Findings: The report focuses on three key areas which include coding intensity, quality bonus program, and encounter data. Currently, the MA program is not meeting the needs of beneficiaries as it has the potential to do so. Instead, the program is affecting those enrolled and the current gaps must be filled to address these concerns. The commission recommends taking important steps to curb coding practices that increase costs to taxpayers and beneficiaries, strengthen incentives for plans to provide high-quality care, and allow beneficiaries and policy makers to get a glimpse of what they are receiving from the MA program.

Strengths/Limitations: A strength would be that the report focuses on providing recommendations for strengthening the MA program while making use of figures for visual representation and support.

Generalizability to Medicare Population: Strong; Medicare beneficiaries are impacted by the decisions and recommendations made in this report.

Methods: Mixed methods

Matulis R. Medicaid Accountable Care Organization Shared Savings Programs: Options for Maximizing Provider Participation and Program Sustainability, https://www.chcs.org/media/Medicaid-ACO-Benchmark-Rebasing-TA-Brief_072817.pdf

Subtopic(s): Establishing Benchmarks in Population-based TCOC Models

Type of Source: Issue brief

Objective: To explore strategies for adjusting shared savings payment methodologies, including approaches to TCOC benchmark setting that could help states address concerns about program sustainability and keep savings in the health care system.

Main Findings: The shared savings program has a main goal of achieving high-cost savings for ACOs. The brief provides options for maximizing provider participation and program sustainability. Some of those options include approaches that adjust number of years and weights of years informing the TCOC Benchmark (MSSP), applying regional expenditures to the ACO's rebased TCOC benchmark (MSSP, Massachusetts), not rebasing benchmarks for relatively efficient ACOs (MedPAC), adding savings from prior performance period into next year's TCOC benchmark (old MSSP), or calculating shared savings payouts net of ACO investments.

Strengths/Limitations: N/A

Generalizability to Medicare Population: Moderate; brief focused on Medicaid, but findings could be relevant to Medicare programs, particularly for dual-eligible beneficiaries.

Methods: N/A

McWilliams JM, Chernew ME, Dalton JB, Landon BE. Outpatient Care Patterns and Organizational Accountability in Medicare. *JAMA Internal Medicine*. 2014;174(6):938-945.

doi:10.1001/jamainternmed.2014.1073

Subtopic(s): Accountability and Risk Sharing in Population-based TCOC Models

Type of Source: Journal article

Objective: To measure three related constructs relevant to ACO incentives and their capacity to manage care: stability of patient assignment, leakage of outpatient care, and contract penetration.

Main Findings: Beneficiaries with fewer conditions and less office visits were more likely to receive unstable assignments to an ACO. Around 80 percent of beneficiaries assigned to an ACO in 2010 had been assigned to the same ACO in 2011 and 66 percent of beneficiaries were consistently assigned for two years.

Strengths/Limitations: One strength is that the study provides a breakdown of the care patterns that show where beneficiaries were being assigned to an ACO.

Generalizability to Medicare Population: Strong; the study analyzes Medicare beneficiaries use of health care providers and the extent to which they see their assigned providers within their corresponding ACO.

Methods: Qualitative and quantitative analysis using 2010-2011 Medicare claims and rosters of physicians in organizations participating in ACO programs.

McWilliams JM, Chen A, Chernew ME. 2021. From Vision to Design in Advancing Medicare Payment Reform: A Blueprint for Population-Based Payments. Brookings (blog). October 13, 2021. <https://www.brookings.edu/research/from-vision-to-design-in-advancing-medicare-payment-reform-a-blueprint-for-population-based-payments/>

Subtopic(s): Establishing Benchmarks in Population-based TCOC Models

Type of Source: White Paper

Objective: To provide a sketch of a multi-track population-based payment model designed to serve as a foundational piece of that system.

Main Findings: The white paper sketches out a proposed payment system while also providing rationale behind its key features. The authors provide a multi-track population-based payment model and lay out the recommendations for it. Those recommendations include defining a parsimonious set of tracks that accommodate various types of providers, permanently avails a low-risk option for eligible (smaller) organizations and restricts options for large organizations to track. Other recommendations include establishing stronger participation incentives for providers and strong incentives for organizations, promoting health equity, improving risk adjustment systems to limit profits from coding, revising the definition of ACOs as defined by ownership, and setting benchmarks in a way that provide an “on-ramp” for ACOs with high spending.

Strengths/Limitations: Strengths of this paper include the discussion around the importance of payment reform in traditional Medicare and design lessons from APMs to date and the detailed proposed payment system with rationale behind every feature.

Generalizability to Medicare Population: Strong; Medicare beneficiaries are affected by these payment reforms and are the target population of this paper.

Methods: Qualitative analysis with strong evidence-based analysis.

McWilliams JM and Chen A. Understanding The Latest ACO ‘Savings’: Curb Your Enthusiasm And Sharpen Your Pencils—Part 1. 2020. *Health Affairs Forefront*. <https://www.healthaffairs.org/doi/10.1377/forefront.20201106.719550/full/>

Subtopic(s): Establishing Benchmarks in Population-based TCOC Models

Type of Source: Journal article

Objective: To provide a more rigorous and nuanced interpretation of MSSP performance data, describe problems with the program’s design, and lay out key considerations for improving the MSSP overhaul.

Main Findings: The article touches on benchmarking and the extent to which it is valuable in assessing program success. While setting benchmarks is important for getting ACOs to participate and save, program success evaluation requires more than that. It is also important to recognize that early net savings understate true progress, and a more intensive analysis is required to get a true representation of the cost savings. Weakened incentives to save have also made it difficult for those ACOs involved.

Strengths/Limitations: The article provides strong points that indicate the lack of savings that have been achieved through the various ways that the MSSP has provided.

Generalizability to Medicare Population: Moderate; Medicare beneficiaries are impacted by this but the MSSP is being evaluated for its strengths and weaknesses and the impacts it has on ACOs.

Methods: Qualitative and quantitative analysis of MSSP performance data.

McWilliams JM, Landon BE, Rathi V, Chernew ME. Getting More Savings from ACOs - Can the Pace Be Pushed? *New England Journal of Medicine*. 2019. 380 (23): 2190–92. <https://doi.org/10.1056/NEJMp1900537>

Subtopic(s): Establishing Benchmarks in Population-based TCOC Models

Type of Source: Editorial

Objective: To discuss whether there are policies that could encourage ACOs to realize more quickly realize savings.

Main Findings: The MSSP has brought about savings for Medicare and has been popular among providers but more needs to be done to help address the fiscal challenges. CMS has introduced a new program called “Pathways to Success” that will help accelerate the savings goals comprised of three fundamental shifts. Those include; ACOs are required to assume downside risk sooner, “Pathways” will adjust ACO benchmarks for regional spending immediately for all ACOs and give increasing weight to regional spending over time according to pre-specified progression and CMS promises to get tough on low performers by terminating contracts with ACOs with multiple years of poor financial performance.

Strengths/Limitations: N/A

Generalizability to Medicare Population: Strong; study discusses Medicare-focused programs.

Methods: N/A

McWilliams JM, Hsu J, Newhouse JP. New Risk-Adjustment System Was Associated With Reduced Favorable Selection in Medicare Advantage. *Health Affairs*. 2012. 31, no. 12: 2630–40. <https://doi.org/10.1377/hlthaff.2011.1344>

Subtopic(s): Risk Adjustment in Population-based TCOC Models

Type of Source: Journal article

Objective: To examine whether the reforms were associated with intended reductions in favorable selection in MA.

Main Findings: Health plans that participate in MA have been known to attract healthier enrollees in comparison to the traditional FFS program. Comparisons between self-reported health care use and health between MA and traditional Medicare beneficiaries before versus after reforms were established were conducted. Comparisons were also made between patients who switched into or out of MA and those who did not switch.

Strengths/Limitations: The authors compared two different groups to better understand the extent to which the established reforms impacted intended reductions in risk selection.

Generalizability to Medicare Population: Strong; the article focuses on MA and the new risk adjustment system.

Methods: Analysis of new risk adjustment system.

McWilliams JM. Don't Look Up? Medicare Advantage's Trajectory And The Future Of Medicare. *Health Affairs Forefront*. 2022. <https://doi.org/10.1377/forefront.20220323.773602>

Subtopic(s): Establishing Benchmarks in Population-based TCOC Models

Type of Source: Journal article

Objective: To examine MA's trajectory and direction and look into the future of Medicare.

Main Findings: A 9 percent increase in enrollment in the MA program was observed from 2021-2022 but enrollment is expected to surpass 50 percent of the eligible Medicare population within the next year. However, while MA has grown from 39 percent to almost 50 percent of eligible beneficiaries from 2018 to 2022, the size of the MSSP has remained the same over that time leading to a falling share of Medicare population.

Strengths/Limitations: Strengths of this article include the multiple options and alternative recommendations that can be followed to address MA's trajectory.

Generalizability to Medicare Population: Strong; MA is the focus of the article which impacts beneficiaries directly.

Methods: N/A

Medford-Davis L, Marcozzi D, Agrawal S, Carr B, Carrier E. Value-Based Approaches for Emergency Care in a New Era. 2017. *Annals of Emergency Medicine* 69 (6): 675–83.

<https://doi.org/10.1016/j.annemergmed.2016.10.031>

Subtopic(s): Establishing Benchmarks in Population-based TCOC Models

Type of Source: Journal article

Objective: To outline a strategy for improving the value of emergency care, including integrating quality and resource use measures across health care delivery settings and populations, encouraging care coordination from the emergency department (ED), and implementing health information exchange systems using the MIPS.

Main Findings: Emergency care has the ability to meet the needs of patients, providers and payers more efficiently when integrated with primary and subspecialty care.

Strengths/Limitations: N/A

Generalizability to Medicare Population:

Methods: Analysis of MIPS from the Medicare Access and CHIP Reauthorization Act by using is as framework to outline a strategy for improving emergency care.

Medicare Advantage vs. Traditional Medicare: How Do Beneficiaries' Characteristics and Experiences Differ? October 2021. <https://doi.org/10.26099/yxq0-1w42>

Subtopic(s): Evaluating Payment Arrangements to Support Population-based TCOC Models

Type of Source: Issue brief

Objective: To assess the characteristics and experiences of beneficiaries in Medicare Advantage and Traditional Medicare.

Main Findings: When it came to both Medicare Advantage enrollees and traditional Medicare enrollees, they both experienced waiting times of more than a month for physician office visits. Both groups also noted that receiving care was made difficult due to out-of-pocket expenses. Along with this, both groups have enrollees of similar population makeups such as race, age, access to care and more.

Strengths/Limitations: A strength is that the brief directly examines the two groups and provides their similarities and experiences with their corresponding plans.

Generalizability to Medicare Population: Strong; Medicare beneficiaries are the main beneficiaries affected or benefited by this and it directly correlates with their medical experiences.

Methods: Analysis of 2018 data that came from the 2018 Medicare Current Beneficiary Survey and the Commonwealth Fund 2021 International Health Policy Survey of Older Adults.

Medicare Payment Advisory Commission. 2021. "June 2021 Report to the Congress: Medicare and the Health Care Delivery System." <https://www.medpac.gov/document/june-2021-report-to-the-congress-medicare-and-the-health-care-delivery-system/>

Subtopic(s): Establishing Benchmarks in Population-based TCOC Models

Type of Source: Report

Objective: To analyze Medicare's payment policies and recommend ways to improve those policies where appropriate.

Main Findings: This report analyzes Medicare payment systems and issues affecting the Medicare program. The report provides insight into different avenues that were considered such as rebalancing MA benchmark policy, streamlining CMS's portfolio of APMs, private equity and Medicare, the skilled nursing facility value-based purchasing program, Medicare beneficiaries' access to care in rural areas, revising Medicare's indirect medical education payments to better reflect teaching hospitals' costs, Medicare vaccine coverage and payment, improving Medicare's policies for separately payable drugs in the hospital outpatient prospective payment system, the impact of recent changes to Medicare's clinical laboratory fee schedule payment rates and the relationship between clinician services and other Medicare services.

Strengths/Limitations: The report touches on various ways that Medicare payment systems can be addressed and provides direction and insight into how that can be achieved.

Generalizability to Medicare Population: Strong; Medicare policies and systems that affect Medicare beneficiaries are the focus of the report.

Methods: Qualitative analysis.

Mehrotra A, Forrest CB, Lin CY. Dropping the Baton: Specialty Referrals in the United States. *Milbank Q.* 2011;89(1):39-68. <https://doi.org/10.1111/j.1468-0009.2011.00619.x>

Subtopic(s): Accountability and Risk Sharing in Population-based TCOC Models

Type of Source: Journal article

Objective: To understand the specialist referral process and identify gaps in the current process

Main Findings: There are many problems in the deferral making process including the decision making, care coordination and specialty care. The authors also note that referral process might be a misnomer as there is a lack of integration when a patient seeks care. This lack of integration also tends to be both an underuse and overuse of specialists.

Strengths/Limitations: Study includes a long time frame.

Generalizability to Medicare Population: Moderate; the paper does not specify Medicare, however specialty referrals can be applicable to Medicare beneficiaries.

Methods: Conducted a narrative review of articles published on the topic between 1970 and 2009.

Muhlestein D, Bleser WK, Saunders RS, Richards R, Singletary E, McClellan MB. Spread of ACOs And Value-Based Payment Models In 2019: Gauging the Impact of Pathways to Success. *Health Affairs Blog*. October 21, 2019. <https://www.healthaffairs.org/doi/10.1377/forefront.20191020.962600>

Subtopic(s): Accountability and Risk Sharing in Population-based TCOC Models

Type of Source: Journal article

Objective: To summarize ACO enrollment data and their participation in other value-based payment models.

Main Findings: There was a net decrease in ACO contracts between the third quarter of 2018 and the third quarter of 2019. The percentage of ACOs entering into bidirectional risk arrangements is increasing, especially among physician-led ACOs. However, in 2019, there was a slight decrease in the proportion of small ACOs entering into downside risk contracts.

Strengths/Limitations: The study relies on the Torch Insight database, which aggregates, links, and validates public and proprietary data. However, readers are unable to view the data or how exactly it was gathered; Nor is this information articulated in the paper.

Generalizability to Medicare Population: Strong; the blog post focusses on Medicare ACOs, especially MSSP/Pathways to Success.

Methods: Descriptive analysis of data pulled from the Torch Insight, a health care database from Leavitt Partners Insight.

National Association of ACOs. 2016. ACOs at a Crossroads: Cost, Risk and MACRA White Paper. <https://www.naacos.com/assets/docs/news/acosatacrossroads-naacoswhitepaperfinal.pdf>

Subtopic(s): Risk Adjustment in Population-based TCOC Models; Accountability and Risk Sharing in Population-based TCOC Models

Type of Source: White paper

Objective: To discuss the challenges facing ACOs and provide policy recommendations for continued success of ACOs in APMs.

Main Findings: Current Medicare two-sided ACO risk models are not viable for most ACOs. Many ACOs make significant investments in clinical and care management, health IT/population analytics/reporting, and ACO management and administration in order to participate in CMS ACO programs. The related necessary investments can lead to a reluctance to participate in two-sided risk models. Participation in bundled payment programs can lead to significant challenges for ACOs, and NAACOS recommends that CMS policy should exclude ACOs from bundled payment programs except for circumstances when a collaborative agreement exists between bundlers and ACOs.

Strengths/Limitations: This white paper is based off voluntary survey results of MSSP ACOs and does not include the entire population of MSSP ACOs or results from non-MSSP participants, so the related findings may not address the concerns of other participant types. Additionally, the findings may be skewed toward the needs of MSSP ACO participants.

Generalizability to Medicare Population: Strong; the white paper discusses policy recommendations for Medicare ACOs.

Methods: Analysis of survey results of MSSP ACOs and policy recommendations.

Navathe AS, Emanuel EJ, Bond A, et al. Association Between the Implementation of a Population-Based Primary Care Payment System and Achievement on Quality Measures in Hawaii. *JAMA*. 2019;322(1):57-68. doi:10.1001/jama.2019.8113

Subtopic(s): Evaluating Payment Arrangements to Support Population-based TCOC Models; Options for Including Accountability for Additional (non-Medicare Part A or B) Costs in Population-based TCOC Models

Type of Source: Journal article

Objective: To evaluate whether the Primary-based Payments for Primary Care (3PC) program was associated with changes in care quality and/or spending during the first year.

Main Findings: During the program's first year, the 3PC program was associated with small improvements in quality and a reduction in primary care visits; however, there was no significant difference in the TCOC.

Strengths/Limitations: The study employed a difference-in-differences design with a reference group positioning the study to assess causal claims more effectively. However, the study was limited to Blue Cross Blue Shield insured individuals in Hawaii; caution is therefore required when assessing external validity of the intervention. Additionally, the evaluation accounts for only the first year of the program—further research is therefore needed to determine longer-term outcomes.

Generalizability to Medicare Population: Moderate; about one-quarter of patients included in the study were receiving Medicare during the intervention period.

Methods: The study used claims and clinical registry data and a propensity-weighted difference-in-differences design to model outcomes for patients exposed to the 3PC program compared to a reference group of patients who continued in a FFS payment model.

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 Forefront*. Published online December 18, 2020. <https://www.healthaffairs.org/doi/10.1377/forefront.20201216.672904>

Subtopic(s): Establishing Benchmarks in Population-based TCOC Models

Type of Source: Journal article

Objective: To provide recommendations for the future path of Center for Medicare and Medicaid Innovation (CMMI).

Main Findings: Recommendations include implementing a cohesive strategy of coordinated APMs by creating a marketplace for health services, using practical health care market-based incentives, and encouraging telehealth, home care, and remote monitoring; emphasizing reducing health care inequities while improving value by requiring measures and incentives that directly reward equity improvements and developing and testing models specifically tailored to communities facing inequities; re-evaluating the fee schedule; encouraging and assembling multi-payer efforts to support health care affordability; and simplifying administrative requirements.

Strengths/Limitations: As a policy recommendation and opinion-based article, the piece does not introduce any new research.

Generalizability to Medicare Population: Strong; the article is focused on CMMI and addressing changes in Medicare payment policy and care provision.

Methods: N/A

Navathe AS, Liao JM. Aligning Value-Based Payments With Health Equity: A Framework for Reforming Payment Reforms. *JAMA*. Published online August 15, 2022. doi:[10.1001/jama.2022.14606](https://doi.org/10.1001/jama.2022.14606)

Subtopics:

Type of Source: Blog Post

Objective: To create a framework to address health inequities via payment reform.

Main Findings: The framework suggests organizational participation to ensure the inclusion of marginalized communities. It also includes creating spending targets to account for the social determinants of health impacting marginalized communities or excluding marginalized communities from spending targets to ensure there is no compromise in care delivery. Additionally, the framework suggests quality measurements that are stratified by factors such as race and building payment models to account for the differences in care. Lastly, the framework includes the performance-based incentives that encourage care based on each patient and provide larger incentives for serving marginalized patients.

Strengths and Limitations: Addresses health equity and provides a comprehensive framework to address one aspect of health inequities.

Generalizability to Medicare Population: Strong; Payment models are focused on Medicare beneficiaries

Methods: N/A

Network for Regional Healthcare Improvement. From Claims to Clarity: Deriving Actionable Healthcare Cost Benchmarks from Aggregated Commercial Claims Data. October 2016.

<http://www.nrhi.org/uploads/g2a-benchmark-report-final-web-1.pdf>.

Subtopic(s): Establishing Benchmarks in Population-based TCOC Models

Type of Source: Report

Objective: To discuss the Network for Regional Healthcare Improvement's Getting to Affordability TCOC initiative.

Main Findings: The report shows that using raw, available regional data can be used for TCOC benchmarking and comparison. At the same time, remaining technical challenges include the fact that data used to produce measures are not a random sample, pharmacy and behavioral health carve outs may be imperfectly included in claims analysis, substance abuse and other behavioral claims may be excluded from data, non-claims payments such as capitation and pay-for-performance payments will not be included in the analysis.

Strengths/Limitations: The report focused on the commercially insured population and may not be applicable to the Medicare or Medicaid population.

Generalizability to Medicare Population: Weak; the report addresses TCOC measures taken from commercially insured populations.

Methods: Calculation of the Total Cost Index and Resource Index using HealthPartners' TCOC Measure Set.

Nevada Patient Protection Commission Advisory Subcommittee. Introduction to Cost Growth Benchmarks. June 30, 2021. https://ppc.nv.gov/uploadedFiles/ppcnvgov/content/Meetings/2021/2021-06-30_Attachments_PPC-AdvisorySubcommitteeMtg.pdf

Subtopic(s): Establishing Benchmarks in Population-based TCOC Models

Type of Source: Presentation

Objective: To provide an introduction to the process of developing a health care cost growth benchmark in Nevada and provide an example of Massachusetts' Health Care Cost Growth Benchmark Program.

Main Findings: N/A

Strengths/Limitations: N/A

Generalizability to Medicare Population: Moderate; the presentation addresses health care cost growth benchmarks, which include Medicare expenditures.

Methods: N/A

NORC at the University of Chicago. First Evaluation Report – Evaluation of the Vermont All-Payer Accountable Care Organization. August 2021. <https://innovation.cms.gov/data-and-reports/2021/vtapm-1st-eval-full-report>

Subtopic(s): Establishing Benchmarks in Population-based TCOC Models; Accountability and Risk Sharing in Population-based TCOC Models

Type of Source: Report

Objective: To describe the evaluation approach and some outcomes of the Vermont All-Payer Accountable Care Organization Model (VTAPM).

Main Findings: The VTAPM did not meet specified all-payer and Medicare-specific scale targets during PY1 (2018) and 2 (2019). The model generates significant gross savings, driven mostly by large reductions in PY2. Hospital-based utilization and emergency visits decreased in PY2.

Strengths/Limitations: Insufficient post-implementation data and lags in data availability limit the ability to detect any short-term statewide impacts. The report has only limited findings on the provider perspective.

Generalizability to Medicare Population: Strong; data focused on Medicare FFS population.

Methods: Mixed methods design, including difference-in-differences analyses, systematic document review, and semi-structured interviews

NORC at the University of Chicago. Fourth Evaluation Report: Next Generation Accountable Care Organization Model Evaluation. NORC at the University of Chicago. 2021. <https://innovation.cms.gov/data-and-reports/2021/nextgenaco-fourthevalrpt>

Subtopic(s): Risk Adjustment in Population-based TCOC Models; Accountability and Risk Sharing in Population-based TCOC Models

Type of Source: Report

Objective: To evaluate the Next Generation Accountable Care Organization (NGACO) model through performance year four (end of 2019).

Main Findings: As of the fourth performance year, the NGACO model was associated with \$667 million in gross savings in Medicare Parts A and B spending. However, after accounting for \$909 million in shared savings and other payments to model ACOs, the model was found to be associated with \$243 million in net losses. NGACOs in markets with higher per capita Medicare Parts A and B expenditures generated more significant reductions, on average. Physician

practice-affiliated NGACOs reduced acute care spending, though did not reduce spending associated with professional services. NGACOs affiliated with hospitals or integrated delivery systems (IDS), however, reduced spending for professional services.

Strengths/Limitations: The evaluation draws on both quantitative (e.g., diff-in-diffs models) and qualitative methods and effectively synthesizes findings from these different methods. However, the evaluation fails to explore model implementation approaches and highlights the challenge of being able to isolate the relative importance of the various factors identified as being associated with spending.

Generalizability to Medicare Population: Strong; NGACO is a Medicare model.

Methods: The evaluation employed a range of quantitative and qualitative methods, including regression modeling such as difference-in-differences modeling to assess causal effects of the model, qualitative comparative analysis to examine NGACO's contextual and structural pathways to reduce Medicare spending, and interviews with ACO leaders.

NORC at the University of Chicago. Third Evaluation Report: Next Generation Accountable Care Organization Model Evaluation. NORC at the University of Chicago; 2020:137.

<https://innovation.cms.gov/data-and-reports/2020/nextgenaco-thirdevalrpt-fullreport>

Subtopic(s): Accountability and Risk Sharing in Population-based TCOC Models

Type of Source: Report

Objective: To evaluate the NGACO model through PY3 (end of 2018).

Main Findings: Across the first three performance years, gross Medicare expenditures decreased; however, net Medicare spending did not decrease. With respect to spending in PY3 specifically, NGACOs decreased gross spending but did not reduce net spending. Additionally, the effect size of the model-wide reduction in gross spending in PY3 was larger than the gross spending reduction in PY2. Regarding utilization, there were no observed model-wide reductions in acute care hospital spending, though there was a 12 percent increase in annual wellness visits across NGACOs. There were no significant changes in quality of care measures detected in PY3 or cumulatively.

Strengths/Limitations: The evaluation draws on both quantitative and qualitative methods and effectively synthesizes findings from these different methods. Additionally, the model employs a difference-in-differences design, which is an effective model for assessing causal relationships between the model and observed outcomes.

Generalizability to Medicare Population: Strong; NGACO is a Medicare model.

Methods: The evaluation used both quantitative and qualitative methods, including regression modeling such as difference-in-differences modeling to assess causal effects of the model, qualitative comparative analysis to examine NGACOs' contextual and structural pathways to reduce Medicare spending, interviews with ACO leaders, and surveys with NGACO leadership and affiliated physicians.

NORC at the University of Chicago and the Department of Health and Human Services' Office of Health Policy of the Assistant Secretary for Planning and Evaluation. 2022. Environmental Scan on Issues Related to the Development of Population-Based Total Cost of Care (TCOC) Models in the Broader Context of Alternative Payment Models (APMs) and Physician-Focused Payment Models (PFPMs). PTAC. <https://aspe.hhs.gov/sites/default/files/documents/62d8a7a4d673e659b4c38086f43c7e49/PTAC-TCOC-Escan.pdf>.

Subtopic(s): Evaluating Payment Arrangements to Support Population-based TCOC Models; Establishing Benchmarks in Population-based TCOC Models; Risk Adjustment in Population-based TCOC Models

Type of Source: Report

Objective: To summarize the findings and literature on current perspectives on issues related to the development of population-based TCOC Models.

Main Findings: The report represents findings from over 175 pieces of literature regarding definitions of TCOC, comparisons of relevant features of CMMI models and other CMS demonstrations and programs, relevant features in selected PTAC proposals, relevant performance and outcome measures, findings from research related to population-based TCOC models, barriers and challenges relates to implementing population-based TCOC models, and opportunities for improving and optimizing efforts to develop and implement population-based TCOC models. One finding noted that potential promising impacts of population-based TCOC models can include increasing financial accountability, reducing avoidable health care utilization, improving quality of care, improving coordination of care, improving patient health and experience of care, improving equity, and reducing cost of care.

Strengths/Limitations: This environmental scan is a summary of existing literature and findings, and as such does not introduce any new research findings.

Generalizability to Medicare Population: Strong; the environmental scan reviews the context of TCOC for Medicare-focused APMs and PFPMs.

Methods: Environmental scan and literature review.

NORC at the University of Chicago and the Department of Health and Human Services' Office of Health Policy of the Office of the Assistant Secretary for Planning and Evaluation (ASPE). 2022. Supplement to the Environmental Scan on Issues Related to the Development of Population-Based Total Cost of Care (TCOC) Models in the Broader Context of Alternative Payment Models (APMs) and Physician-Focused Payment Models (PFPMs).

<https://aspe.hhs.gov/sites/default/files/documents/6baeeaf37d03fd96f79c47c8fdf88f3c/PTAC-TCOC-Escan-Suppl.pdf>

Subtopic(s): Evaluating Payment Arrangements to Support Population-based TCOC Models; Risk Adjustment in Population-based TCOC Models

Type of Source: Report

Objective: To summarize additional findings and literature surrounding issues related to the development of population-based TCOC Models.

Main Findings: The report represents findings from over 70 pieces of literature regarding the framework for care delivery structures in TCOC models, improving provider accountability, care delivery innovations, and performance metrics and model evaluation. Research noted that remaining challenges in implementing and assessing performance measures in APMs include calculating return on investment, identifying appropriate time periods, addressing disparities, and approaching emerging health care issues.

Strengths/Limitations: This environmental scan is a summary of existing literature and findings, and as such does not introduce any new research findings.

Generalizability to Medicare Population: Strong; the report reviews the context of TCOC for Medicare-focused APMs and PFPs.

Methods: Environmental scan and literature review.

O’Kane, M. A Glitch In The Road To Pay-For-Performance. *Health Affairs Forefront*. Published October 7, 2015. Accessed July 30, 2022.

<https://www.healthaffairs.org/doi/10.1377/forefront.20151007.051043/full/>

Subtopic(s): Establishing Benchmarks in Population-based TCOC Models

Type of Source: Blog Post

Objective: To discuss the unintended barriers to effective incentive payments for MA plans.

Main Findings: Capping quality incentives has the unintended consequence of derailing quality payments awarded through star ratings.

Strengths/Limitations: N/A

Generalizability to Medicare Population: Moderate; the blog post focuses on MA.

Methods: N/A

Patel MP, Schettini P, O’Leary CP, Bosworth HB, Anderson JB, Shah KP. Closing the Referral Loop: an Analysis of Primary Care Referrals to Specialists in a Large Health System. *J Gen Intern Med*. 2018;33(5):715-721.

<https://link.springer.com/article/10.1007/s11606-018-4392-z>

Subtopic(s): Accountability and Risk Sharing in Population-based TCOC Models

Type of Source: Journal article

Objective: To assess the ability of a large health system to close the referral loop by assessing specialist appointment completion rate.

Main Findings: Analysis shows 34.8 percent of appointment scheduling attempts resulted in documented complete appointments. Scheduling issues, individual clinic differences, and patient access barriers contributed to the low scheduling rate. The authors noted that EMR-generated reports will likely be the most efficient method to measure the closing of the referral loop. Systems will need to enhance their electronic capture of referrals data to minimize referral gaps.

Strengths/Limitations: The analysis of the study was limited to a single, large academic health system, so certain findings may be limited to the system. Additionally, the study lacked analysis of specialist-to-specialist referrals, referrals from out-of-network primary care providers (PCPs), and patient self-referrals and was limited to adult-continuity PCPs and their referrals to non-procedural, high-volume specialist.

Generalizability to Medicare Population: Weak; the article does not specifically address the Medicare population, but the findings can be relevant to future Medicare payment models and care provision.

Methods: Statistical analysis of electronic medical record-generated data to analyze referrals.

Peck KA, Usadi B, Mainor AJ, Fisher ES, Colla CH. ACO Contracts with Downside Financial Risk Growing, but Still in the Minority. *Health Affairs*. 2019;38(7):1201-1206.

<https://doi.org/10.1377/hlthaff.2018.05386>

Subtopic(s): Accountability and Risk Sharing in Population-based TCOC Models

Type of Source: Journal article

Objective: To examine how ACOs' structures, contracts, and capabilities have changed from early to recent adoption of the ACO model.

Main Findings: ACOs that take on downside risk differ in structure and contractual relationships from other ACOs in that they are less likely to be physician-led or physician-owned and are more likely to be larger with more participating physicians, be an integrated delivery system, and include a hospital. Over time, the number and variety of contracts held by ACOs has increased, with the proportion of ACOs with contracts with two or more payer types increasing from 42 percent in 2012 to 63 percent in 2018.

Strengths/Limitations: Due to the difficulty in identifying commercial ACOs without Medicare contracts, the results may underrepresent ACOs with solely commercial contracts.

Generalizability to Medicare Population: Strong; the results include analysis of Medicare ACOs.

Methods: Statistical analysis of the National Survey of ACOs.

Pham HH, Cohen M, Conway PH. The Pioneer Accountable Care Organization Model: Improving Quality and Lowering Costs. *JAMA*. 2014;312(16):1635-1636. doi:10.1001/jama.2014.13109

Subtopic(s): Accountability and Risk Sharing in Population-based TCOC Models

Type of Source: Journal article

Objective: To discuss the Pioneer ACO model and provide information on the initial evaluation of the model.

Main Findings: Initial evaluations of the Pioneer ACO model suggest that the model has generated significant total savings and that the majority of ACOs outperformed Medicare FFS models in terms of quality metrics. The authors note that, moving forward, CMS will use the lessons learned from the Pioneer ACO model to develop new models that engage ACOs in global payment arrangements and offer ACOs more tools to directly engage patients.

Strengths/Limitations: As an opinion piece, the article does not discuss the methodology or related limitations of the research in-depth.

Generalizability to Medicare Population: Strong; this article discusses a Medicare payment model.

Methods: N/A

Phipps-Taylor M, Shortell SM. More Than Money: Motivating Physician Behavior Change in Accountable Care Organizations. *Milbank Quarterly*. 2016;94(4):832-861. <https://doi.org/10.1111/1468-0009.12230>

Subtopic(s): Accountability and Risk Sharing in Population-based TCOC Models

Type of Source: Journal article

Objective: To explore methods for motivating behavior change among physicians participating in ACOs.

Main Findings: ACOs prioritized nonfinancial motivators compared to financial motivators. Key nonfinancial motivators included mastery and social purpose. Although the ACOs included in the study had some success influencing physician behavior change, their ability to more effectively

do so was limited due to dispersed managerial attention and the range of different programs and contracts within each ACO.

Strengths/Limitations: Although the ACOs varied in size and other relevant characteristics, they were not representative of the full diversity of ACOs. Different outcomes between employed and contracted physicians were not examined.

Generalizability to Medicare Population: Strong; all four of the ACOs were participating in Medicare ACO programs.

Methods: Synthesized nine empirically tested theories of motivation to establish their own framework that included six domains of motivation. This framework was then used to conduct case studies of four ACOs, which included in-depth interviews and document review.

Pines JM, Vats S, Zocchi MS, Black B. Maryland's Experiment With Capitated Payments For Rural Hospitals: Large Reductions In Hospital-Based Care. *Health Affairs*. 2019;38(4):594-603.

<https://doi.org/10.1377/hlthaff.2018.05366>

Subtopic(s): Evaluating Payment Arrangements to Support Population-based TCOC Models; Options for Including Accountability for Additional (non-Medicare Part A or B) Costs in Population-based TCOC Models

Type of Source: Journal article

Objective: To assess the impact of the Total Patient Revenue (TPR) program in Maryland

Main Findings: The authors found that hospitals participating in the TPR program provided fewer services relative to control hospitals. TPR hospitals had lower admissions rates, increased transfer rates, and declined ED visit volumes compared to controls. For outpatient visits and services, outcomes varied, with large declines in mammography, echocardiograms, and electrographic cardiac monitoring, and increases in cancer chemotherapy, physical therapy, and rehabilitation services. The authors found some evidence that residents of TPR counties sought ED hospitals at other nearby, non-TPR hospitals. The mixed results from the TPR program showed that hospitals had both the incentive to provide efficient care and less care overall, suggesting that capitation models require strong oversight to ensure that hospitals do not respond by shifting costs to other providers.

Strengths/Limitations: The study contained several limitations, including the fact that TPR was a voluntary program, which may contribute to unaccounted-for differences between TPR and comparison hospitals in the analysis. Additionally, the methodology used to estimate the potential populations served by hospitals likely do not perfectly match exact populations. The small sample of treated and control hospitals may have led to disproportionate impacts on conclusions. Finally, the study's reliance on administrative data and lack of inclusion of full health records and health outcomes was a significant limitation.

Generalizability to Medicare Population: Strong; the article examines the TPR model, a Medicare APM.

Methods: Difference-in-differences analysis of visit-level inpatient, ED, and outpatient data sets for Maryland TPR hospitals with similar control non-TPR hospitals for the period 2007–13.

Powell A., Katie M, White MR, et.al. Unintended Consequences of Implementing a National Performance Measurement System into Local Practice. *Journal of General Internal Medicine*. 2011; 27 (4): 405–12. <https://doi.org/10.1007/s11606-011-1906-3>.

Subtopic(s): Establishing Benchmarks in Population-based TCOC Models

Type of Source: Journal article

Objective: To identify unintended negative consequences of performance measurement (PM) systems for patients and develop a conceptual framework of hypothesized relationships between PM systems, facility-level variables (local implementation strategies, primary care staff attitudes and behaviors), and unintended negative effects on patients.

Main Findings: The study found that performance measurement can lead to inappropriate clinical care, decrease provider focus on patient concerns and patient service, and compromise patient education and autonomy. While some felt PMs are beneficial because more topics are covered, several nurses from one participating site indicated that the emphasis placed on completing all PM-related continuity of care records (CCRs) during each visit left little time for them to provide the quality of education necessary for patients to make informed decisions. Several nurses at two sites resented the fact that physicians receive bonuses based in part on PM scores, but nurses do not. A few providers at two sites indicated that even when they are not personally bogged down with PM-related CCRs, the time intake nurses spend with the patient on PM CCRs reduces the time available for provider interaction with the patient.

Strengths/Limitations: The data reflects the views of only four Veteran Health Administration facilities studied between February to June 2009.

Generalizability to Medicare Population: Moderate; while Medicare is not specified, performance-based systems and mechanisms is relevant to Medicare.

Methods: Semi-structured interviews and qualitative thematic coding.

Pyenson B, Sawhney TG, Steffens C, et al. The Real-World Medicare Costs of Alzheimer Disease: Considerations for Policy and Care. *JMCP*. 2019;25(7):800-809.

<https://doi.org/10.18553/jmcp.2019.25.7.800>

Subtopic(s): Medicare Spending Patterns Relevant to Population-based TCOC Models

Type of Source: Journal article

Objective: To compare total Medicare-covered (allowed) costs of patients with Alzheimer disease with the risk-adjusted costs of beneficiaries without dementia over their last years of life, using claims data.

Main Findings: This study found that 40 percent of deceased beneficiaries have Alzheimer disease or unspecified dementia diagnoses in their claims history. In their last 9 years of life, Alzheimer disease added about 11 percent to the average \$17,000 per year Medicare cost for same-risk beneficiaries without dementia. The study observed beneficiaries with an incident Alzheimer diagnosis code were 147 percent more likely to have an inpatient hospital admission during their incident calendar year than the year before and 66 percent more likely than the year after the incident year. However, the diagnosis-related group (DRG) of these admissions indicated dementia or behavioral conditions in only 11 percent of the cases. Many cases of Alzheimer disease are found during an inpatient admission, but most of such admissions appear to be unrelated to Alzheimer disease or related symptoms, which suggests that an Alzheimer diagnosis is often an incidental finding.

Strengths/Limitations: The data heavily relies on claims data records which are prone to inaccuracies. The study does not investigate Medicare Part D data.

Generalizability to Medicare Population: Moderate; while the journal article is intended for a higher-level audience, the content in the article can be relevant to the general Medicare population.

Methods: Cost impact analysis of claims-based data.

Romair MA. Use of Primary Care and Specialty Providers: Findings from the Medical Expenditure Panel Survey. *Journal of General Internal Medicine*. 2020; 35(7), 2003–2009. <https://doi.org/10.1007/s11606-020-05773-7>

Subtopic(s): Process Measures in Population-based TCOC Models

Type of Source: Journal article

Objective: To describe the type of provider, primary care, or specialist, most often seen by individuals, to test associations between type of provider most often seen and insurance coverage, and to test associations between the number of generalist and specialist visits and insurance coverage.

Main Findings: Individuals who most frequently saw generalists were younger, nonwhite or reported Hispanic ethnicity, self-reported less income, and self-reported excellent physical and mental health. Individuals who most frequently saw specialists or who tied in their specialist and generalist visits were more likely to report more functional limitations, have more chronic conditions, and be covered by Medicare. More than half of the sample (55 percent) predominantly visited primary care providers (or generalists), and 36 percent predominantly visited specialists. Among individuals primarily visiting generalists, 80 percent visited only one type of primary care provider, and 24 percent also visited one or more specialists.

Strengths/Limitations: Visits to specialists labeled as “other” in the data were not considered; without knowing the specialty, a determination could not be made as to whether an individual could be expected to have an extended relationship or a more limited interaction with a specialist.

Generalizability to Medicare Population: Moderate; while the journal article is intended for a higher-level audience, the content in the article can be relevant to the general Medicare population.

Methods: Cross-sectional analysis of 2013–2016 Medicaid Expenditure Panel Survey.

Rose S, Alan M, et.al. Variation In Accountable Care Organization Spending And Sensitivity To Risk Adjustment: Implications For Benchmarking. *Health Affairs*. 2016; 35 (3). <https://doi.org/10.1377/hlthaff.2015.1026>.

Subtopic(s): Establishing Benchmarks in Population-based TCOC Models

Type of Source: Journal article

Objective: To inform consideration of changes to ACO benchmarking policy.

Main Findings: The study concluded that transitioning to a payment model that uses average regional FFS spending as the basis for the benchmark for all ACOs in an area would probably discourage less efficient organizations from continuing in ACO programs (especially in two-sided risk contracts) if the model were implemented within a few years of participation. Variation in ACO spending deviations was larger than suggested by the analysis of Consumer Assessment of Healthcare Providers and Systems (CAHPS) participants. Other findings suggest that a regional benchmark adjusted only for standard claims-based variables could unfairly penalize ACOs serving sicker patients. Additionally, ACOs, with patients attributed through their source of

primary care, may pool risk more naturally than hospitals, which have been shown to vary on performance measures to a large extent because of differences in patient characteristics.

Strengths/Limitations: The study relies on the CAHPS survey responses which limits accuracy of estimations. Additionally, blank responses on the survey lowered the mean of spending causing an underestimation of ACO spending.

Generalizability to Medicare Population: Moderate; while the journal article is intended for a higher-level audience, the content in the article can be relevant to the general Medicare population.

Methods: Multi-level linear regression of ACO-level variation.

RTI International. Global and Professional Direct Contracting Model PY2022 Financial Operating Guide: Overview Rev. 1.1. 2021. <https://innovation.cms.gov/media/document/gpdc-py2022-fin-op-guide-ovw>

Subtopic(s): Evaluating Payment Arrangements to Support Population-based TCOC Models

Type of Source: Topic guide

Objective: To provide Direct Contracting Entities (DCEs) with an overview of each component of the financial methodology of the GPDC Model.

but primarily focuses on the detailed calculation of the benchmark and relevant components.

Main Findings: The guide covers a variety of topics such as the three types of DCEs, risk sharing arrangements and risk mitigation strategies, and payment mechanisms. The GPDC offers two payment mechanisms in which DCEs are paid a monthly capitated amount based on claims reductions made for DC Participant Providers and Preferred Providers. All DCEs must participate in one of the Capitation Payment Mechanisms: Total Care Capitation or Primary Care Capitation.

Strengths/Limitations: N/A

Generalizability to Medicare Population: Strong; the guide is for a Medicare model.

Methods: N/A

RTI International. Next Generation ACO Model Calculation of the Performance Year Benchmark: Performance Years 2019 and 2020. <https://innovation.cms.gov/files/x/nextgenaco-benchmarkmethodology-py4.pdf>.

Subtopic(s): Establishing Benchmarks in Population-based TCOC Models

Type of Source: Report

Objective: To describe the methods of calculating the Performance Year Benchmark and Shared Savings/Losses for NGACO in Performance Year 2019 (PY 2019) and Performance Year 2020 (PY 2020).

Main Findings: In the NGACO Model, Gross Savings (or Loss) is the difference between: 1) the Performance Year Benchmark for the Performance Year; and 2) the Performance Year Expenditure incurred by Beneficiaries aligned to the NGACO for that year. The Performance Year Benchmark is the expenditure target for the Performance Year. If the Performance Year Expenditure is less than the Performance Year Benchmark, an NGACO will earn a Shared Savings Payment as provided for in the Participation Agreement. If the Performance Year Expenditure exceeds the Performance Year Benchmark an NGACO will incur a repayable loss.

Strengths/Limitations: N/A

Generalizability to Medicare Population: Moderate; the report engages with Medicare ACO benchmarking methods but is intended for a higher-level audience.

Methods: N/A

Schulz J, DeCamp M, Berkowitz SA. Medicare Shared Savings Program: Public Reporting and Shared Savings Distributions. *Am J Manag Care*. 2015;21(8):546-553. <https://www.ajmc.com/view/medicare-shared-savings-program-public-reporting-and-shared-savings-distributions>

Subtopic(s): Accountability and Risk Sharing in Population-based TCOC Models

Type of Source: Journal Article

Objective: To determine if MSSP ACOs are meeting public reporting requirements related to shared savings plans, to quantitate the composition of shared savings distribution plans, and to investigate whether early ACO success is associated with specific plan or ACO characteristics

Main Findings: The study found that 84 percent of ACOs publicly reported their shared savings distribution plan in various levels of detail. Of these 28 percent had “to be determined” (TBD) listed under their savings distribution plan, 10 percent had general statements regarding how distributions would be allocated (e.g., “to incentivize physicians and build infrastructure”) but without specific percentages, and 62 percent had detailed plans with specific percentages of the savings allocated to distinct categories.

Strengths/Limitations: Data from the ACOs was not verified and relied on publicly available information.

Generalizability to Medicare Population: Strong; the study evaluates ACOS models and plans.

Methods: Cross-sectional analysis of publicly available information.

Shortell, S. M, Sehgal, NJ, Bibi, S, Ramsay, PP, et.al. An Early Assessment of Accountable Care Organizations’ Efforts to Engage Patients and Their Families. *Medical Care Research and Review*. 2015; 72(5), 580–604. <https://doi.org/10.1177/1077558715588874>

Subtopic(s): Process Measures in Population-based TCOC Models; Accountability and Risk Sharing in Population-based TCOC Models

Type of Source: Journal article

Objective: To assess the extent to which ACOs are making efforts to engage their patients, to identify patient activation and engagement (PAE) barriers and challenges, and to learn about the strategies to address these challenges

Main Findings: The vast majority of responding ACO leaders reported implementing PAE strategies, such as sending patients follow-up and reminder notices either electronically, by mail or by phone call and allowing patients access to their own medical records. However, only 24 percent of ACOs allowed patients to access clinical notes related to their care. ACO respondents reported that a mean of only 45 percent of their high-risk chronically ill patients received health coaching. Respondents reported that approximately half of PCPs received training in PAE techniques and 45 percent offered decision aids to patients or families. Respondents stated that slightly more than half of clinicians were trained in shared decision-making practices and that 62 percent of their PCPs were working with patients and families to develop a treatment plan that sets goals for their care.

Strengths/Limitations: Due to the self-reporting survey, it is likely that the ACO who responded to the survey are more likely to be involved in PAE practices than the average ACO.

Generalizability to Medicare Population: Strong; the study directly engages with ACO facilities and personnel.

Methods: Mixed methods using a national survey, phone call interviews, and on-site visits of 11 ACOs.

Siddiqui M, Berkowitz SA. Shared Savings Models for ACOs-Incentivizing Primary Care Physicians. *J Gen Intern Med*. 2014;29(6):832-834. doi:10.1007/s11606-013-2733-5

Subtopic(s): Accountability and Risk Sharing in Population-based TCOC Models

Type of Source: Journal article

Objective: To offer a taxonomy of shared savings decision-making and present four possible models for the distribution of shared savings.

Main Findings: The four shared savings models outlined include the Attribution Incentive Model in which savings are allocated proportional to the number of beneficiaries served; the Incremental Incentive Model in which savings are based on performance, but weights payments proportional to the number of beneficiaries served; the Threshold Incentive Model in which providers are first required to meet a minimum savings threshold and are then paid based on quality and cost measures; and the Endowment Incentive Model which uses upfront incentive payments to support providers. The researchers suggest uptake of the Threshold Incentive Model.

Strengths/Limitations: The paper lacks a methodology section explaining how the researchers conceived the four models.

Generalizability to Medicare Population: Strong; the paper engages with Medicare ACO models and the framework/models outlined in the paper are applicable to Medicare ACOs.

Methods: N/A

Sterling S, Chi F, Weisner C, et al. Association of behavioral health factors and social determinants of health with high and persistently high healthcare costs. *Preventive Medicine Reports*. 2018;11:154-159. <https://doi.org/10.1016/j.pmedr.2018.06.017>

Subtopic(s): Options for Including Accountability for Additional (non-Medicare Part A or B) Costs in Population-based TCOC Models

Type of Source: Journal article

Objective: To fully understand the factors that drive health care utilization.

Main Findings: High-cost patients had higher prevalence of EHR-recorded anxiety, depression, major psychosis, personality disorders and other psychiatric conditions. Self-report of mood symptoms in the structured interviews confirmed that high-cost patients had higher PHQ-9 scores and greater functional impairment and service need. High-cost patients had significantly higher adverse childhood experiences (ACE) scores than the matched non-high-cost patients, and higher rates of several specific ACEs exposures and significantly higher proportions of high-cost patients reported each of the medical care-related financial burdens.

Strengths/Limitations: Study-eligible participants and those who completed the interview were more likely to be younger or female, thus findings might be less generalizable to older male patients. The sample was drawn from a private, non-profit health system; thus findings may not be generalizable to public populations.

Generalizability to Medicare Population: Strong; the study engages directly with Medicare populations.

Methods: Mixed-method analysis of administrative, electronic health record (EHR) and self-report data.

Sweeney E. CMS pushes ACOs to take on more risk with Medicare Shared Savings Program overhaul.

Fierce Healthcare. 2018. <https://www.fiercehealthcare.com/regulatory/aco-cms-mssp-accountable-care-organizations-seema-verma-value-based-care>

Subtopic(s): Accountability and Risk Sharing in Population-based TCOC Models

Type of Source: News article

Objective: To inform readers of the new proposed rule from CMS.

Main Findings: A long-awaited proposal from the Trump administration will ask ACO to take on more risk going forward, a move that is likely to drive providers out of the program. The proposed rule (PDF) issued by CMS, shrinks the amount of time ACOs can be in an upside only model to two years. Currently, 82 percent of ACOs participating in the MSSP are in an upside only model. Additionally, those in a Track 1 upside only model would only be able eligible to take in 25 percent of any savings. Under the current program, Track 1 ACOs take a 50 percent cut. In an upside model, ACOs get a portion of any savings generated in treating patients but are still paid by CMS if they incur losses.

Strengths/Limitations: N/A

Generalizability to Medicare Population: Strong; the proposed rule described in the article may have a direct impact on the Medicare population

Methods: N/A

Tummalapalli SL, Estrella MM, Jannat-Khah DP, Keyhani S, Ibrahim S. Capitated versus fee-for-service reimbursement and quality of care for chronic disease: a US cross-sectional analysis. *BMC Health Services Research*. 2022;22(1):19. <https://doi.org/10.1186/s12913-021-07313-3>

Subtopic(s): Evaluating Payment Arrangements to Support Population-based TCOC Models; Options for Including Accountability for Additional (non-Medicare Part A or B) Costs in Population-based TCOC Models

Type of Source: Journal article

Objective: To assess the patient, physician, and practice characteristics of practices with capitation as the majority of revenue and evaluate the association of capitated reimbursement with quality of chronic disease care.

Main Findings: Patients visiting practices with majority capitated reimbursement were seen fewer times in the past 12 months compared with practices with majority FFS revenue or other reimbursement mix. The odds of controlled hypertension in visits to capitated practices did not differ significantly from those to FFS practices in multivariable analyses adjusted for patient characteristics. In the fully adjusted model, the odds of controlled hypertension in capitated practices were not statistically significantly different than for FFS practices, adjusting for both patient and physician/practice characteristics. When additionally adjusted for physician/practice characteristics, other revenue mix practices remained associated with lower statin use among visits for diabetes, but this did not reach statistical significance when accounting for multiple comparisons

Strengths/Limitations: The study utilized reimbursement information at the practice-level, rather than the visit-level making it difficult to determine if a particular visit was paid for with capitation or FFS.

Generalizability to Medicare Population: Strong; the payment systems measured in the study directly affect the Medicare population.

Methods: Cross-sectional analysis of visits to office-based ambulatory care physicians using data from the National Ambulatory Medical Care Survey (NAMCS).

Verma S. 2019 Medicare Shared Savings Program ACO Performance: Lower Costs And Promising Results Under 'Pathways To Success.' *Health Affairs Forefront*. 2020. <https://doi.org/10.1377/forefront.20200914.598838>.

Subtopic(s): Establishing Benchmarks in Population-based TCOC Models; Accountability and Risk Sharing in Population-based TCOC Models

Type of Source: News article

Objective: To inform readers of the "Pathways to Success" final rule of the Medicare Share Savings Program.

Main Findings: The ACOs under Pathways to Success participation options performed better than legacy track ACOs, showing net per beneficiary savings of \$169 per beneficiary compared to \$106 per beneficiary for legacy track ACOs. While ACOs with more experience continued to achieve greater savings, new entrant ACOs under Pathways to Success achieved net per beneficiary savings of \$150. When the redesign of the program was first announced, some stakeholders expressed concern that new ACOs might be reluctant to participate in these new participation options, given the changes in the financial benchmarks and the speed at which ACOs would need to take on downside risk. However, these early results suggest that greater financial accountability under the Pathways to Success policies has produced the stronger incentives for ACOs to deliver better coordinated and more efficient care for Medicare beneficiaries.

Strengths/Limitations: N/A

Generalizability to Medicare Population: Moderate; the subject matter pertains to Medicare payment delivery methods.

Methods: N/A

Walker DM , Hefner JL, Sova LN, et.al. Implementing Accountable Care Organizations: Lessons From a Qualitative Analysis of Four Private Sector Organizations. *Journal of Healthcare Management*. 2017; 62(6), 419–431. <https://doi.org/10.1097/JHM-D-16-00021>

Subtopic(s): Process Measures in Population-based TCOC Models

Type of Source: Journal article

Objective: To apply the complex innovation implementation framework (CIIF) to the study of ACOs.

Main Findings: The study found that achieving buy-in and communication were two prevailing implementation challenges pertaining to management support. The ACO model requires a major change in the incentive structure that leadership can use to influence specific provider actions. Evidence from the interviews suggests that organizational administrators are struggling to change clinician behavior using the new incentives, resulting in wavering commitment. In the area of IT, all organizations noted major problems with their ability to access the data necessary to conduct tasks associated with the innovation. This challenge is often a consequence of the implementation issues associated with adoption and use of EHRs.

Strengths/Limitations: The study contains a small sample size.

Generalizability to Medicare Population: Moderate; although Medicare is not mentioned, the contents of the study pertain to ACO model frameworks.

Methods: Mixed methods research with semi-structured interview, key informant interviews, surveys and site visits.

Weissman JS, Bailit M, D'Andrea G, Rosenthal MB. The Design and Application Of Shared Savings Programs: Lessons From Early Adopters. *Health Affairs*. 2012;31(9):1959-1968.

<https://doi.org/10.1377/hlthaff.2012.0383>

Subtopic(s): Accountability and Risk Sharing in Population-based TCOC Models

Type of Source: Journal article

Objective: To examine the design of shared savings formulas across a range of programs.

Main Findings: The study identified four major themes: 1) each design choice exhibits tensions between conflicting goals and interests, and balance must be struck; 2) there is a need for the ability to pool payer data and align performance measures used in shared savings arrangements; 3) there is a need to group providers together for purposes of measurement and incentive distribution; and 4) a trade-off exists when payers want to provide strong incentives for cost control or quality improvement and patients have varied needs and health behaviors.

Strengths/Limitations: The study focused exclusively on financial incentives rather than a multi-prong approach.

Generalizability to Medicare Population: Moderate; the contents of the study engage with Medicare facilities.

Methods: Mixed-method approach consisting of gathering publicly available data and conducting key informant interviews.

Werner RM, Emmanuel EJ, Pham HH, Navathe AS. The Future of Value-Based Payment: A Road Map to 2030: White Paper. *University of Pennsylvania Leonard Davis Institute of Health Economics*. 2021.

<https://ldi.upenn.edu/our-work/research-updates/the-future-of-value-based-payment-a-road-map-to-2030/>.

Subtopic(s): Establishing Benchmarks in Population-based TCOC Models

Type of Source: White paper

Objective: To provide recommendations for the federal government to transition to a value-based payment structure.

Main Findings: The white paper provides five goals for the 2020s: 1) Pull providers in through alignment of APM goals across payers; 2) simplify the administrative burden of APMs; 3) CMS must move away from voluntary provider participation in APMs, and work with providers and conveners to implement mandatory participation whenever feasible; 4) CMS must re-evaluate the current physician fee schedule, which is biased toward procedures, overvalues several specialty procedure codes, and undervalues primary care; and 5) APMs should proactively promote equity with design decisions that treat reducing disparities as a priority.

Strengths/Limitations: N/A

Generalizability to Medicare Population: Moderate; the contents of the white paper is intended for a higher-level audience.

Methods: N/A

Willink A, Reed NS, Swenor B, Leinbach L, DuGoff EH, Davis K. Dental, Vision, And Hearing Services: Access, Spending, And Coverage For Medicare Beneficiaries. *Health Affairs*. 2020;39(2):297-304.

<https://doi.org/10.1377/hlthaff.2019.00451>

Subtopic(s): Options for Including Accountability for Additional (non-Medicare Part A or B) Costs in Population-based TCOC Models

Type of Source: Journal article

Objective: To demonstrate that MA plans are filling an important gap in dental, vision, and hearing coverage, particularly among low- and middle-income beneficiaries.

Main Findings: Overall, people who had dental coverage were more likely to have had at least one dental visit in the past 12 months (61 percent), compared to those who did not have dental coverage (42 percent). Sixty-seven percent of MA enrollees were covered for vision services, compared to 4 percent who reported having any vision coverage through stand-alone plans in traditional Medicare. Medicare beneficiaries with vision coverage were about as likely to report having had an eye exam in the past 12 months (56 percent) as those who did not have coverage (54 percent). Fifty-two percent of MA enrollees were in plans with a hearing benefit, and 49 percent of Medicare beneficiaries dually enrolled in Medicaid had access to hearing coverage through their MA plan or Medicaid state benefit.

without hearing coverage.

Strengths/Limitations: The study relies on self-reported data rather than administrative claims.

Generalizability to Medicare Population: Strong; the study engages directly with Medicare populations and discusses cost of care.

Methods: Analysis of the 2016 Cost Supplement to the Medicare Current Beneficiary Survey (MCBS).

Yellen J, Walsh M, Becerra X, Kijakazi K, Brooks-LaSure C. 2022 Annual Report of the Boards of Trustees of the Federal Supplementary Medical Insurance Trust Funds. 2022; 1-257.

<https://www.cms.gov/files/document/2022-medicare-trustees-report.pdf>

Subtopic(s): Medicare Spending Patterns Relevant to Population-based TCOC Models

Type of Source: Congressional Report

Objective: To inform lawmakers of financial projections of the Federal Hospital Insurance Trust Fund and the Federal Supplementary Medical Insurance Trust Fund.

Main Findings: The estimated depletion date for the HI trust fund is 2028, 2 years later than projected in last year's report. In 2021, HI income exceeded expenditures by \$8.5 billion due in part to repayments of the accelerated and advance payments that were made in 2020. The trust fund is expected to be adequately financed over the next 10 years and beyond because income from premiums and general revenue for Parts B and D are reset each year to cover expected costs and ensure a reserve for Part B contingencies.

Strengths/Limitations: N/A

Generalizability to Medicare Population: Moderate; the contents of the report is intended for a higher-level audience, however, the decisions made by the report may directly affect Medicare populations.

Methods: N/A

Zheng Y, Lin K, White T, Pickreign J, Yuen-Reed G. On designing of a low leakage patient-centric provider network. *BMC Health Serv Res.* 2018;18:213. <https://doi.org/10.1186/s12913-018-3038-5>

Subtopic(s): Accountability and Risk Sharing in Population-based TCOC Models

Type of Source: Journal article

Objective: To understand patient provider networks to evaluate how "leakage" arises among diabetic patient networks.

Main Findings: A ratio of 45 percent between PCP's and specialists is found among low leakage networks. Additionally, communities with high-risk profiles tend to have higher leakage and less in community utilization.

Strengths/Limitations: The study's results are limited by the fact that they utilized data from only one year and are studying a limited geographical area.

Generalizability to Medicare Population: Strong; the report discusses in-network usage, cost of care and ACO's which serve Medicare populations.

Methods: This study used an algorithm to classify communities within the areas studied.

Appendix A: Desired Vision and Culture, Care Delivery Features, and Payment Features for Population-Based TCOC Models

Desired Vision and Culture	Desired Care Delivery Features Identified During the June Public Meeting	Desired Payment Features	Enablers (including Provider/Participant, Model, and Other Enablers)
<p>A culture of accountability for improving quality and outcomes, and managing TCOC</p> <p>Proactive, preventive care to avoid escalation of chronic and acute disease in patients with low risk and “rising risk”</p> <p>Optimal outcomes and eradicated racial and socioeconomic health care disparities</p> <p>Enhanced care coordination for vulnerable patient populations (e.g., high-cost patients, patients with multiple chronic conditions)</p> <p>Use of evidence-based diagnostic and treatment protocols</p> <p>Dissemination and incorporation of lessons learned and best practices</p>	<p>High-touch, team-based, patient-centered care built around primary care (not necessarily physicians)</p> <p>Incentivizing specialist participation and engagement</p> <p>Improving coordination and alignment between primary care and specialty care providers or among clinical groups/practices</p> <p>Managing primary care to specialty care visit ratios</p> <p>Identifying and using targeted interventions for high-risk patients and patients with “rising risk”</p> <p>Strengthening investments in primary care with enhanced care delivery teams that include behavioral health providers, pharmacists, community health workers, and others</p> <p>Facilitating transitions between care settings and prioritizing quality of care around transitions</p> <p>Screening for health-related social needs (HRSNs) and making referrals in a way that minimizes provider burden</p>	<p>Incentivizing and supporting participation among more providers, including safety net providers</p> <p>Rewarding improvements in outcomes and process measures that are proxies for the desired care delivery transformations (e.g., number of touches, primary care to specialty care touch ratio, patient retention)</p> <p>Timeliness of paying or providing financial incentives</p>	<p>Provider/Participant</p> <p>Real-time access to actionable data on patient needs, utilization, cost, and performance metrics</p> <p>Infrastructure investments to support care delivery transformation (health information technology, additional staff for care delivery teams, modifying workstreams)</p> <p>Cost distribution data by illness to identify which conditions require more management</p> <p>Data interoperability</p> <p>Model</p> <p>Multi-payer alignment related to definitions of performance metrics</p> <p>Appropriate performance measures for holding providers accountable (process and outcome measures)</p> <p>Flexibility for accountable entities to determine how to structure care delivery and primary care/specialty care alignment</p> <p>Other Enablers</p> <p>Evidence regarding which approaches are most effective in improving quality and outcomes, and reducing cost</p>

Appendix B: Additional Information Needed from PTAC’s September Theme-Based Discussion on Population-Based TCOC Models

Objectives of PTAC’s Series of Theme-Based Discussions on Population-Based TCOC Models	Insights from PTAC’s March and June Theme-Based Discussions*	Additional Information Needed from the September Theme-Based Discussion
<ul style="list-style-type: none"> • Gathering consensus and insights regarding next steps toward realigning the healthcare system to move from paying for quantity of services toward paying for value • Broader vision regarding structural elements of future population-based models • Services appropriate for inclusion in future PB-TCOC models • Relationship between PB-TCOC models and episode-based or condition-specific models • Enhancing provider readiness and incentivizing participation in models with two-sided risk • Opportunities for addressing equity issues and incentivizing screening and referrals for SDOH 	<ul style="list-style-type: none"> • Existence of and impact of having a range of definitions of TCOC • Feasibility and desirability of developing a single definition of TCOC • Impact of proportion of patients in value-based arrangements on provider incentives • Trade-offs between care delivery model design features (such as provider networks) • Desired care delivery model features (more proactive, patient-centered, high-touch) • Need for more timely data • Importance of measuring impact on outcomes and including beneficiary perspective 	<ul style="list-style-type: none"> • Vision for payment model design of future PB-TCOC models • Specific payment methodology features for incentivizing desired care delivery model features • Strategy and incentives for improving primary care and Specialty Care Integration • Assisting physician practices in screening and referring for HRSNs and addressing social needs • Optimal performance measures for PB-TCOC models • Interim steps for achieving the 2030 goal of having 100% of Medicare Parts A and B beneficiaries in care relationships with accountability for quality and TCOC

Appendix C: Care Delivery Features and Potential Financial Incentives for Driving Value-Based and Patient-Centered Care

This table seeks to identify potential opportunities and challenges related to incentivizing various desired care delivery features for driving value-based and patient-centered care within various types of payment methodologies.^{iv}

Desired Care Delivery Feature		Potential Financial Incentives
1	Improving Coordination and Alignment between Primary Care and Specialty Care Providers or among Clinical Groups / Practices	Page 89
2	High-touch, Team-based, Patient-centered Care Built around Primary Care (Not Necessarily Physicians)	Page 98
3	Incentivizing Specialist Participation in and Engagement with Accountable Care Models	Page 107
4	Managing Primary Care to Specialty Care Visit Ratios	Page 119
5	Identifying and Using Targeted Interventions for High-risk Patients and Patients with “Rising Risk”	Page 125
6	Strengthening Investments in Primary Care with Enhanced Care Delivery Teams that Include Behavioral Health Providers, Pharmacists, Community Health Workers, etc.	Page 131
7	Facilitating Transitions between Care Settings and Prioritizing Quality of Care around Transitions	Page 139
8	Screening for Health-related Social Needs (HRSNs) and Making Referrals in a Way that Minimizes Provider Burden	Page 144

^{iv} Opportunities and challenges that are applicable to all of a payment feature’s subtypes (i.e., for a broad population, disease/condition, service type, provider type) are stated once in the first row for that payment feature.

Desired Care Delivery Feature #1: Improving Coordination and Alignment between Primary Care and Specialty Care Providers or among Clinical Groups / Practices

Financial Incentive	Opportunities	Challenges
<p>Full capitation / population-based payment (with 365-day accountability)</p>	<ul style="list-style-type: none"> • Encouraging efficiency and strategies to control waste • Encouraging integration (e.g., through PBPM payment for all covered services) • Improving care coordination • Incentivizing data sharing / transparency and care coordination, particularly for high needs and / or high-cost patients, through shared accountability for patient outcomes • Incentivizing providers to avoid low value / unnecessary medical services and select lower cost / higher value alternatives • Providing flexibility and resources to support innovative approaches • Reducing administrative burden on providers • Reducing unnecessary expenditures and utilization to a greater extent than more limited payment features • Supporting care delivery improvements in rural and underserved communities • Supporting provider flexibility to provide tailored care 	<ul style="list-style-type: none"> • Access issues (e.g., longer wait times) • Addressing potential decreases in provider time spent face-to-face with patients • Approaches to risk adjustment or stratification • Benchmark setting • Determining basis for capitated payments • Determining what services are included in the capitated payments • Encouraging participation of certain types of providers • Improving access to primary care • Managing capitation, which may be easier for some providers • Monitoring utilization • Patient / beneficiary attribution • Potential for stinting on care • Provider consolidation, which can affect market competition and costs • Reducing utilization lowers costs • Reserving funds for necessary specialty services, procedures, or prescription drugs • Sharing accountability between primary care and specialty care providers • Smaller networks, which may limit patient choice • Substitution of lower cost but less effective services / prescription drugs

Financial Incentive	Opportunities	Challenges
<p>Full capitation / population-based payment for a broad population (with 365-day accountability)</p>	<ul style="list-style-type: none"> • Encouraging stewardship of costs associated with a broader range of services • Promoting flexibility to determine how to allocate resources and alignment between primary care and specialty providers • Reducing cost-shifting 	<ul style="list-style-type: none"> • Aligning incentives with specialists in carve-out models • Encouraging patient retention to realize longer term savings • Identifying and contracting with preferred specialty providers (depending on the type of accountable entity) • Managing transitions between settings
<p>Full capitation / population-based payment for a specific disease or condition (with 365-day accountability)</p>	<ul style="list-style-type: none"> • Supporting person-centered disease management (e.g., accounting for patient goals and specific disease stage or acuity) 	<ul style="list-style-type: none"> • Additional complexities in risk adjustment or stratification approach • Aligning incentives to primary care and specialty care providers • Including a wide array of providers, which may be less feasible for certain diseases / conditions
<p>Full capitation / population-based payment for specific types of services (with 365-day accountability)</p>	<ul style="list-style-type: none"> • Focusing on primary care (e.g., in an advanced primary care model) • Supporting population health management 	<ul style="list-style-type: none"> • Adjusting for patient factors that may incentivize utilization • Aligning incentives to primary care and specialty care providers • Extending covered services to include secondary care, post-acute care
<p>Full capitation / population-based payment to specific types of clinicians (with 365-day accountability)</p>	<ul style="list-style-type: none"> • Encouraging specialty care provider involvement in models • Improving disease management for patients with chronic or complex conditions 	<ul style="list-style-type: none"> • Accountability for patients who end up being higher cost • Addressing random variation for smaller providers • Aligning incentives to primary care and specialty care providers • Limited effect on integration and coordination between primary care and specialty care providers • Promoting preventive care

Financial Incentive	Opportunities	Challenges
Partial capitation / population-based payment (with 365-day accountability)	<ul style="list-style-type: none"> • Encouraging integration (e.g., through PBPM payment for all covered services) • Improving care coordination • Incentivizing data sharing / transparency and care coordination, particularly for high needs and / or high-cost patients, through shared accountability for patient outcomes • Moving towards performance-based payment / value-based purchasing, partially replacing FFS payments • Supporting provider flexibility to provide tailored care 	<ul style="list-style-type: none"> • Addressing potential decreases in provider time spent face-to-face with patients • Approaches to risk adjustment or stratification • Determining basis for capitated payments • Managing capitation, which may be easier for some providers • Patient / beneficiary attribution • Rewarding volume through FFS mechanism • Sharing accountability between primary care and specialty care providers
Partial capitation / population-based payment for a broad population (with 365-day accountability)	<ul style="list-style-type: none"> • Encouraging stewardship of costs associated with a broader range of services • Promoting flexibility to determine how to allocate resources and alignment between primary care and specialty providers • Reducing cost-shifting 	<ul style="list-style-type: none"> • Aligning incentives with specialists in carve-out models • Encouraging patient retention to realize longer term savings • Identifying and contracting with preferred specialty providers (depending on the type of accountable entity) • Managing transitions between settings
Partial capitation / population-based payment for a specific disease or condition (with 365-day accountability)	<ul style="list-style-type: none"> • Supporting person-centered disease management (e.g., accounting for patient goals and specific disease stage or acuity) 	<ul style="list-style-type: none"> • Additional complexities in risk adjustment or stratification approach • Aligning incentives to primary care and specialty care providers • Including a wide array of providers, which may be less feasible for certain diseases / conditions
Partial capitation / population-based payment for specific types of services (with 365-day accountability)	<ul style="list-style-type: none"> • Focusing on primary care • Supporting population health management 	<ul style="list-style-type: none"> • Aligning incentives to primary care and specialty care providers • Extending covered services to include secondary care, post-acute care

Financial Incentive	Opportunities	Challenges
<p>Partial capitation / population-based payment to specific types of clinicians (with 365-day accountability)</p>	<ul style="list-style-type: none"> • Encouraging specialty care provider involvement in models • Improving disease management for patients with chronic or complex conditions 	<ul style="list-style-type: none"> • Accountability for patients who end up being higher cost • Addressing random variation for smaller providers • Aligning incentives to primary care and specialty care providers • Limited effect on integration and coordination between primary care and specialty care providers • Promoting preventive care
<p>FFS-based shared savings (post reconciliation) for a full population with single-sided or two-sided risk (with 365-day accountability)</p>	<ul style="list-style-type: none"> • Building economies of scale • Encouraging provider participation / engagement • Improving care networks • Incentivizing smaller and / or less-experienced providers to participate by limiting downside risk (e.g., in early years of Model) • Influencing provider behavior (e.g., to reduce costs, reduce unnecessary utilization, improve quality) • Moving towards performance-based payment / value-based purchasing • Reducing system leakage • Tailoring risk mechanism to individual markets / care settings 	<ul style="list-style-type: none"> • Achieving sufficient entity-level scale • Addressing random variation for smaller providers • Calculating savings (and losses) • Ceilings on improvement may not encourage long-term progress • Closure due to financial insolvency • Demand destruction (e.g., when shared savings doesn't offset lost revenue from reducing TCOC) and spillover, in which there are changes (e.g., reduced utilization, increased efficiency) in the non-ACO population because of ACO activities • Desirability of large providers (market share) as partners • Determining baselines and benchmarks, risk corridors, and frequency of rebasing • Ensuring proportionate savings • Ensuring sufficient patient volume for each entity • Establishing appropriate measures and basis for comparison (e.g., achievement, improvement) • Financial instability • Growing pains in new provider partnerships (e.g., sharing accountability between primary care and specialty care providers) • Implementing sufficient risk protection for payers • Limited effect on care coordination, efficiency, and net savings without greater accountability (e.g., downside risk)

Financial Incentive	Opportunities	Challenges
		<ul style="list-style-type: none"> • Limited effectiveness of retrospectively structured payment arrangements • Monitoring cost-shifting • Monitoring utilization • No upfront investments to support clinical or technological infrastructure, implement care coordination strategies, or support operational restructuring to align with partners • Optimizing networks • Provider burden in responding to overlapping and competing performance measures within and across models, and effect on evaluating performance • “Ratcheting”, where success results in a lower benchmark that is harder to meet • Structural implications (e.g., physician-led ACOs are more likely to reduce hospital spending than physician spending) • Sustaining shared savings after rebasing for historically efficient / high-performing entities • Timeline for risk transitions • Variation in operating costs (administrative, care coordination, data and analytics) by provider type

Financial Incentive	Opportunities	Challenges
FFS-based shared savings (post reconciliation) for a broad population (with 365-day accountability)	<ul style="list-style-type: none"> • Encouraging stewardship of costs associated with a broader range of services • Promoting flexibility to determine how to allocate resources and alignment between primary care and specialty providers • Reducing cost-shifting 	<ul style="list-style-type: none"> • Identifying and contracting with preferred specialty providers (depending on the type of accountable entity) • Managing transitions between settings
FFS-based shared savings (post reconciliation) for a specific disease or condition with single-sided or two-sided risk (with 365-day accountability)	<ul style="list-style-type: none"> • Basing performance assessment on measures relevant to specific condition and care coordination • Improving disease management • Improving person-centered care coordination • Targeting cost, utilization, and quality (e.g., for high cost and / or high needs patients) 	<ul style="list-style-type: none"> • Achieving sufficient entity-level scale • Adjusting for potential carveouts • Exclusions (of particular services, procedures, prescription drugs) from TCOC benchmarks • Issues with patient volume for specific diseases or conditions, especially those that are rare • Limits on included patient populations • Limits on included services • Potential larger effect of shared losses on small practices • Reductions in provider spending may not equate to net savings • Substantial fixed costs (e.g., initial reductions in revenue may not be balanced by changes in expenses in shared savings environments)
FFS-based shared savings (post reconciliation) for specific types of services with single-sided or two-sided risk (with 365-day accountability)	<ul style="list-style-type: none"> • Sharing accountability to reduce cost-shifting through changing referral practices • Targeting primary care-specific cost, utilization, and quality 	<ul style="list-style-type: none"> • Adjusting for patient factors that may incentivize utilization • Patient / beneficiary attribution • Reductions in provider spending may not equate to net savings • Shifting care to other service types / providers

Financial Incentive	Opportunities	Challenges
<p>FFS-based shared savings (post reconciliation) to specific types of clinicians with single-sided or two-sided risk (with 365-day accountability)</p>	<ul style="list-style-type: none"> • Encouraging specialty care provider involvement in models, as lead provider • Targeting provider quality performance and value of care provided for patients, especially those with chronic or complex conditions 	<ul style="list-style-type: none"> • Addressing random variation for smaller providers • Aligning incentives to primary care and specialty care providers • Exclusions (of particular services, procedures, prescription drugs) from TCOC benchmarks • Limited effect on integration and coordination between primary care and specialty care providers • Limits on included services • Patient / beneficiary attribution and extending shared savings / losses to partners • Provider burden in responding to overlapping and competing performance measures within and across models, and effect on evaluating performance • Reductions in provider spending may not equate to net savings

Financial Incentive	Opportunities	Challenges
Episode-based payments	<ul style="list-style-type: none"> • Aligning incentives to primary care and specialty care providers and across settings • Encouraging provider participation / engagement • Enhancing provider flexibility and autonomy • Implementing best practices • Incentivizing data sharing / transfer to reduce waste (e.g., duplicative tests) • Incorporating add-on payments (e.g., for infrastructure development) • Nesting within models, allowing providers some flexibility to address conditions / procedures for their specific patient population • Reducing unnecessary and / or low-value care (potentially lowering costs while maintaining quality) within episodes • Reexamining care processes • Shifting care to lower cost settings 	<ul style="list-style-type: none"> • Addressing random variation for smaller providers • Adjusting for patient factors that may incentivize utilization within episodes • Determining attribution / accountability (e.g., entity or individual provider) • Determining episode length • Determining risk structure and / or tracks • Ensuring sufficient patient volume for each entity • Establishing covered services, providers • Heterogeneous episodes • Identifying episodes (e.g., defining initiating / index events) • Limited impact on net savings • Overlapping models / policies • Prioritizing primary care over tertiary care • Target price setting (accuracy and clarity)
Prospective episode-based payments for conditions with single-sided or two-sided risk	<ul style="list-style-type: none"> • Focusing on tasks that providers can control • Improving care coordination • Promoting efficient care delivery • Supporting condition-specific patient needs • Using data and analytics to improve care trajectories 	<ul style="list-style-type: none"> • Capacity to analyze and interpret data • Capturing timely information from different data sources (e.g., claims, EHR) • Limited utility for chronic or complex conditions (difficult to determine episode boundaries and predict utilization) • Setting prospective budgets • Tracking claims against bundled fee • Utility for conditions with complex patient / beneficiary attribution

Financial Incentive	Opportunities	Challenges
Prospective episode-based payments for procedures with single-sided or two-sided risk	<ul style="list-style-type: none"> • Focusing on tasks that providers can control • Improving care coordination • Promoting efficient care delivery • Supporting procedure-specific patient needs • Using data and analytics to improve care trajectories 	<ul style="list-style-type: none"> • Capacity to analyze and interpret data • Capturing timely information from different data sources (e.g., claims, EHR) • Less promising cost savings, compared to condition-specific episode-based payments • No incentive to reduce volume • Setting prospective budgets • Tracking claims against bundled fee
FFS-based episode-based payments (post reconciliation) for conditions with single-sided or two-sided risk	<ul style="list-style-type: none"> • Eliminating need for withholds for severity • Focusing on tasks that providers can control • Improving care coordination • Moving towards performance-based payment / value-based purchasing • Nesting within existing FFS structures, allowing providers some flexibility to address services for their specific patient population • Promoting efficient care delivery • Supporting condition-specific patient needs 	<ul style="list-style-type: none"> • Encouraging ongoing provider participation • Lower administrative burden as compared to prospective payment approaches • Setting contract periods • Supporting providers to identify attributed beneficiaries • Utility for conditions with complex patient / beneficiary attribution
FFS-based Episode-based payments (post reconciliation) for procedures with single-sided or two-sided risk	<ul style="list-style-type: none"> • Moving towards performance-based payment / value-based purchasing • Nesting within existing FFS structures, allowing providers some flexibility to address services for their specific patient population 	<ul style="list-style-type: none"> • Encouraging ongoing provider participation • Less promising cost savings, compared to condition-specific episode-based payments • Lower administrative burden as compared to prospective payment approaches • No incentive to reduce volume • Supporting providers to identify attributed beneficiaries

Desired Care Delivery Feature #2: High-touch, Team-based, Patient-centered Care Built around Primary Care (Not Necessarily Physicians)

Financial Incentive	Opportunities	Challenges
Full capitation / population-based payment (with 365-day accountability)	<ul style="list-style-type: none"> • Advancing health equity • Encouraging more proactive and preventive care (e.g., for patients with rising risk) • Encouraging physician focus on patient relationships rather than administrative tasks • Functioning at the top of the license • Implementing learning collaboratives • Improving patient outcomes through focus on holistic, patient-centered care • Incentivizing care coordination improvement and data sharing through shared accountability within the primary care team • Integrating additional services (e.g., behavioral health, referrals for HRSNs) • Reducing administrative burden on providers • Supporting additional staff tailored to patient / practice needs (e.g., through PBPM payment) 	<ul style="list-style-type: none"> • Achieving sufficient entity-level scale • Approaches to risk adjustment or stratification • Availability in diverse communities • Determining accountability for care outcomes • Distribution of PBPM payment • Limits to integrated care (e.g., opportunities for specialty care provider involvement) • Limits to patient choice • Managing capitation within the care team • Need for monitoring / evaluation to ensure Model design does not have unintended consequences • Patient / beneficiary attribution • Payments not linked to quality / measure performance • Reducing utilization lowers costs
Full capitation / population-based payment for a broad population (with 365-day accountability)	<ul style="list-style-type: none"> • Encouraging stewardship of costs associated with patient-centered, preventive care • Promoting flexibility to determine how to allocate resources to support care coordination 	<ul style="list-style-type: none"> • Aligning incentives with specialists in carve-out models • Encouraging patient retention to realize longer term savings • Managing transitions between settings

Financial Incentive	Opportunities	Challenges
Full capitation / population-based payment for a specific disease or condition (with 365-day accountability)	<ul style="list-style-type: none"> • Encouraging participation from teams that care for complex patients • Supporting person-centered disease management (e.g., accounting for patient goals and specific disease stage or acuity) 	<ul style="list-style-type: none"> • Additional complexities in risk adjustment or stratification approach • Aligning incentives to primary care and specialty care providers • Covering secondary and tertiary care • Designating lead provider • Integrating relevant specialty care providers in care teams • Issues with patient volume for specific diseases or conditions, especially those that are rare • Reserving funds for necessary specialty services, procedures, or prescription drugs
Full capitation / population-based payment for specific types of services (with 365-day accountability)	<ul style="list-style-type: none"> • Focusing on primary care • Supporting population health management 	<ul style="list-style-type: none"> • Accounting for cost-shifting and avoidable specialty referrals • Adjusting for patient factors that may incentivize utilization • Extending covered services to include secondary care, post-acute care • Monitoring utilization
Full capitation / population-based payment to specific types of clinicians (with 365-day accountability)	<ul style="list-style-type: none"> • Encouraging specialty care provider involvement in models • Focusing on primary care • Improving disease management for patients with chronic or complex conditions 	<ul style="list-style-type: none"> • Accountability for patients who end up being higher cost • Adequate patient volume to justify specialty care provider integration • Aligning incentives to primary care and specialty care providers

Financial Incentive	Opportunities	Challenges
<p>Partial capitation / population-based payment (with 365-day accountability)</p>	<ul style="list-style-type: none"> • Advancing health equity • Encouraging more proactive and preventive care (e.g., for patients with rising risk) • Encouraging physician focus on patient relationships rather than administrative tasks • Functioning at the top of the license • Improving patient outcomes through focus on holistic, patient-centered care • Incentivizing care coordination improvement and data sharing through shared accountability within the primary care team • Integrating additional services (e.g., behavioral health, referrals for HRSNs) • Limiting initial downside risk • Moving towards performance-based payment / value-based purchasing, partially replacing FFS payments • Reducing administrative burden on providers • Supporting additional staff tailored to patient / practice needs (e.g., through PBPM payment) 	<ul style="list-style-type: none"> • Achieving sufficient entity-level scale • Approaches to risk adjustment or stratification • Availability in diverse communities • Determining accountability for care outcomes • Distribution of PBPM payment • Limits to integrated care (e.g., opportunities for specialty care provider involvement) • Limits to patient choice • Managing capitation within the care team • Need for monitoring / evaluation to ensure Model design does not have unintended consequences • Patient / beneficiary attribution • Payments not linked to quality / measure performance • Reducing utilization lowers costs • Rewarding volume through FFS mechanism
<p>Partial capitation / population-based payment for a broad population (with 365-day accountability)</p>	<ul style="list-style-type: none"> • Encouraging stewardship of costs associated with patient-centered, preventive care • Promoting flexibility to determine how to allocate resources to support care coordination 	<ul style="list-style-type: none"> • Aligning incentives with specialists in carve-out models • Encouraging patient retention to realize longer term savings • Managing transitions between settings

Financial Incentive	Opportunities	Challenges
Partial capitation / population-based payment for a specific disease or condition (with 365-day accountability)	<ul style="list-style-type: none"> • Encouraging participation from teams that care for complex patients • Supporting person-centered disease management (e.g., accounting for patient goals and specific disease stage or acuity) 	<ul style="list-style-type: none"> • Additional complexities in risk adjustment or stratification approach • Aligning incentives to primary care and specialty care providers • Covering secondary and tertiary care • Designating lead provider • Integrating relevant specialty care providers in care teams • Issues with patient volume for specific diseases or conditions, especially those that are rare • Reserving funds for necessary specialty services, procedures, or prescription drugs
Partial capitation / population-based payment for specific types of services (with 365-day accountability)	<ul style="list-style-type: none"> • Focusing on primary care • Supporting population health management 	<ul style="list-style-type: none"> • Accounting for cost-shifting and avoidable specialty referrals • Adjusting for patient factors that may incentivize utilization • Extending covered services to include secondary care, post-acute care • Monitoring utilization
Partial capitation / population-based payment to specific types of clinicians (with 365-day accountability)	<ul style="list-style-type: none"> • Encouraging specialty care provider involvement in models • Focusing on primary care • Improving disease management for patients with chronic or complex conditions 	<ul style="list-style-type: none"> • Accountability for patients who end up being higher cost • Adequate patient volume to justify specialty care provider integration • Addressing random variation for smaller providers • Aligning incentives to primary care and specialty care providers • Limits on integration and coordination between primary care and specialty care providers

<p>FFS-based shared savings (Post reconciliation) for a full population with single-sided or two-sided risk (with 365-day accountability)</p>	<ul style="list-style-type: none"> • Encouraging performance improvements without imposing financial penalties • Encouraging provider participation / engagement • Improving care, as measured by specific process (e.g., number of touches, ratio of primary to specialty care touches) or outcome measures (e.g., related to cost, utilization, or quality) • Incentivizing teams with smaller patient volume or less experience to participate by limiting downside risk (e.g., in early years of Model) • Influencing provider behavior (e.g., to reduce costs, reduce unnecessary utilization, improve quality) • Moving towards performance-based payment / value-based purchasing • Tailoring risk mechanism to individual markets 	<ul style="list-style-type: none"> • Achieving sufficient entity-level scale • Addressing random variation for smaller providers • Appropriateness across different providers / care settings • Building economies of scale • Calculating savings (and losses) • Ceilings on improvement may not encourage long-term progress • Closure due to financial insolvency • Demand destruction (e.g., when shared savings doesn't offset lost revenue from reducing TCOC) and spillover, in which there are changes (e.g., reduced utilization, increased efficiency) in the non-ACO population because of ACO activities • Determining baselines and benchmarks, risk corridors, and frequency of rebasing • Ensuring proportionate savings • Ensuring sufficient patient volume for each entity • Establishing appropriate measures and basis for comparison (e.g., achievement, improvement) • Financial instability • Growing pains in new provider partnerships (e.g., sharing accountability between primary care and specialty care providers) • Implementing sufficient risk protection for payers • Leakage • Limited effect on care coordination, efficiency, and net savings without greater accountability (e.g., downside risk) • Limited effectiveness of retrospectively structured payment arrangements • Limited effectiveness of shared savings only (as compared to two-sided risk) on provider behavior, due in part to joint accountability / pooled providers • Monitoring cost-shifting • Monitoring utilization
-----------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Financial Incentive	Opportunities	Challenges
		<ul style="list-style-type: none"> • No upfront investments to support clinical or technological infrastructure, implement care coordination strategies, or support operational restructuring • Provider burden in responding to overlapping and competing performance measures within and across models, and effect on evaluating performance • “Ratcheting”, where success results in a lower benchmark that is harder to meet • Selecting suitable measures • Sustaining shared savings after rebasing for historically efficient / high-performing entities • Timeline for risk transitions
FFS-based shared savings (Post reconciliation) for a broad population (with 365-day accountability)	<ul style="list-style-type: none"> • Encouraging stewardship of costs associated with patient-centered, preventive care • Promoting flexibility to determine how to allocate resources to support care coordination 	<ul style="list-style-type: none"> • Aligning incentives with specialists in carve-out models • Encouraging patient retention to realize longer term savings • Managing transitions between settings
FFS-based shared savings (Post reconciliation) for a specific disease or condition with single-sided or two-sided risk (with 365-day accountability)	<ul style="list-style-type: none"> • Developing tailored provider partnerships / referral networks to target condition-specific care coordination • Facilitating care coordination (e.g., by encouraging entities to enhance partnerships / referral networks) • Improving disease management • Improving person-centered care coordination • Promoting targeted quality improvement without risk of financial penalties through applying condition-specific process or outcome measures • Targeting cost, utilization, and quality (e.g., for high cost and / or high needs patients) 	<ul style="list-style-type: none"> • Achieving sufficient entity-level scale • Adjusting for potential carveouts • Issues with patient volume for specific diseases or conditions, especially those that are rare • Limits on included patient populations • Limits on included services • Potential for unintended consequences stemming from selected performance measures (e.g., if providers focus on one disease or facet of disease that is measured) • Potential larger effect of shared losses on small practices • Reductions in provider spending may not equate to net savings • Substantial fixed costs (e.g., initial reductions in revenue may not be balanced by changes in expenses in shared savings environments)

Financial Incentive	Opportunities	Challenges
FFS-based shared savings (Post reconciliation) for specific types of services with single-sided or two-sided risk (with 365-day accountability)	<ul style="list-style-type: none"> • Focusing on primary care • Sharing accountability • Targeting primary care-specific cost, utilization, and quality 	<ul style="list-style-type: none"> • Adjusting for patient factors that may incentivize utilization • Patient / beneficiary attribution • Reductions in provider spending may not equate to net savings • Shifting care to other service types / providers
FFS-based shared savings (Post reconciliation) to specific types of clinicians with single-sided or two-sided risk (with 365-day accountability)	<ul style="list-style-type: none"> • Encouraging specialty care provider involvement in models • Focusing on primary care • Targeting provider quality performance and value of care provided for patients, especially those with chronic or complex conditions 	<ul style="list-style-type: none"> • Accountability for patients who end up being higher cost • Adequate patient volume to justify specialty care provider integration • Addressing random variation for smaller providers • Aligning incentives to primary care and specialty care providers • Distribution of shared savings / losses • Limits on integration and coordination between primary care and specialty care providers • Provider burden in responding to overlapping and competing performance measures within and across models, and effect on evaluating performance

Financial Incentive	Opportunities	Challenges
Episode-based payments	<ul style="list-style-type: none"> • Aligning incentives to primary care and specialty care providers and across settings • Assigning value to team-based health care • Encouraging provider participation / engagement • Enhancing provider flexibility • Implementing best practices • Incorporating add-on payments (e.g., for infrastructure development) • Nesting within models, allowing providers some flexibility to address conditions / procedures for their specific patient population • Reducing unnecessary and / or low-value care (potentially lowering costs while maintaining quality) within episodes • Reexamining care processes 	<ul style="list-style-type: none"> • Addressing random variation for smaller providers • Adjusting for patient factors that may incentivize utilization within episodes • Determining attribution / accountability (e.g., team or individual provider) • Determining episode length • Determining risk structure and / or tracks • Encouraging buy-in with team-based care (e.g., not all members of the care team may touch a patient during the episode) • Ensuring sufficient patient volume for each entity • Establishing covered services, providers • Heterogeneous episodes • Identifying episodes (e.g., defining initiating / index events) • Limited impact on net savings • Overlapping models / policies • Prioritizing primary care over tertiary care • Target price setting (accuracy and clarity)
Prospective episode-based payments for conditions with single-sided or two-sided risk	<ul style="list-style-type: none"> • Focusing on tasks that providers can control • Improving care coordination • Promoting efficient care delivery • Supporting condition-specific patient needs • Using data and analytics to improve care trajectories 	<ul style="list-style-type: none"> • Capacity to analyze and interpret data • Capturing timely information from different data sources (e.g., claims, EHR) • Limited utility for chronic or complex conditions (difficult to determine episode boundaries and predict utilization) • Setting prospective budgets • Supporting care coordination across providers / service lines, which may improve patient outcomes and experience with care • Tracking claims against bundled fee • Utility for conditions with complex patient / beneficiary attribution

Financial Incentive	Opportunities	Challenges
Prospective episode-based payments for procedures with single-sided or two-sided risk	<ul style="list-style-type: none"> • Focusing on tasks that providers can control • Improving care coordination • Promoting efficient care delivery • Supporting procedure-specific patient needs • Using data and analytics to improve care trajectories 	<ul style="list-style-type: none"> • Capacity to analyze and interpret data • Capturing timely information from different data sources (e.g., claims, EHR) • Less promising cost savings, compared to condition-specific episode-based payments • No incentive to reduce volume • Setting prospective budgets • Tracking claims against bundled fee
FFS-based episode-based payments (post reconciliation) for conditions with single-sided or two-sided risk	<ul style="list-style-type: none"> • Eliminating need for withholds for severity • Focusing on tasks that providers can control • Improving care coordination • Moving towards performance-based payment / value-based purchasing • Nesting within existing FFS structures, allowing providers some flexibility to address services for their specific patient population • Promoting efficient care delivery • Supporting condition-specific patient needs 	<ul style="list-style-type: none"> • Encouraging ongoing provider participation • Lower administrative burden as compared to prospective payment approaches • Setting contract periods • Supporting providers to identify attributed beneficiaries • Utility for conditions with complex patient / beneficiary attribution
FFS-based Episode-based payments (post reconciliation) for procedures with single-sided or two-sided risk	<ul style="list-style-type: none"> • Moving towards performance-based payment / value-based purchasing • Nesting within existing FFS structures, allowing providers some flexibility to address services for their specific patient population 	<ul style="list-style-type: none"> • Encouraging ongoing provider participation • Less promising cost savings, compared to condition-specific episode-based payments • Lower administrative burden as compared to prospective payment approaches • No incentive to reduce volume • Supporting providers to identify attributed beneficiaries

Desired Care Delivery Feature #3: Incentivizing Specialist Participation in and Engagement with Accountable Care Models

Financial Incentive	Opportunities	Challenges
<p>Full capitation / population-based payment (with 365-day accountability)</p>	<ul style="list-style-type: none"> • Encouraging activities to improve care coordination (e.g., through PBPM payment) • Encouraging integration (e.g., through PBPM payment for all covered services) • Encouraging physician focus on patient relationships rather than administrative tasks • Implementing learning collaboratives • Improving patient outcomes • Incentivizing data sharing / transfer • Promoting targeted, patient-centered care • Reducing administrative burden on providers • Sharing financial incentives • Supporting provider flexibility to provide tailored care 	<ul style="list-style-type: none"> • Approaches to risk adjustment or stratification • Availability in diverse communities • Benchmark setting • Designating lead provider (e.g., determining whether primary care provider or specialty care provider should guide overall care plan) • Determining accountability for care outcomes • Determining basis for capitated payments • Determining degree of risk sharing and whether risk sharing should differ between primary and specialty providers • Distribution of PBPM payment • Feasibility in certain settings • Growing pains in new provider partnerships (e.g., sharing accountability between primary care and specialty care providers) • Increasing costs through specialty care provider participation • Limits to patient choice • Managing new financial responsibilities • Need for monitoring / evaluation to ensure Model design does not have unintended consequences • No upfront investments to support clinical or technological infrastructure, implement care coordination strategies, or support operational restructuring to align with partners • Patient / beneficiary attribution • Payments not linked to quality / measure performance • Provider consolidation, which can affect market competition and costs • Provider churn • Sharing accountability between primary care and specialty care providers • Smaller networks, which may limit patient choice

Financial Incentive	Opportunities	Challenges
Full capitation / population-based payment for a broad population (with 365-day accountability)	<ul style="list-style-type: none"> • Involving specialty care provider as central hub of patient care • Promoting flexibility to determine how to allocate resources and alignment between primary care and specialty providers • Promoting targeted, patient-centered care • Reducing cost-shifting • Reducing unnecessary referrals, which may decrease waste / low value care • Supporting person-centered disease management (e.g., accounting for patient goals and specific disease stage or acuity) 	<ul style="list-style-type: none"> • Designating lead provider (e.g., determining whether primary care provider or specialty care provider should guide overall care plan) • Determining accountability for care outcomes • Encouraging patient retention to realize longer term savings • Ensuring sufficient patient volume for each entity • Managing transitions between settings
Full capitation / population-based payment for a specific disease or condition (with 365-day accountability)	<ul style="list-style-type: none"> • Involving specialty care provider as central hub of patient care • Promoting targeted, patient-centered care • Reducing unnecessary referrals, which may decrease waste / low value care • Supporting person-centered disease management (e.g., accounting for patient goals and specific disease stage or acuity) 	<ul style="list-style-type: none"> • Additional complexities in risk adjustment or stratification approach • Aligning incentives to primary care and specialty care providers • Designating lead provider (e.g., determining whether primary care provider or specialty care provider should guide overall care plan) • Determining accountability for care outcomes • Ensuring sufficient patient volume for each entity • Identifying appropriate volume of specialty referrals, which may lead to higher costs with fewer choices
Full capitation / population-based payment for specific types of services (with 365-day accountability)	<ul style="list-style-type: none"> • Focusing on primary care • Supporting population health management 	<ul style="list-style-type: none"> • Adjusting for patient factors that may incentivize utilization • Aligning incentives to primary care and specialty care providers • Designating lead provider (e.g., determining whether primary care provider or specialty care provider should guide overall care plan) • Extending covered services to capture relevant specialties • Identifying appropriate volume of specialty referrals, which may lead to higher costs with fewer choices

Financial Incentive	Opportunities	Challenges
Full capitation / population-based payment to specific types of clinicians (with 365-day accountability)	<ul style="list-style-type: none"> • Encouraging specialty care provider involvement in models • Improving disease management for patients with chronic or complex conditions • Involving specialty care provider as central hub of patient care • Promoting targeted, patient-centered care 	<ul style="list-style-type: none"> • Accountability for patients who end up being higher cost • Aligning incentives to primary care and specialty care providers • Designating lead provider (e.g., determining whether primary care provider or specialty care provider should guide overall care plan) • Identifying appropriate volume of specialty referrals, which may lead to higher costs with fewer choices • Promoting preventive care
Partial capitation / population-based payment (with 365-day accountability)	<ul style="list-style-type: none"> • Encouraging activities to improve care coordination (e.g., through PBPM payment) • Encouraging integration (e.g., through PBPM payment for all covered services) • Improving patient outcomes • Incentivizing data sharing / transfer • Limiting initial downside risk • Moving towards performance-based payment / value-based purchasing, partially replacing FFS payments • Promoting targeted, patient-centered care • Reducing administrative burden on providers • Sharing financial incentives • Supporting provider flexibility to provide tailored care 	<ul style="list-style-type: none"> • Approaches to risk adjustment or stratification • Availability in diverse communities • Benchmark setting • Designating lead provider (e.g., determining whether primary care provider or specialty care provider should guide overall care plan) • Determining accountability for care outcomes • Determining basis for capitated payments • Determining degree of risk sharing and whether risk sharing should differ between primary and specialty providers • Distribution of PBPM payment • Feasibility in certain settings • Increasing costs through specialty care provider participation • Growing pains in new provider partnerships (e.g., sharing accountability between primary care and specialty care providers) • Limits to patient choice • Managing new financial responsibilities • Need for monitoring / evaluation to ensure Model design does not have unintended consequences • No upfront investments to support clinical or technological infrastructure, implement care coordination strategies, or support operational restructuring to align with partners • Patient / beneficiary attribution • Payments not linked to quality / measure performance

Financial Incentive	Opportunities	Challenges
		<ul style="list-style-type: none"> • Provider consolidation, which can affect market competition and costs • Provider churn • Rewarding volume through FFS mechanism • Sharing accountability between primary care and specialty care providers • Smaller networks, which may limit patient choice
<p>Partial capitation / population-based payment for a broad population (with 365-day accountability)</p>	<ul style="list-style-type: none"> • Involving specialty care provider as central hub of patient care • Promoting flexibility to determine how to allocate resources and alignment between primary care and specialty providers • Promoting targeted, patient-centered care • Reducing unnecessary referrals, which may decrease waste / low value care • Supporting person-centered disease management (e.g., accounting for patient goals and specific disease stage or acuity) 	<ul style="list-style-type: none"> • Designating lead provider (e.g., determining whether primary care provider or specialty care provider should guide overall care plan) • Determining accountability for care outcomes • Encouraging patient retention to realize longer term savings • Ensuring sufficient patient volume for each entity • Managing transitions between settings
<p>Partial capitation / population-based payment for a specific disease or condition (with 365-day accountability)</p>	<ul style="list-style-type: none"> • Involving specialty care provider as central hub of patient care • Promoting targeted, patient-centered care • Reducing unnecessary referrals, which may decrease waste / low value care • Supporting person-centered disease management (e.g., accounting for patient goals and specific disease stage or acuity) 	<ul style="list-style-type: none"> • Additional complexities in risk adjustment or stratification approach • Aligning incentives to primary care and specialty care providers • Designating lead provider (e.g., determining whether primary care provider or specialty care provider should guide overall care plan) • Determining accountability for care outcomes • Identifying appropriate volume of specialty referrals, which may lead to higher costs with fewer choices • Issues with patient volume for specific diseases or conditions, especially those that are rare

Financial Incentive	Opportunities	Challenges
Partial capitation / population-based payment for specific types of services (with 365-day accountability)	<ul style="list-style-type: none"> • Focusing on primary care • Supporting population health management 	<ul style="list-style-type: none"> • Adjusting for patient factors that may incentivize utilization • Aligning incentives to primary care and specialty care providers • Designating lead provider (e.g., determining whether primary care provider or specialty care provider should guide overall care plan) • Extending covered services to capture relevant specialties • Identifying appropriate volume of specialty referrals, which may lead to higher costs with fewer choices
Partial capitation / population-based payment to specific types of clinicians (with 365-day accountability)	<ul style="list-style-type: none"> • Encouraging specialty care provider involvement in models • Improving disease management for patients with chronic or complex conditions • Involving specialty care provider as central hub of patient care • Promoting targeted, patient-centered care 	<ul style="list-style-type: none"> • Accountability for patients who end up being higher cost • Addressing random variation for smaller providers • Aligning incentives to primary care and specialty care providers • Designating lead provider (e.g., determining whether primary care provider or specialty care provider should guide overall care plan) • Identifying appropriate volume of specialty referrals, which may lead to higher costs with fewer choices • Promoting preventive care

<p>FFS-based shared savings (Post reconciliation) for a full population with single-sided or two-sided risk (with 365-day accountability)</p>	<ul style="list-style-type: none"> • Building economies of scale • Encouraging provider participation / engagement without imposing financial penalties • Improving care networks • Incentivizing specialty care provider participation and engagement, especially for less experienced or smaller providers who do not yet want to assume downside risk • Influencing provider behavior (e.g., to reduce costs, reduce unnecessary utilization, improve quality) without imposing financial penalties • Moving towards performance-based payment / value-based purchasing • Reducing risk of closure due to financial instability and insolvency through integration • Tailoring approach to care for specific populations • Tailoring risk mechanism to individual markets / specialties • Targeting key populations or conditions with specific cost, utilization, and quality measures and targets 	<ul style="list-style-type: none"> • Achieving sufficient entity-level scale • Addressing variation in health care needs in full population, in clinical practice and in risk adjustment / stratification • Anticipating unintended consequences (e.g., cost-shifting, limited access to other services) and addressing in Model design • Assigning proportionate savings across provider types • Calculating savings (and losses) • Ceilings on improvement may not encourage long-term progress • Desirability of large providers (market share) as partners • Determining appropriate, meaningful performance measures across primary care and specialty care and across specialties without causing provider burden • Determining baselines and benchmarks, risk corridors, and frequency of rebasing • Ensuring proportionate savings • Ensuring sufficient patient volume for each entity • Establishing appropriate measures and basis for comparison (e.g., achievement, improvement) • Growing pains in new provider partnerships (e.g., sharing accountability between primary care and specialty care providers) • Higher costs associated with specialty care • Lack of engagement / participation due to limited opportunities to achieve and sustain shared savings • Limited effectiveness of retrospectively structured payment arrangements • Limited effectiveness of shared savings only (as compared to two-sided risk) on provider behavior, due in part to joint accountability / pooled providers • No upfront investments to support clinical or technological infrastructure, implement care coordination strategies, or support operational restructuring to align with partners
-----------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Financial Incentive	Opportunities	Challenges
		<ul style="list-style-type: none"> • Optimizing networks • Provider burden in responding to overlapping and competing performance measures within and across models, and effect on evaluating performance • Timeline for risk transitions
<p>FFS-based shared savings (Post reconciliation) for a broad population (with 365-day accountability)</p>	<ul style="list-style-type: none"> • Involving specialty care provider as central hub of patient care • Promoting flexibility to determine how to allocate resources and alignment between primary care and specialty providers • Promoting targeted, patient-centered care • Reducing unnecessary referrals, which may decrease waste / low value care • Supporting person-centered disease management (e.g., accounting for patient goals and specific disease stage or acuity) 	<ul style="list-style-type: none"> • Designating lead provider (e.g., determining whether primary care provider or specialty care provider should guide overall care plan) • Determining accountability for care outcomes • Encouraging patient retention to realize longer term savings • Ensuring sufficient patient volume for each entity • Managing transitions between settings

Financial Incentive	Opportunities	Challenges
FFS-based shared savings (Post reconciliation) for a specific disease or condition with single-sided or two-sided risk (with 365-day accountability)	<ul style="list-style-type: none"> • Basing performance assessment on measures relevant to specific condition and care coordination • Developing tailored provider partnerships / referral networks to target condition-specific care coordination • Facilitating care coordination (e.g., by encouraging entities to enhance partnerships / referral networks) • Involving specialty care provider as central hub of patient care • Promoting targeted, patient-centered care • Reducing unnecessary referrals, which may decrease waste / low value care • Supporting person-centered disease management (e.g., accounting for patient goals and specific disease stage or acuity) • Targeting cost, utilization, and quality (e.g., for high cost and / or high needs patients) 	<ul style="list-style-type: none"> • Achieving sufficient entity-level scale • Additional complexities in risk adjustment or stratification approach • Aligning incentives to primary care and specialty care providers • Designating lead provider (e.g., determining whether primary care provider or specialty care provider should guide overall care plan) • Determining accountability for care outcomes • Identifying appropriate volume of specialty referrals, which may lead to higher costs with fewer choices • Issues with patient volume for specific diseases or conditions, especially those that are rare • Limits on included patient populations • Potential larger effect of shared losses on small specialty practices • Reductions in provider spending may not equate to net savings • Substantial fixed costs (e.g., initial reductions in revenue may not be balanced by changes in expenses in shared savings environments)
FFS-based shared savings (Post reconciliation) for specific types of services with single-sided or two-sided risk (with 365-day accountability)	<ul style="list-style-type: none"> • Changing inappropriate referral practices • Focusing on primary care • Sharing accountability • Supporting population health management • Targeting primary care-specific cost, utilization, and quality 	<ul style="list-style-type: none"> • Adjusting for patient factors that may incentivize utilization • Designating lead provider (e.g., determining whether primary care provider or specialty care provider should guide overall care plan) • Extending covered services to capture relevant specialties • Identifying appropriate volume of specialty referrals, which may lead to higher costs with fewer choices • Shifting care to other service types / providers

Financial Incentive	Opportunities	Challenges
<p>FFS-based shared savings (Post reconciliation) to specific types of clinicians with single-sided or two-sided risk (with 365-day accountability)</p>	<ul style="list-style-type: none"> • Encouraging specialty care provider involvement in models • Improving disease management for patients with chronic or complex conditions • Involving specialty care provider as central hub of patient care • Promoting targeted, patient-centered care 	<ul style="list-style-type: none"> • Accountability for patients who end up being higher cost • Addressing random variation for smaller providers • Aligning incentives to primary care and specialty care providers • Designating lead provider (e.g., determining whether primary care provider or specialty care provider should guide overall care plan) • Distribution of shared savings / losses • Identifying appropriate volume of specialty referrals, which may lead to higher costs with fewer choices • Provider burden in responding to overlapping and competing performance measures within and across models, and effect on evaluating performance • Promoting preventive care

Financial Incentive	Opportunities	Challenges
Episode-based payments	<ul style="list-style-type: none"> • Aligning incentives to primary care and specialty care providers and across settings • Encouraging provider participation / engagement • Enhancing provider flexibility • Improving care coordination through structural changes • Incentivizing data sharing / transfer to reduce waste (e.g., duplicative tests) • Incorporating add-on payments (e.g., for infrastructure development) • Increasing competition within markets • Introducing smaller and / or less-experienced providers to shared risk models • Nesting specialty episodes within models, allowing providers some flexibility to address conditions / procedures for their specific patient population • Reducing administrative burden on specialty care provider • Reducing unnecessary and / or low-value care (potentially lowering costs while maintaining quality) within episodes • Reexamining care processes • Supporting implementation of long-term quality measurement 	<ul style="list-style-type: none"> • Adjusting for patient factors that may incentivize utilization within episodes • Determining attribution / accountability (e.g., entity or individual provider) • Determining episode length • Determining risk structure and / or tracks • Ensuring sufficient patient volume for each entity • Establishing covered services, providers • Growing pains in new provider partnerships (e.g., sharing accountability between primary care and specialty care providers) • Heterogeneous episodes • Identifying episodes (e.g., defining initiating / index events) • Identifying lead provider • Negative impact on net savings • Overlapping models / policies • Prioritizing primary care over tertiary care • Target price setting (accuracy and clarity)

Financial Incentive	Opportunities	Challenges
Prospective episode-based payments for conditions with single-sided or two-sided risk	<ul style="list-style-type: none"> ● Focusing on tasks that providers can control ● Improving care coordination ● Promoting efficient care delivery ● Supporting condition-specific patient needs ● Using data and analytics to improve care trajectories for patients shared between primary care and specialty care providers 	<ul style="list-style-type: none"> ● Capturing timely information from different data sources (e.g., claims, EHR) ● Limited utility for chronic or complex conditions (difficult to determine episode boundaries and predict utilization) ● Potential complexity of patient / beneficiary attribution ● Setting prospective budgets ● Supporting care coordination across providers / service lines, which may improve patient outcomes and experience with care ● Tracking claims against bundled fee ● Utility for conditions with complex patient / beneficiary attribution
Prospective episode-based payments for procedures with single-sided or two-sided risk	<ul style="list-style-type: none"> ● Focusing on tasks that providers can control ● Improving care coordination ● Promoting efficient care delivery ● Supporting procedure-specific patient needs ● Using data and analytics to improve care trajectories for patients shared between primary care and specialty care providers 	<ul style="list-style-type: none"> ● Capturing timely information from different data sources (e.g., claims, EHR) ● Less promising cost savings, compared to condition-specific episode-based payments ● No incentive to reduce volume ● Setting prospective budgets ● Tracking claims against bundled fee
FFS-based episode-based payments (post reconciliation) for conditions with single-sided or two-sided risk	<ul style="list-style-type: none"> ● Eliminating need for withholds for severity ● Focusing on tasks that providers can control ● Improving care coordination ● Moving towards performance-based payment / value-based purchasing ● Nesting specialty episodes within existing FFS structures, allowing providers some flexibility to address services for their specific patient population ● Promoting efficient care delivery ● Supporting condition-specific patient needs 	<ul style="list-style-type: none"> ● Encouraging ongoing specialty care provider participation ● Lower administrative burden as compared to prospective payment approaches ● No incentive to volume ● Setting contract periods ● Supporting providers to identify attributed beneficiaries ● Utility for conditions with complex patient / beneficiary attribution

Financial Incentive	Opportunities	Challenges
<p>FFS-based Episode-based payments (post reconciliation) for procedures with single-sided or two-sided risk</p>	<ul style="list-style-type: none"> • Focusing on tasks that providers can control • Improving care coordination • Moving towards performance-based payment / value-based purchasing • Nesting specialty episodes within existing FFS structures, allowing providers some flexibility to address services for their specific patient population • Promoting efficient care delivery • Supporting procedure-specific patient needs 	<ul style="list-style-type: none"> • Encouraging ongoing specialty care provider participation • Less promising cost savings, compared to condition-specific episode-based payments • Lower administrative burden as compared to prospective payment approaches • No incentive to reduce episode volume • Setting contract periods • Supporting providers to identify attributed beneficiaries

Desired Care Delivery Feature #4: Managing Primary Care to Specialty Care Visit Ratios

Financial Incentive	Opportunities	Challenges
<p>Full capitation / population-based payment (with 365-day accountability)</p>	<ul style="list-style-type: none"> • Aligning incentives to primary care and specialty care providers across settings • Encouraging more proactive and preventative care • Encouraging specialty care provider involvement in models, as lead provider • Focusing on primary care • Improving care, as measured by specific process (e.g., number of touches) • Involving specialty care provider as central hub of patient care • Promoting flexibility to determine how to allocate resources and alignment between primary care and specialty providers • Reducing unnecessary expenditures and utilization to a greater extent than more limited payment features • Reexamining care processes • Supporting condition-specific patient needs • Supporting person-centered disease management (e.g., accounting for patient goals and specific disease stage or acuity) • Using data and analytics to improve care trajectories 	<ul style="list-style-type: none"> • Additional complexities in risk adjustment or stratification approach • Adjusting for patient factors that may incentivize utilization • Aligning incentives to primary care and specialty care providers • Benchmark setting • Capacity to analyze and interpret data • Designating lead provider • Determining degree of risk sharing and whether risk sharing should differ between primary and specialty providers • Distribution of shared savings / losses • Encouraging ongoing specialty care provider participation • Increasing costs through specialty care provider participation • Limited utility for chronic or complex conditions (difficult to determine episode boundaries and predict utilization) • Monitoring utilization • Patient / beneficiary attribution • Prioritizing primary care over tertiary care • Sharing accountability between primary care and specialty care providers
<p>Full capitation / population-based payment for a broad population (with 365-day accountability)</p>	<ul style="list-style-type: none"> • Building economies of scale • Improving care coordination • Supporting population health management 	<ul style="list-style-type: none"> • Addressing variation in health care needs in full population, in clinical practice and in risk adjustment / stratification • Building economies of scale • Distribution of PBPM payment

Financial Incentive	Opportunities	Challenges
Full capitation / population-based payment for a specific disease or condition (with 365-day accountability)	<ul style="list-style-type: none"> • Basing performance assessment on measures relevant to specific condition and care coordination • Targeting key populations or conditions with specific cost, utilization, and quality measures and targets 	<ul style="list-style-type: none"> • Determining what services are included in the capitated payments • Heterogeneous episodes • Limits on included services • Rewarding volume through FFS mechanism
Full capitation / population-based payment for specific types of services (with 365-day accountability)	<ul style="list-style-type: none"> • Nesting specialty episodes within models, allowing providers some flexibility to address conditions / procedures for their specific patient population 	<ul style="list-style-type: none"> • Determining what services are included in the capitated payments • Limits on included services • Rewarding volume through FFS mechanism
Full capitation / population-based payment to specific types of clinicians (with 365-day accountability)	<ul style="list-style-type: none"> • Nesting within existing FFS structures, allowing providers some flexibility to address services for their specific patient population 	<ul style="list-style-type: none"> • Encouraging buy-in with team-based care (e.g., not all members of the care team may touch a patient during the episode) • Heterogeneous episodes • Managing transitions between settings
Partial capitation / population-based payment (with 365-day accountability)	<ul style="list-style-type: none"> • Aligning incentives to primary care and specialty care providers across settings • Encouraging more proactive and preventative care • Focusing on primary care • Improving care, as measured by specific process (e.g., number of touches) • Using data and analytics to improve care trajectories 	<ul style="list-style-type: none"> • Adjusting for potential carveouts • Aligning incentives to primary care and specialty care providers • Capacity to analyze and interpret data • Determining basis for capitated payments • Limited utility for chronic or complex conditions (difficult to determine episode boundaries and predict utilization) • Rewarding volume through FFS mechanism
Partial capitation / population-based payment for a broad population (with 365-day accountability)	<ul style="list-style-type: none"> • Improving care coordination 	<ul style="list-style-type: none"> • Building economies of scale • Distribution of PBPM payment
Partial capitation / population-based payment for a specific disease or condition (with 365-day accountability)	<ul style="list-style-type: none"> • Basing performance assessment on measures relevant to specific condition and care coordination • Targeting key populations or conditions with specific cost, utilization, and quality measures and targets 	<ul style="list-style-type: none"> • Determining what services are included in the capitated payments • Heterogeneous episodes • Limits on included services • Rewarding volume through FFS mechanism

Financial Incentive	Opportunities	Challenges
Partial capitation / population-based payment for specific types of services (with 365-day accountability)	<ul style="list-style-type: none"> • Nesting specialty episodes within models, allowing providers some flexibility to address conditions / procedures for their specific patient population 	<ul style="list-style-type: none"> • Determining what services are included in the capitated payments • Limits on included services • Rewarding volume through FFS mechanism
Partial capitation / population-based payment to specific types of clinicians (with 365-day accountability)	<ul style="list-style-type: none"> • Nesting within existing FFS structures, allowing providers some flexibility to address services for their specific patient population 	<ul style="list-style-type: none"> • Encouraging buy-in with team-based care (e.g., not all members of the care team may touch a patient during the episode) • Heterogeneous episodes • Managing transitions between settings

Financial Incentive	Opportunities	Challenges
<p>FFS-based shared savings (Post reconciliation) for a full population with single-sided or two-sided risk (with 365-day accountability)</p>	<ul style="list-style-type: none"> • Aligning incentives to primary care and specialty care providers across settings • Encouraging more proactive and preventative care • Facilitating care coordination (e.g., by encouraging entities to enhance partnerships / referral networks) • Focusing on primary care • Improving care, as measured by specific process (e.g., number of touches) • Involving specialty care provider as central hub of patient care • Supporting condition-specific patient needs • Supporting person-centered disease management (e.g., accounting for patient goals and specific disease stage or acuity) • Using data and analytics to improve care trajectories 	<ul style="list-style-type: none"> • Accountability for patients who end up being higher cost • Addressing random variation for smaller providers • Adequate patient volume to justify specialty care provider integration • Adjusting for patient factors that may incentivize utilization • Adjusting for potential carveouts • Aligning incentives to primary care and specialty care providers • Benchmark setting • Capacity to analyze and interpret data • Designating lead provider • Determining degree of risk sharing and whether risk sharing should differ between primary and specialty providers • Distribution of shared savings / losses • Encouraging ongoing specialty care provider participation • Increasing costs through specialty care provider participation • Limited utility for chronic or complex conditions (difficult to determine episode boundaries and predict utilization) • Patient / beneficiary attribution • Reductions in provider spending may not equate to net savings • Sharing accountability between primary care and specialty care providers
<p>FFS-based shared savings (Post reconciliation) for a broad population (with 365-day accountability)</p>	<ul style="list-style-type: none"> • Encouraging stewardship of costs associated with patient-centered, preventive care • Promoting flexibility to determine how to allocate resources to support care coordination 	<ul style="list-style-type: none"> • Aligning incentives with specialists in carve-out models • Encouraging patient retention to realize longer term savings • Managing transitions between settings

Financial Incentive	Opportunities	Challenges
FFS-based shared savings (Post reconciliation) for a specific disease or condition with single-sided or two-sided risk (with 365-day accountability)	<ul style="list-style-type: none"> • Developing tailored provider partnerships / referral networks to target condition-specific care coordination • Improving disease management • Improving person-centered care coordination • Promoting targeted quality improvement without risk of financial penalties through applying condition-specific process or outcome measures • Targeting cost, utilization, and quality (e.g., for high cost and / or high needs patients) 	<ul style="list-style-type: none"> • Achieving sufficient entity-level scale • Issues with patient volume for specific diseases or conditions, especially those that are rare • Potential for unintended consequences stemming from selected performance measures (e.g., if providers focus on one disease or facet of disease that is measured)
FFS-based shared savings (Post reconciliation) for specific types of services with single-sided or two-sided risk (with 365-day accountability)	<ul style="list-style-type: none"> • Sharing accountability • Targeting primary care-specific cost, utilization, and quality 	<ul style="list-style-type: none"> • Adjusting for patient factors that may incentivize utilization • Patient / beneficiary attribution • Reductions in provider spending may not equate to net savings • Shifting care to other service types / providers
FFS-based shared savings (Post reconciliation) to specific types of clinicians with single-sided or two-sided risk (with 365-day accountability)	<ul style="list-style-type: none"> • Encouraging specialty care provider involvement in models • Targeting provider quality performance and value of care provided for patients, especially those with chronic or complex conditions 	<ul style="list-style-type: none"> • Distribution of shared savings / losses • Limits on integration and coordination between primary care and specialty care providers • Provider burden in responding to overlapping and competing performance measures within and across models, and effect on evaluating performance

Financial Incentive	Opportunities	Challenges
Episode-based payments	<ul style="list-style-type: none"> • Developing tailored provider partnerships / referral networks to target condition-specific care coordination • Nesting within models, allowing providers some flexibility to address conditions / procedures for their specific patient population • Promoting flexibility to determine how to allocate resources and alignment between primary care and specialty providers • Supporting condition-specific patient needs • Targeting key populations or conditions with specific cost, utilization, and quality measures and targets • Using data and analytics to improve care trajectories 	<ul style="list-style-type: none"> • Accountability for patients who end up being higher cost • Addressing random variation for smaller providers • Designating lead provider • Determining basis for capitated payments • Determining episode length • Heterogeneous episodes • Encouraging participation of certain types of providers • Identifying episodes (e.g., defining initiating / index events) • Limits on included services • Sharing accountability between primary care and specialty care providers
Prospective episode-based payments for conditions with single-sided or two-sided risk	<ul style="list-style-type: none"> • Upfront investments to support clinical or technological infrastructure, implement care coordination strategies, or support operational restructuring 	<ul style="list-style-type: none"> • Limited utility for chronic or complex conditions (difficult to determine episode boundaries and predict utilization) • Setting prospective budgets • Tracking claims against bundled fee • Utility for conditions with complex patient / beneficiary attribution
Prospective episode-based payments for procedures with single-sided or two-sided risk	<ul style="list-style-type: none"> • Upfront investments to support clinical or technological infrastructure, implement care coordination strategies, or support operational restructuring 	<ul style="list-style-type: none"> • Setting prospective budgets • Tracking claims against bundled fee
FFS-based episode-based payments (post reconciliation) for conditions with single-sided or two-sided risk	<ul style="list-style-type: none"> • Targeting primary care-specific cost, utilization, and quality 	<ul style="list-style-type: none"> • No upfront investments to support clinical or technological infrastructure, implement care coordination strategies, or support operational restructuring
FFS-based Episode-based payments (post reconciliation) for procedures with single-sided or two-sided risk	<ul style="list-style-type: none"> • Encouraging specialty care provider involvement in models • Targeting primary care-specific cost, utilization, and quality 	<ul style="list-style-type: none"> • No upfront investments to support clinical or technological infrastructure, implement care coordination strategies, or support operational restructuring

Desired Care Delivery Feature #5: Identifying and Using Targeted Interventions for High-Risk Patients and Patients with “Rising Risk”

Financial Incentive	Opportunities	Challenges
Full capitation / population-based payment (with 365-day accountability)	<ul style="list-style-type: none"> • Encouraging activities to improve care coordination (e.g., through PBPM payment) • Encouraging participation from teams that care for complex patients • Promoting targeted, patient-centered care • Reducing cost-shifting • Supporting care delivery improvements in rural and underserved communities • Tailoring approach to care for specific populations • Targeting key populations or conditions with specific cost, utilization, and quality measures and targets 	<ul style="list-style-type: none"> • Accountability for patients who end up being higher cost • Additional complexities in risk adjustment or stratification approach • Aligning incentives to primary care and specialty care providers • Designating lead provider • Determining what services are included in the capitated payments • Distribution of PBPM payment • Overlapping models / policies
Full capitation / population-based payment for a broad population (with 365-day accountability)	<ul style="list-style-type: none"> • Basing performance assessment on measures relevant to specific condition and care coordination • Targeting key populations or conditions with specific cost, utilization, and quality measures and targets 	<ul style="list-style-type: none"> • Building economies of scale • Distribution of PBPM payment • Heterogeneous episodes • Limits on included services
Full capitation / population-based payment for a specific disease or condition (with 365-day accountability)	<ul style="list-style-type: none"> • Encouraging participation from teams that care for complex patients • Improving disease management for patients with chronic or complex conditions • Supporting person-centered disease management (e.g., accounting for patient goals and specific disease stage or acuity) 	<ul style="list-style-type: none"> • Including a wide array of providers, which may be less feasible for certain diseases or providers • Integrating relevant specialty care providers in care teams • Issues with patient volume for specific diseases or conditions, especially those that are rare • Reserving funds for necessary specialty services, procedures, or prescription drugs
Full capitation / population-based payment for specific types of services (with 365-day accountability)	<ul style="list-style-type: none"> • Supporting person-centered disease management (e.g., accounting for patient goals and specific disease stage or acuity) • Supporting population health management 	<ul style="list-style-type: none"> • Adjusting for patient factors that may incentivize utilization • Including a wide array of providers, which may be less feasible for certain diseases or providers • Issues with patient volume for specific diseases or conditions, especially those that are rare • Monitoring utilization

Financial Incentive	Opportunities	Challenges
Full capitation / population-based payment to specific types of clinicians (with 365-day accountability)	<ul style="list-style-type: none"> • Encouraging specialty care provider involvement in models 	<ul style="list-style-type: none"> • Accountability for patients who end up being higher cost • Adequate patient volume to justify specialty care provider integration • Aligning incentives to primary care and specialty care providers
Partial capitation / population-based payment (with 365-day accountability)	<ul style="list-style-type: none"> • Encouraging activities to improve care coordination (e.g., through PBPM payment) • Encouraging participation from teams that care for complex patients • Incentivizing smaller and / or less-experienced providers to participate by limiting downside risk (e.g., in early years of Model) • Promoting targeted, patient-centered care • Reducing cost-shifting • Supporting care delivery improvements in rural and underserved communities • Tailoring approach to care for specific populations • Targeting key populations or conditions with specific cost, utilization, and quality measures and targets 	<ul style="list-style-type: none"> • Accountability for patients who end up being higher cost • Additional complexities in risk adjustment or stratification approach • Adjusting for potential carveouts • Aligning incentives to primary care and specialty care providers • Aligning incentives with specialists in carve-out models • Determining accountability for care outcomes • Designating lead provider • Establishing covered services, providers • Overlapping models / policies • Rewarding volume through FFS mechanism
Partial capitation / population-based payment for a broad population (with 365-day accountability)	<ul style="list-style-type: none"> • Improving care coordination 	<ul style="list-style-type: none"> • Building economies of scale • Distribution of PBPM payment
Partial capitation / population-based payment for a specific disease or condition (with 365-day accountability)	<ul style="list-style-type: none"> • Basing performance assessment on measures relevant to specific condition and care coordination • Targeting key populations or conditions with specific cost, utilization, and quality measures and targets 	<ul style="list-style-type: none"> • Determining what services are included in the capitated payments • Heterogeneous episodes • Including a wide array of providers, which may be less feasible for certain diseases / conditions • Limits on included services
Partial capitation / population-based payment for specific types of services (with 365-day accountability)	<ul style="list-style-type: none"> • Basing performance assessment on measures relevant to specific condition and care coordination 	<ul style="list-style-type: none"> • Including a wide array of providers, which may be less feasible for certain diseases / conditions

Financial Incentive	Opportunities	Challenges
Partial capitation / population-based payment to specific types of clinicians (with 365-day accountability)	<ul style="list-style-type: none"> • Encouraging specialty care provider involvement in models 	<ul style="list-style-type: none"> • Accountability for patients who end up being higher cost • Adequate patient volume to justify specialty care provider integration

Financial Incentive	Opportunities	Challenges
<p>FFS-based shared savings (Post reconciliation) for a full population with single-sided or two-sided risk (with 365-day accountability)</p>	<ul style="list-style-type: none"> • Building economies of scale • Encouraging provider participation / engagement • Incentivizing smaller and / or less-experienced providers to participate by limiting downside risk (e.g., in early years of Model) • Influencing provider behavior (e.g., to reduce costs, reduce unnecessary utilization, improve quality) • Moving towards performance-based payment / value-based purchasing • Nesting within models, allowing providers some flexibility to address conditions / procedures for their specific patient population 	<ul style="list-style-type: none"> • Achieving sufficient entity-level scale • Addressing random variation for smaller providers • Calculating savings (and losses) • Ceilings on improvement may not encourage long-term progress • Demand destruction (e.g., when shared savings doesn't offset lost revenue from reducing TCOC) and spillover, in which there are changes (e.g., reduced utilization, increased efficiency) in the non-ACO population because of ACO activities • Determining baselines and benchmarks, risk corridors, and frequency of rebasing • Growing pains in new provider partnerships (e.g., sharing accountability between primary care and specialty care providers) • Implementing sufficient risk protection for payers • Limited effectiveness of retrospectively structured payment arrangements • No upfront investments to support clinical or technological infrastructure, implement care coordination strategies, or support operational restructuring to align with partners • Provider burden in responding to overlapping and competing performance measures within and across models, and effect on evaluating performance • "Ratcheting", where success results in a lower benchmark that is harder to meet • Timeline for risk transitions • Variation in operating costs (administrative, care coordination, data and analytics) by provider type

Financial Incentive	Opportunities	Challenges
FFS-based shared savings (Post reconciliation) for a broad population (with 365-day accountability)	<ul style="list-style-type: none"> • Encouraging stewardship of costs associated with patient-centered, preventive care • Promoting flexibility to determine how to allocate resources to support care coordination 	<ul style="list-style-type: none"> • Encouraging patient retention to realize longer term savings • Managing transitions between settings
FFS-based shared savings (Post reconciliation) for a specific disease or condition with single-sided or two-sided risk (with 365-day accountability)	<ul style="list-style-type: none"> • Developing tailored provider partnerships / referral networks to target condition-specific care coordination • Improving disease management • Improving person-centered care coordination • Targeting key populations or conditions with specific cost, utilization, and quality measures and targets 	<ul style="list-style-type: none"> • Achieving sufficient entity-level scale • Issues with patient volume for specific diseases or conditions, especially those that are rare • Potential for unintended consequences stemming from selected performance measures (e.g., if providers focus on one disease or facet of disease that is measured)
FFS-based shared savings (Post reconciliation) for specific types of services with single-sided or two-sided risk (with 365-day accountability)	<ul style="list-style-type: none"> • Tailoring risk mechanism to individual markets / specialties 	<ul style="list-style-type: none"> • Reductions in provider spending may not equate to net savings • Shifting care to other service types / providers
FFS-based shared savings (Post reconciliation) to specific types of clinicians with single-sided or two-sided risk (with 365-day accountability)	<ul style="list-style-type: none"> • Tailoring risk mechanism to individual markets / specialties • Targeting provider quality performance and value of care provided for patients, especially those with chronic or complex conditions 	<ul style="list-style-type: none"> • Distribution of shared savings / losses • Limits on integration and coordination between primary care and specialty care providers • Provider burden in responding to overlapping and competing performance measures within and across models, and effect on evaluating performance
Episode-based payments	<ul style="list-style-type: none"> • Developing tailored provider partnerships / referral networks to target condition-specific care coordination • Nesting within models, allowing providers some flexibility to address conditions / procedures for their specific patient population • Promoting targeted, patient-centered care • Supporting condition-specific patient needs • Targeting key populations or conditions with specific cost, utilization, and quality measures and targets • Using data and analytics to improve care trajectories 	<ul style="list-style-type: none"> • Addressing random variation for smaller providers • Designating lead provider • Determining episode length • Heterogeneous episodes • Encouraging participation of certain types of providers • Identifying episodes (e.g., defining initiating / index events) • Limits on included services • Sharing accountability between primary care and specialty care providers

Financial Incentive	Opportunities	Challenges
Prospective episode-based payments for conditions with single-sided or two-sided risk	<ul style="list-style-type: none"> • Upfront investments to support clinical or technological infrastructure, implement care coordination strategies, or support operational restructuring 	<ul style="list-style-type: none"> • Setting prospective budgets • Tracking claims against bundled fee • Utility for conditions with complex patient / beneficiary attribution
Prospective episode-based payments for procedures with single-sided or two-sided risk	<ul style="list-style-type: none"> • Upfront investments to support clinical or technological infrastructure, implement care coordination strategies, or support operational restructuring 	<ul style="list-style-type: none"> • Setting prospective budgets • Tracking claims against bundled fee
FFS-based episode-based payments (post reconciliation) for conditions with single-sided or two-sided risk	<ul style="list-style-type: none"> • Targeting primary care-specific cost, utilization, and quality 	<ul style="list-style-type: none"> • No upfront investments to support clinical or technological infrastructure, implement care coordination strategies, or support operational restructuring
FFS-based Episode-based payments (post reconciliation) for procedures with single-sided or two-sided risk	<ul style="list-style-type: none"> • Encouraging specialty care provider involvement in models • Targeting primary care-specific cost, utilization, and quality 	<ul style="list-style-type: none"> • No upfront investments to support clinical or technological infrastructure, implement care coordination strategies, or support operational restructuring

Desired Care Delivery Feature #6: Strengthening Investments in Primary Care with Enhanced Care Delivery Teams that Include Behavioral Health Providers, Pharmacists, Community Health Workers, etc.

Financial Incentive	Opportunities	Challenges
Full capitation / population-based payment (with 365-day accountability)	<ul style="list-style-type: none"> • Advancing health equity • Assigning value to team-based health care • Encouraging efficiency and strategies to control waste • Improving patient outcomes through focus on holistic, patient-centered care • Improving person-centered care coordination • Integrating additional services (e.g., behavioral health, referrals for HRSNs) • Moving towards performance-based payment / value-based purchasing • Providing flexibility and resources to support innovative approaches • Targeting primary care-specific cost, utilization, and quality • Shifting care to lower cost settings • Supporting provider flexibility to provide tailored care 	<ul style="list-style-type: none"> • Access issues (e.g., longer wait times) • Addressing variation in health care needs in full population, in clinical practice and in risk adjustment / stratification • Determining attribution / accountability (e.g., team or individual provider) • Determining basis for capitated payments • Determining what services are included in the capitated payments • Feasibility in certain settings • Growing pains in new provider partnerships (e.g., sharing accountability between primary care and specialty care providers) • Limits to integrated care (e.g., opportunities for specialty care provider involvement) • Managing capitation within the care team • Patient / beneficiary attribution • Sharing accountability between primary care and specialty care providers • Shifting care to other service types / providers • Smaller networks, which may limit patient choice
Full capitation / population-based payment for a broad population (with 365-day accountability)	<ul style="list-style-type: none"> • Encouraging more proactive and preventive care (e.g., for patients with rising risk) • Encouraging stewardship of costs associated with patient-centered, preventive care • Focusing on primary care 	<ul style="list-style-type: none"> • Adequate patient volume to justify specialty care provider integration • Designating lead provider (e.g., determining whether primary care provider or specialty care provider should guide overall care plan) • Provider consolidation, which can affect market competition and costs

Financial Incentive	Opportunities	Challenges
Full capitation / population-based payment for a specific disease or condition (with 365-day accountability)	<ul style="list-style-type: none"> • Basing performance assessment on measures relevant to specific conditions and care coordination • Improving disease management for patients with chronic or complex conditions • Incentivizing data sharing / transparency and care coordination, particularly for high needs and / or high-cost patients, through shared accountability for patient outcomes • Targeting provider quality performance and value of care provided for patients, especially those with chronic or complex conditions 	<ul style="list-style-type: none"> • Accountability for patients who end up being higher cost • Appropriateness across different providers / care settings • Including a wide array of providers, which may be less feasible for certain diseases / conditions • Utility for conditions with complex patient / beneficiary attribution
Full capitation / population-based payment for specific types of services (with 365-day accountability)	<ul style="list-style-type: none"> • Encouraging integration (e.g., through PBPM payment for all covered services) • Encouraging stewardship of costs associated with a broad range of services • Targeting cost, utilization, and quality (e.g., for high cost and / or high needs patients) 	<ul style="list-style-type: none"> • Determining attribution / accountability (e.g., team or individual provider) • Shifting care to other service types / providers • Substitution of lower cost but less effective services / prescription drugs
Full capitation / population-based payment to specific types of clinicians (with 365-day accountability)	<ul style="list-style-type: none"> • Incentivizing providers to avoid low value / unnecessary medical services and select lower cost / higher value alternatives • Targeting provider quality performance and value of care provided for patients, especially those with chronic or complex conditions 	<ul style="list-style-type: none"> • Appropriateness across different providers / care settings • Determining appropriate, meaningful performance measures across primary care and specialty care and across specialties without causing provider burden • Variation in operating costs (administrative, care coordination, data and analytics) by provider type

Financial Incentive	Opportunities	Challenges
<p>Partial capitation / population-based payment (with 365-day accountability)</p>	<ul style="list-style-type: none"> • Advancing health equity • Encouraging integration (e.g., through PBPM payment for all covered services) • Encouraging provider participation / engagement • Enhancing provider flexibility and autonomy • Improving care coordination • Improving patient outcomes through focus on holistic, patient-centered care • Limiting initial downside risk • Moving towards performance-based payment / value-based purchasing, partially replacing FFS payments • Reexamining care processes • Reducing unnecessary expenditures and utilization to a greater extent than more limited payment features • Supporting provider flexibility to provide tailored care • Tailoring risk mechanism to individual markets / specialties 	<ul style="list-style-type: none"> • Approaches to risk adjustment or stratification • Determining accountability for care outcomes • Determining basis for capitated payments • Determining degree of risk sharing and whether risk sharing should differ between primary and specialty providers • Determining what services are included in the capitated payments • Growing pains in new provider partnerships (e.g., sharing accountability between primary care and specialty care providers) • Limits on included services • Rewarding volume through FFS mechanism • Shifting care to other service types / providers
<p>Partial capitation / population-based payment for a broad population (with 365-day accountability)</p>	<ul style="list-style-type: none"> • Supporting care delivery improvements in rural and underserved communities • Targeting key populations or conditions with specific cost, utilization, and quality measures and targets • Using data and analytics to improve care trajectories 	<ul style="list-style-type: none"> • Designating lead provider (e.g., determining whether primary care provider or specialty care provider should guide overall care plan) • Encouraging buy-in with team-based care (e.g., not all members of the care team may touch a patient during the episode) • Encouraging participation of certain types of providers • Establishing covered services, providers • Provider consolidation, which can affect market competition and costs

Financial Incentive	Opportunities	Challenges
<p>Partial capitation / population-based payment for a specific disease or condition (with 365-day accountability)</p>	<ul style="list-style-type: none"> • Improving disease management for patients with chronic or complex conditions • Incentivizing data sharing / transparency and care coordination, particularly for high needs and / or high-cost patients, through shared accountability for patient outcomes • Nesting specialty episodes within models, allowing providers some flexibility to address conditions / procedures for their specific patient population • Supporting condition-specific patient needs 	<ul style="list-style-type: none"> • Aligning incentives with specialists in carve-out models • Feasibility in certain settings • Including a wide array of providers, which may be less feasible for certain diseases / conditions • Limited utility for chronic or complex conditions (difficult to determine episode boundaries and predict utilization)
<p>Partial capitation / population-based payment for specific types of services (with 365-day accountability)</p>	<ul style="list-style-type: none"> • Improving care, as measured by specific process (e.g., number of touches, ratio of primary to specialty care touches) or outcome measures (e.g., related to cost, utilization, or quality) • Supporting person-centered disease management (e.g., accounting for patient goals and specific disease stage or acuity) 	<ul style="list-style-type: none"> • Establishing covered services, providers • Limits on included services • Shifting care to other service types / providers • Substitution of lower cost but less effective services / prescription drugs
<p>Partial capitation / population-based payment to specific types of clinicians (with 365-day accountability)</p>	<ul style="list-style-type: none"> • Encouraging participation from teams that care for complex patients 	<ul style="list-style-type: none"> • Encouraging participation of certain types of providers • Higher costs associated with specialty care • Identifying and contracting with preferred specialty providers (depending on the type of accountable entity) • Identifying appropriate volume of specialty referrals, which may lead to higher costs with fewer choices • Managing capitation, which may be easier for some providers • Variation in operating costs (administrative, care coordination, data and analytics) by provider type

Financial Incentive	Opportunities	Challenges
<p>FFS-based shared savings (Post reconciliation) for a full population with single-sided or two-sided risk (with 365-day accountability)</p>	<ul style="list-style-type: none"> • Building economies of scale • Encouraging provider participation / engagement • Encouraging efficiency and strategies to control waste • Incentivizing data sharing / transfer to reduce waste (e.g., duplicative tests) • Incentivizing smaller and / or less-experienced providers to participate by limiting downside risk (e.g., in early years of Model) • Increasing competition within markets • Influencing provider behavior (e.g., to reduce costs, reduce unnecessary utilization, improve quality) without imposing financial penalties • Moving towards performance-based payment / value-based purchasing • Reducing system leakage • Tailoring risk mechanism to individual markets / care settings 	<ul style="list-style-type: none"> • Addressing random variation for small providers • Appropriateness across different providers / care settings • Calculating savings (and losses) • Demand destruction (e.g., when shared savings doesn't offset lost revenue from reducing TCOC) and spillover, in which there are changes (e.g., reduced utilization, increased efficiency) in the non-ACO population because of ACO activities • Ensuring proportionate savings • Ensuring sufficient patient volume for each entity • Establishing appropriate measures and basis for comparison (e.g., achievement, improvement) • Financial instability • Growing pains in new provider partnerships (e.g., sharing accountability between primary care and specialty care providers) • Leakage • Limited effect on care coordination, efficiency, and net savings without greater accountability (e.g., downside risk) • No incentive to reduce volume • Monitoring cost-shifting • Monitoring utilization • Payments not linked to quality / measure performance • Rewarding volume through FFS mechanism • Selecting suitable measures • Sharing accountability between primary care and specialty care providers
<p>FFS-based shared savings (Post reconciliation) for a broad population (with 365-day accountability)</p>	<ul style="list-style-type: none"> • Changing inappropriate referral practices • Improving care coordination • Integrating additional services (e.g., behavioral health, referrals for HRSNs) • Promoting flexibility to determine how to allocate resources and alignment between primary care and specialty providers 	<ul style="list-style-type: none"> • Determining degree of risk sharing and whether risk sharing should differ between primary and specialty providers • Encouraging patient retention to realize longer term savings • Limited effectiveness of shared savings only (as compared to two-sided risk) on provider behavior, due in part to joint accountability / pooled providers

Financial Incentive	Opportunities	Challenges
FFS-based shared savings (Post reconciliation) for a specific disease or condition with single-sided or two-sided risk (with 365-day accountability)	<ul style="list-style-type: none"> • Developing tailored provider partnerships / referral networks to target condition-specific care coordination • Facilitating care coordination (e.g., by encouraging entities to enhance partnerships / referral networks) 	<ul style="list-style-type: none"> • Lack of engagement / participation due to limited opportunities to achieve and sustain shared savings • Provider consolidation, which can affect market competition and costs
FFS-based shared savings (Post reconciliation) for specific types of services with single-sided or two-sided risk (with 365-day accountability)	<ul style="list-style-type: none"> • Incentivizing providers to avoid low value / unnecessary medical services and select lower costs / higher value alternatives • Nesting within models, allowing providers some flexibility to address conditions / procedures for their specific patient population 	<ul style="list-style-type: none"> • Leakage • Variation in operating costs (administrative, care coordination, data and analytics) by provider type
FFS-based shared savings (Post reconciliation) to specific types of clinicians with single-sided or two-sided risk (with 365-day accountability)	<ul style="list-style-type: none"> • Facilitating care coordination (e.g., by encouraging entities to enhance partnerships / referral networks) 	<ul style="list-style-type: none"> • Addressing random variation for smaller providers • Encouraging participation of certain types of providers • Encouraging patient retention to realize longer term savings • Higher costs associated with specialty care • Limited effect on integration and coordination between primary care and specialty care providers

Financial Incentive	Opportunities	Challenges
Episode-based payments	<ul style="list-style-type: none"> • Encouraging provider participation / engagement • Enhancing provider flexibility and autonomy • Implementing best practices • Incentivizing providers to avoid low value / unnecessary medical services and select lower cost / higher value alternatives • Incorporating add-on payments (e.g., for infrastructure development) • Increasing competition within markets • Nesting specialty episodes within models, allowing providers some flexibility to address conditions / procedures for their specific patient population • Reducing unnecessary and / or low-value care (potentially lowering costs while maintaining quality) within episodes • Reexamining care processes • Tailoring risk mechanism to individual markets 	<ul style="list-style-type: none"> • Addressing random variation for smaller providers • Adjusting for patient factors that may incentivize utilization within episodes • Determining attribution / accountability (e.g. entity or individual provider) • Determining episode length • Growing pains in new provider partnerships (e.g., sharing accountability between primary care and specialty care providers) • Heterogenous episodes • Identifying episodes (e.g., defining initiating / index events) • Identifying lead provider • Leakage • Limited impact on net savings • No incentive to reduce volume • Payments not linked to quality / measure performance • Rewarding volume through FFS mechanism • Sharing accountability between primary care and specialty care providers
Prospective episode-based payments for conditions with single-sided or two-sided risk	<ul style="list-style-type: none"> • Supporting condition-specific patient needs • Tailoring risk mechanism to individual markets • Targeting provider quality performance and value of care provided for patients, especially those with chronic or complex conditions 	<ul style="list-style-type: none"> • Determining degree of risk sharing and whether risk sharing should differ between primary and specialty providers • Encouraging patient retention to realize longer term savings • Limited utility for chronic or complex conditions (difficult to determine episode boundaries and predict utilization)
Prospective episode-based payments for procedures with single-sided or two-sided risk	<ul style="list-style-type: none"> • Incentivizing providers to avoid low value / unnecessary medical services and select lower cost / higher value alternatives • Supporting procedure-specific patient needs 	<ul style="list-style-type: none"> • No incentive to reduce volume • Variation in operating costs (administrative, care coordination, data and analytics) by provider type

Financial Incentive	Opportunities	Challenges
FFS-based episode-based payments (post reconciliation) for conditions with single-sided or two-sided risk	<ul style="list-style-type: none"> • Nesting within models, allowing providers some flexibility to address conditions / procedures for their specific patient population 	<ul style="list-style-type: none"> • Adjusting for patient factors that may incentivize utilization within episodes • Lack of engagement / participation due to limited opportunities to achieve and sustain shared savings • Limited effect on care coordination, efficiency, and net savings without greater accountability (e.g., downside risk) • Limited utility for chronic or complex conditions (difficult to determine episode boundaries and predict utilization)
FFS-based Episode-based payments (post reconciliation) for procedures with single-sided or two-sided risk	<ul style="list-style-type: none"> • Nesting within existing FFS structures, allowing providers some flexibility to address services for their specific patient population 	<ul style="list-style-type: none"> • Addressing random variation for smaller providers • Less promising cost savings, compared to condition-specific episode-based payments

Desired Care Delivery Feature #7: Facilitating Transitions between Care Settings and Prioritizing Quality of Care around Transitions

Financial Incentive	Opportunities	Challenges
Full capitation / population-based payment (with 365-day accountability)	<ul style="list-style-type: none"> • Incentivizing providers to avoid low value / unnecessary medical services and select lower cost / higher value alternatives • Promoting targeted, patient-centered care • Using data and analytics to improve care trajectories for patients shared between primary care and specialty care providers 	<ul style="list-style-type: none"> • Potential for stinting on care • Smaller networks, which may limit patient choice • Supporting care coordination across providers / service lines, which may improve patient outcomes and experience with care
Full capitation / population-based payment for a broad population (with 365-day accountability)	<ul style="list-style-type: none"> • Aligning incentives to primary care and specialty care providers and across settings • Encouraging activities to improve care coordination (e.g., through PBPM payment) • Promoting flexibility to determine how to allocate resources and alignment between primary care and specialty providers • Reducing cost-shifting • Upfront investments to support clinical or technological infrastructure, implement care coordination strategies, or support operational restructuring 	<ul style="list-style-type: none"> • Identifying and contracting with preferred providers (depending on the type of accountable entity)
Full capitation / population-based payment for a specific disease or condition (with 365-day accountability)	<ul style="list-style-type: none"> • Aligning incentives to primary care and specialty care providers and across settings • Supporting person-centered disease management (e.g., accounting for patient goals and specific disease stage or acuity) 	<ul style="list-style-type: none"> • Additional complexities in risk adjustment or stratification approach • Including a wide array of providers, which may be less feasible for certain diseases / conditions
Full capitation / population-based payment for specific types of services (with 365-day accountability)	<ul style="list-style-type: none"> • Focusing on primary care (e.g., in an advanced primary care model) • Supporting population health management 	<ul style="list-style-type: none"> • Adjusting for patient factors that may incentivize utilization • Aligning incentives to primary care and specialty care providers and across settings • Extending covered services to include secondary care, post-acute care

Financial Incentive	Opportunities	Challenges
Full capitation / population-based payment to specific types of clinicians (with 365-day accountability)	<ul style="list-style-type: none"> • Encouraging non-primary care provider involvement in models • Improving disease management for patients with chronic or complex conditions 	<ul style="list-style-type: none"> • Accountability for patients who end up being higher cost • Addressing random variation for smaller providers • Aligning incentives to primary care and specialty care providers and across settings • Limited effect on integration and coordination between primary care and specialty care providers • Promoting preventive care
Partial capitation / population-based payment (with 365-day accountability)	<ul style="list-style-type: none"> • Targeting key populations or conditions with specific cost, utilization, and quality measures and targets • Targeting primary care-specific cost, utilization, and quality • Upfront investments to support clinical or technological infrastructure, implement care coordination strategies, or support operational restructuring • Using data and analytics to improve care trajectories for patients shared between primary care and specialty care providers 	<ul style="list-style-type: none"> • Overlapping models / policies • Potential for stinting on care • Supporting care coordination across providers / service lines, which may improve patient outcomes and experience with care
Partial capitation / population-based payment for a broad population (with 365-day accountability)	<ul style="list-style-type: none"> • Aligning incentives to primary care and specialty care providers and across settings • Promoting flexibility to determine how to allocate resources and alignment between primary care and specialty providers • Reducing cost-shifting 	<ul style="list-style-type: none"> • Aligning incentives with specialists in carve-out models • Encouraging patient retention to realize longer term savings • Identifying and contracting with preferred specialty providers (depending on the type of accountable entity) • Managing transitions between settings
Partial capitation / population-based payment for a specific disease or condition (with 365-day accountability)	<ul style="list-style-type: none"> • Aligning incentives to primary care and specialty care providers and across settings • Supporting person-centered disease management (e.g., accounting for patient goals and specific disease stage or acuity) 	<ul style="list-style-type: none"> • Additional complexities in risk adjustment or stratification approach • Aligning incentives to primary care and specialty care providers • Including a wide array of providers, which may be less feasible for certain diseases / conditions

Financial Incentive	Opportunities	Challenges
Partial capitation / population-based payment for specific types of services (with 365-day accountability)	<ul style="list-style-type: none"> • Focusing on primary care (e.g., in an advanced primary care model) • Supporting population health management 	<ul style="list-style-type: none"> • Aligning incentives to primary care and specialty care providers and across settings • Extending covered services to include secondary care, post-acute care
Partial capitation / population-based payment to specific types of clinicians (with 365-day accountability)	<ul style="list-style-type: none"> • Encouraging non-primary care provider involvement in models • Improving disease management for patients with chronic or complex conditions 	<ul style="list-style-type: none"> • Accountability for patients who end up being higher cost • Addressing random variation for smaller providers • Aligning incentives to primary care and specialty care providers and across settings • Limited effect on integration and coordination between primary care and specialty care providers • Promoting preventive care
FFS-based shared savings (Post reconciliation) for a full population with single-sided or two-sided risk (with 365-day accountability)	<ul style="list-style-type: none"> • Using data and analytics to improve care trajectories for patients shared between primary care and specialty care providers 	<ul style="list-style-type: none"> • Limited financial incentives to adopt innovative practices • Patient / beneficiary attribution and extending shared savings / losses to partners • Provider burden in responding to overlapping and competing performance measures within and across models, and effect on evaluating performance
FFS-based shared savings (Post reconciliation) for a broad population (with 365-day accountability)	<ul style="list-style-type: none"> • Promoting flexibility to determine how to allocate resources and alignment between primary care and specialty providers • Reducing cost-shifting 	<ul style="list-style-type: none"> • Identifying and contracting with preferred providers (depending on the type of accountable entity)

Financial Incentive	Opportunities	Challenges
FFS-based shared savings (Post reconciliation) for a specific disease or condition with single-sided or two-sided risk (with 365-day accountability)	<ul style="list-style-type: none"> • Basing performance assessment on measures relevant to specific condition and care coordination • Improving disease management • Improving person-centered care coordination • Targeting cost, utilization, and quality (e.g., for high cost and / or high needs patients) 	<ul style="list-style-type: none"> • Achieving sufficient entity-level scale • Adjusting for potential carveouts • Exclusions (of particular services, procedures, prescription drugs) from TCOC benchmarks • Issues with patient volume for specific diseases or conditions, especially those that are rare • Limits on included patient populations • Limits on included services • Potential larger effect of shared losses on small practices • Reductions in provider spending may not equate to net savings • Substantial fixed costs (e.g., initial reductions in revenue may not be balanced by changes in expenses in shared savings environments)
FFS-based shared savings (Post reconciliation) for specific types of services with single-sided or two-sided risk (with 365-day accountability)	<ul style="list-style-type: none"> • Sharing accountability to reduce cost-shifting through changing referral practices • Targeting primary care-specific cost, utilization, and quality 	<ul style="list-style-type: none"> • Adjusting for patient factors that may incentivize utilization • Reductions in provider spending may not equate to net savings • Shifting care to other service types / providers
FFS-based shared savings (Post reconciliation) to specific types of clinicians with single-sided or two-sided risk (with 365-day accountability)	<ul style="list-style-type: none"> • Targeting provider quality performance and value of care provided for patients, especially those with chronic or complex conditions 	<ul style="list-style-type: none"> • Addressing random variation for smaller providers • Aligning incentives to primary care and specialty care providers • Exclusions (of particular services, procedures, prescription drugs) from TCOC benchmarks • Limited effect on integration and coordination between primary care and specialty care providers • Limits on included services • Reductions in provider spending may not equate to net savings
Episode-based payments	<ul style="list-style-type: none"> • Aligning incentives to primary care and specialty care providers and across settings • Using data and analytics to improve care trajectories for patients shared between primary care and specialty care providers 	<ul style="list-style-type: none"> • Limited financial incentives to adopt innovative practices • Overlapping models / policies • Potential for stinting on care

Financial Incentive	Opportunities	Challenges
Prospective episode-based payments for conditions with single-sided or two-sided risk	<ul style="list-style-type: none"> • Focusing on tasks that providers can control • Promoting efficient care delivery • Supporting condition-specific patient needs 	<ul style="list-style-type: none"> • Capacity to analyze and interpret data • Capturing timely information from different data sources (e.g., claims, EHR) • Setting prospective budgets • Tracking claims against bundled fee
Prospective episode-based payments for procedures with single-sided or two-sided risk	<ul style="list-style-type: none"> • Focusing on tasks that providers can control • Promoting efficient care delivery • Supporting procedure-specific patient needs 	<ul style="list-style-type: none"> • Capacity to analyze and interpret data • Capturing timely information from different data sources (e.g., claims, EHR) • Less promising cost savings, compared to condition-specific episode-based payments • No incentive to reduce volume • Setting prospective budgets • Tracking claims against bundled fee
FFS-based episode-based payments (post reconciliation) for conditions with single-sided or two-sided risk	<ul style="list-style-type: none"> • Focusing on tasks that providers can control • Moving towards performance-based payment / value-based purchasing • Nesting within existing FFS structures, allowing providers some flexibility to address services for their specific patient population • Promoting efficient care delivery • Supporting condition-specific patient needs 	<ul style="list-style-type: none"> • Encouraging ongoing provider participation • Lower administrative burden as compared to prospective payment approaches • Setting contract periods • Supporting providers to identify attributed beneficiaries
FFS-based episode-based payments (post reconciliation) for procedures with single-sided or two-sided risk	<ul style="list-style-type: none"> • Moving towards performance-based payment / value-based purchasing • Nesting within existing FFS structures, allowing providers some flexibility to address services for their specific patient population 	<ul style="list-style-type: none"> • Encouraging ongoing provider participation • Less promising cost savings, compared to condition-specific episode-based payments • Lower administrative burden as compared to prospective payment approaches • No incentive to reduce volume • Supporting providers to identify attributed beneficiaries

Desired Care Delivery Feature #8: Screening for Health-related Social Needs (HRSNs) and Making Referrals in a Way that Minimizes Provider Burden

Financial Incentive	Opportunities	Challenges
Full capitation / population-based payment (with 365-day accountability)	<ul style="list-style-type: none"> • Advancing health equity • Building economies of scale • Improving patient outcomes through focus on holistic, patient-centered care • Improving patient satisfaction • Integrating additional services (e.g., behavioral health, referrals for HRSNs) • Supporting population health management • Using data and analytics to improve care trajectories for patients shared between primary care and specialty care providers 	<ul style="list-style-type: none"> • Long time horizon for return on investment • “Premium slide:” capitated entities that are successful in lowering costs may receive lower per-capita rates the next time rates are set • Screening for HRSN may increase administrative costs for social service providers
Full capitation / population-based payment for a broad population (with 365-day accountability)	<ul style="list-style-type: none"> • Encouraging stewardship of costs associated with a broader range of services • Promoting flexibility to determine how to allocate resources and alignment between primary care and specialty providers • Reducing cost-shifting 	<ul style="list-style-type: none"> • Aligning incentives with specialists in carve-out models • Encouraging patient retention to realize longer term savings • Identifying and contracting with preferred specialty providers (depending on the type of accountable entity) • Managing transitions between settings
Full capitation / population-based payment for a specific disease or condition (with 365-day accountability)	<ul style="list-style-type: none"> • Supporting person-centered disease management (e.g., accounting for patient goals and specific disease stage or acuity) 	<ul style="list-style-type: none"> • Aligning incentives to primary care and specialty care providers • Including a wide array of providers, which may be less feasible for certain diseases / conditions
Full capitation / population-based payment for specific types of services (with 365-day accountability)	<ul style="list-style-type: none"> • Focusing on primary care (e.g., in an advanced primary care model) 	<ul style="list-style-type: none"> • Adjusting for patient factors that may incentivize utilization • Aligning incentives to primary care and specialty care providers • Extending covered services to include secondary care, post-acute care
Full capitation / population-based payment to specific types of clinicians (with 365-day accountability)	<ul style="list-style-type: none"> • Improving disease management for patients with chronic or complex conditions 	<ul style="list-style-type: none"> • Accountability for patients who end up being higher cost • Addressing random variation for smaller providers • Aligning incentives to primary care and specialty care providers • Limited effect on integration and coordination between primary care and specialty care providers

Financial Incentive	Opportunities	Challenges
Partial capitation / population-based payment (with 365-day accountability)	<ul style="list-style-type: none"> • Advancing health equity • Enhancing provider flexibility • Improving patient outcomes through focus on holistic, patient-centered care • Improving patient satisfaction • Integrating additional services (e.g., behavioral health, referrals for HRSNs) • Supporting population health management 	<ul style="list-style-type: none"> • Long time horizon for return on investment • “Premium slide:” capitated entities that are successful in lowering costs may receive lower per-capita rates the next time rates are set • Screening for HRSN may increase administrative costs for social service providers
Partial capitation / population-based payment for a broad population (with 365-day accountability)	<ul style="list-style-type: none"> • Encouraging stewardship of costs associated with a broader range of services • Promoting flexibility to determine how to allocate resources and alignment between primary care and specialty providers • Reducing cost-shifting 	<ul style="list-style-type: none"> • Aligning incentives with specialists in carve-out models • Encouraging patient retention to realize longer term savings • Identifying and contracting with preferred specialty providers (depending on the type of accountable entity) • Managing transitions between settings
Partial capitation / population-based payment for a specific disease or condition (with 365-day accountability)	<ul style="list-style-type: none"> • Supporting person-centered disease management (e.g., accounting for patient goals and specific disease stage or acuity) 	<ul style="list-style-type: none"> • Additional complexities in risk adjustment or stratification approach • Aligning incentives to primary care and specialty care providers • Including a wide array of providers, which may be less feasible for certain diseases / conditions
Partial capitation / population-based payment for specific types of services (with 365-day accountability)	<ul style="list-style-type: none"> • Focusing on primary care 	<ul style="list-style-type: none"> • Aligning incentives to primary care and specialty care providers • Extending covered services to include secondary care, post-acute care
Partial capitation / population-based payment to specific types of clinicians (with 365-day accountability)	<ul style="list-style-type: none"> • Improving disease management for patients with chronic or complex conditions 	<ul style="list-style-type: none"> • Accountability for patients who end up being higher cost • Addressing random variation for smaller providers • Aligning incentives to primary care and specialty care providers • Limited effect on integration and coordination between primary care and specialty care providers
FFS-based shared savings (Post reconciliation) for a full population with single-sided or two-sided risk (with 365-day accountability)	<ul style="list-style-type: none"> • Improving patient outcomes through focus on holistic, patient-centered care • Improving patient satisfaction • Integrating additional services (e.g., behavioral health, referrals for HRSNs) • Supporting population health management 	<ul style="list-style-type: none"> • Limited financial incentives to adopt innovative practices • Limits on integration and coordination between primary care and specialty care providers • Screening for HRSN may increase administrative costs for social service providers

Financial Incentive	Opportunities	Challenges
FFS-based shared savings (Post reconciliation) for a broad population (with 365-day accountability)	<ul style="list-style-type: none"> • Promoting flexibility to determine how to allocate resources and alignment between primary care and specialty providers • Reducing cost-shifting 	<ul style="list-style-type: none"> • Identifying and contracting with preferred providers (depending on the type of accountable entity)
FFS-based shared savings (Post reconciliation) for a specific disease or condition with single-sided or two-sided risk (with 365-day accountability)	<ul style="list-style-type: none"> • Basing performance assessment on measures relevant to specific condition and care coordination • Improving disease management • Improving person-centered care coordination • Targeting cost, utilization, and quality (e.g., for high cost and / or high needs patients) 	<ul style="list-style-type: none"> • Achieving sufficient entity-level scale • Adjusting for potential carveouts • Exclusions (of particular services, procedures, prescription drugs) from TCOC benchmarks • Issues with patient volume for specific diseases or conditions, especially those that are rare • Limits on included patient populations • Limits on included services • Potential larger effect of shared losses on small practices • Reductions in provider spending may not equate to net saving • Substantial fixed costs (e.g., initial reductions in revenue may not be balanced by changes in expenses in shared savings environments)
FFS-based shared savings (Post reconciliation) for specific types of services with single-sided or two-sided risk (with 365-day accountability)	<ul style="list-style-type: none"> • Sharing accountability to reduce cost-shifting through changing referral practices • Targeting primary care-specific cost, utilization, and quality 	<ul style="list-style-type: none"> • Adjusting for patient factors that may incentivize utilization • Patient / beneficiary attribution • Reductions in provider spending may not equate to net savings • Shifting care to other service types / providers

Financial Incentive	Opportunities	Challenges
FFS-based shared savings (Post reconciliation) to specific types of clinicians with single-sided or two-sided risk (with 365-day accountability)	<ul style="list-style-type: none"> • Targeting provider quality performance and value of care provided for patients, especially those with chronic or complex conditions 	<ul style="list-style-type: none"> • Addressing random variation for smaller providers • Aligning incentives to primary care and specialty care providers • Exclusions (of particular services, procedures, prescription drugs) from TCOC benchmarks • Limited effect on integration and coordination between primary care and specialty care providers • Limits on included services • Patient / beneficiary attribution and extending shared savings / losses to partners • Provider burden in responding to overlapping and competing performance measures within and across models, and effect on evaluating performance • Reductions in provider spending may not equate to net savings
Episode-based payments	<ul style="list-style-type: none"> • Advancing health equity • Enhancing provider flexibility • Improving patient outcomes through focus on holistic, patient-centered care • Improving patient satisfaction • Integrating additional services (e.g., behavioral health, referrals for HRSNs) • Supporting population health management 	<ul style="list-style-type: none"> • Limited financial incentives to adopt innovative practices • Provider burden in responding to overlapping and competing performance measures within and across models, and effect on evaluating performance • Screening for HRSN may increase administrative costs for social service providers
Prospective episode-based payments for conditions with single-sided or two-sided risk	<ul style="list-style-type: none"> • Focusing on tasks that providers can control • Improving care coordination • Promoting efficient care delivery • Supporting condition-specific patient needs • Using data and analytics to improve care trajectories 	<ul style="list-style-type: none"> • Capacity to analyze and interpret data • Capturing timely information from different data sources (e.g., claims, EHR) • Setting prospective budgets • Tracking claims against bundled fee

Financial Incentive	Opportunities	Challenges
Prospective episode-based payments for procedures with single-sided or two-sided risk	<ul style="list-style-type: none"> • Focusing on tasks that providers can control • Improving care coordination • Promoting efficient care delivery • Supporting procedure-specific patient needs • Using data and analytics to improve care trajectories 	<ul style="list-style-type: none"> • Capacity to analyze and interpret data • Capturing timely information from different data sources (e.g., claims, EHR) • Less promising cost savings, compared to condition-specific episode-based payments • No incentive to reduce volume • Setting prospective budgets • Tracking claims against bundled fee
FFS-based episode-based payments (post reconciliation) for conditions with single-sided or two-sided risk	<ul style="list-style-type: none"> • Focusing on tasks that providers can control • Improving care coordination • Moving towards performance-based payment / value-based purchasing • Nesting within existing FFS structures, allowing providers some flexibility to address services for their specific patient population • Promoting efficient care delivery • Supporting condition-specific patient needs 	<ul style="list-style-type: none"> • Encouraging ongoing provider participation • Lower administrative burden as compared to prospective payment approaches • Setting contract periods • Supporting providers to identify attributed beneficiaries • Utility for conditions with complex patient / beneficiary attribution
FFS-based Episode-based payments (post reconciliation) for procedures with single-sided or two-sided risk	<ul style="list-style-type: none"> • Moving towards performance-based payment / value-based purchasing • Nesting within existing FFS structures, allowing providers some flexibility to address services for their specific patient population 	<ul style="list-style-type: none"> • Encouraging ongoing provider participation • Less promising cost savings, compared to condition-specific episode-based payments • Lower administrative burden as compared to prospective payment approaches • No incentive to reduce volume • Supporting providers to identify attributed beneficiaries

Appendix D. Summary of the Care Delivery and Payment Model Characteristics of Ten Selected PTAC Proposals That Included TCOC-Related Components^v

Submitter Name and Type	Proposal Name	Clinical Focus, Providers, and Setting	Patient Population Targeted	Payment Mechanism
<p>American Academy of Hospice and Palliative Medicine (AAHPM)</p> <p><i>(Provider association and specialty society)</i></p>	<p>Patient and Caregiver Support for Serious Illness</p>	<p>Clinical Focus: Serious illness and palliative care</p> <p>Providers: Palliative care teams (PCTs)</p> <p>Setting: Inpatient, outpatient, and other palliative care settings</p>	<p>Beneficiaries with serious/advanced illness</p>	<p>PBPM payment with opportunity for shared risk/savings</p>
<p>Coalition to Transform Advanced Care (C-TAC)</p> <p><i>(Coalition)</i></p>	<p>Advanced Care Model (ACM) Service Delivery and Advanced Alternative Payment Model</p>	<p>Clinical Focus: Advanced Illness</p> <p>Providers: Providers with board-certified palliative care experience as part of interdisciplinary care team, RN, licensed clinical social worker (LCSW), other clinicians as necessary</p> <p>Setting: All sites of care during treatment for advanced illness, including the home</p>	<p>Beneficiaries with advanced illness, focusing on last 12 months of life</p>	<p>Capitated PBPM payment with downside risk for TCOC and upside bonus for quality performance, subject to maximum payment and loss amounts</p>

^v Please see Appendix E in the Original Environmental Scan for additional information.

Submitter Name and Type	Proposal Name	Clinical Focus, Providers, and Setting	Patient Population Targeted	Payment Mechanism
<p>University of Chicago Medicine (UChicago)</p> <p><i>(Academic Institution)</i></p>	<p>Comprehensive Care Physician Payment Model</p>	<p>Clinical Focus: Frequently hospitalized patients</p> <p>Providers: Inpatient and outpatient providers</p> <p>Setting: Home care and rehabilitation</p>	<p>Frail/complex beneficiaries with hospitalizations</p>	<p>Supplemental PBPM payment with shared risk</p>
<p>American Academy of Family Physicians (AAFP)</p> <p><i>(Provider association and specialty society)</i></p>	<p>Advanced Primary Care: A Foundational Alternative Payment Model (APC-APM) for Delivering Patient-Centered, Longitudinal, and Coordinated Care</p>	<p>Clinical Focus: Primary Care</p> <p>Providers: All physicians with a primary specialty of family medicine, general practice, geriatric medicine, pediatric medicine, or internal medicine</p> <p>Setting: Primary care practices</p>	<p>30 million Medicare beneficiaries (if implemented nationally)</p>	<ul style="list-style-type: none"> • PBPM global- and population-based payments • Quarterly performance-based incentive payments • FFS limited to services not covered by the global payment
<p>American College of Surgeons (ACS)</p> <p><i>(Provider association and specialty society)</i></p>	<p>The ACS-Brandeis Advanced APM</p>	<p>Clinical Focus: Cross-clinical focus</p> <p>Providers: Single / multispecialty practices; groups of small provider practices</p> <p>Setting: Inpatient, outpatient, and ambulatory</p>	<p>Beneficiaries having at least one of over 100 conditions or procedures</p>	<p>Episode-based model with continued FFS and shared risk/savings</p>

Submitter Name and Type	Proposal Name	Clinical Focus, Providers, and Setting	Patient Population Targeted	Payment Mechanism
<p>American Society of Clinical Oncology (ASCO)</p> <p><i>(Provider association and specialty society)</i></p>	<p>Patient-Centered Oncology Payment (PCOP) Model</p>	<p>Clinical Focus: Oncology</p> <p>Providers: Clinicians, including hematologists and oncologists</p> <p>Setting: Oncology practices</p>	<p>Oncology practice patients</p>	<ul style="list-style-type: none"> • FFS payments • Monthly care management payments • Performance incentive payments • Track 2 practices have option of bundling either 50 percent or 100 percent of the value of specified services.
<p>Avera Health (Avera Health)</p> <p><i>(Integrated, regional health system)</i></p>	<p>Intensive Care Management in Skilled Nursing Facility Alternative Payment Model (ICM SNF APM)</p>	<p>Clinical Focus: Primary care (geriatricians) in SNFs</p> <p>Providers: Geriatrician care teams</p> <p>Setting: SNFs and Nursing Facilities</p>	<p>Beneficiaries who reside in SNFs</p>	<p>One-time payment for new admission and a PBPM payment with two separate shared risk options (Performance-Based Payment and the Shared Savings Model)</p>
<p>Large Urology Group Practice Association (LUGPA)</p> <p><i>(Provider association and specialty society)</i></p>	<p>LUGPA Advanced Payment Model for Initial Therapy of Newly Diagnosed Patients with Organ-Confined Prostate Cancer</p>	<p>Clinical Focus: Urology/ oncology (treatment of prostate cancer)</p> <p>Providers: Eligible professionals (including urologists) at large and small urology and multispecialty practices</p> <p>Setting: Large and small urology and multispecialty practices</p>	<p>Beneficiaries who are newly diagnosed with prostate cancer (localized disease)</p>	<ul style="list-style-type: none"> • Monthly care management fee (PBPM for initial and subsequent 12-month episodes) • Performance-based payment for enhancing utilization of active surveillance

Submitter Name and Type	Proposal Name	Clinical Focus, Providers, and Setting	Patient Population Targeted	Payment Mechanism
<p>New York City Department of Health and Mental Hygiene (NYC DOHMH)</p> <p><i>(Public Health Department)</i></p>	<p>Multi-provider, bundled episode of care payment model for treatment of chronic hepatitis C virus (HCV) using care coordination by employed physicians in hospital outpatient clinics</p>	<p>Clinical Focus: Multispecialty, hepatitis C infection management</p> <p>Providers: Physicians at hospital-based outpatient clinics; supporting wide mix of clinicians, including infectious disease specialists, gastroenterologists, PCPs</p> <p>Setting: Hospital-based outpatient clinics</p>	<p>Medicare beneficiaries with hepatitis C infection</p>	<p>Bundled payment replacing FFS with opportunity for shared risk/savings</p>
<p>Illinois Gastroenterology Group and SonarMD, LLC (IGG/ SonarMD)</p> <p><i>(Specialty Practice)</i></p>	<p>Project Sonar</p>	<p>Clinical Focus: Chronic disease (Crohn’s Disease)</p> <p>Providers: Gastroenterology practices; community-based physicians and specialists</p> <p>Setting: Patient home</p>	<p>Beneficiaries with chronic illness: patients with Crohn’s disease</p>	<ul style="list-style-type: none"> • PBPM payment with two-sided risk • Additional monthly payment to support ongoing monitoring

XI. References

- ¹ The Facts About Medicare Spending. KFF. Published June 7, 2022. Accessed August 2, 2022. <https://www.kff.org/interactive/medicare-spending/>
- ² Figueroa J, Zhou X, Jha A. More Than One-Quarter of High-Cost Medicare Patients Have Persistent High Costs Over Three Years. Commonwealth Fund. Published January 7, 2019. Accessed August 2, 2022. <https://www.commonwealthfund.org/publications/journal-article/2019/jan/high-cost-medicare-patients-persistent-three-years>
- ³ Khullar D, Zhang Y, Kaushal R. Potentially Preventable Spending Among High-Cost Medicare Patients: Implications for Healthcare Delivery. *J Gen Intern Med.* 2020;35(10):2845-2852. <https://doi.org/10.1007/s11606-020-05691-8>
- ⁴ Chronic Conditions. Centers for Medicare & Medicaid Services. Accessed August 2, 2022. https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Chronic-Conditions/CC_Main
- ⁵ DuGoff E, Tabak R, Diduch T, Garth, V. Quality, Health, and Spending in Medicare Advantage and Traditional Medicare. *Am J Manag Care.* 2021;27(9):395-400. [doi:10.37765/ajmc.2021.88641](https://doi.org/10.37765/ajmc.2021.88641)
- ⁶ Jacobson G, Cicchiello A, Sutton J, Shah A. Medicare Advantage vs. Traditional Medicare: How Do Beneficiaries' Characteristics and Experiences Differ? Commonwealth Fund. Published October 14, 2021, Accessed August 2, 2022. <https://www.commonwealthfund.org/publications/issue-briefs/2021/oct/medicare-advantage-vs-traditional-medicare-beneficiaries-differ>
- ⁷ The Facts About Medicare Spending. KFF. Published June 7, 2022. Accessed August 2, 2022. <https://www.kff.org/interactive/medicare-spending/>
- ⁸ RTI International. Global and Professional Direct Contracting Model PY2022 Financial Operating Guide: Overview. 2021. Centers for Medicare & Medicaid Services. Published December 1, 2021. Accessed July 25, 2022. <https://innovation.cms.gov/media/document/gpdc-py2022-fin-op-guide-ovw>
- ⁹ Primary Care First: Payment and Attribution Methodologies. Published June 2022. Centers for Medicare & Medicaid Services. Accessed July 25, 2022. <https://innovation.cms.gov/media/document/payment-and-attribution-methodologies-py20>
- ¹⁰ Navathe AS, Emanuel EJ, Bond A, et al. Association Between the Implementation of a Population-Based Primary Care Payment System and Achievement on Quality Measures in Hawaii. *JAMA.* 2019;322(1):57-68. doi:[10.1001/jama.2019.8113](https://doi.org/10.1001/jama.2019.8113)
- ¹¹ Pines JM, Vats S, Zocchi MS, Black B. Maryland's Experiment With Capitated Payments For Rural Hospitals: Large Reductions In Hospital-Based Care. *Health Affairs.* 2019;38(4):594-603. doi:[10.1377/hlthaff.2018.05366](https://doi.org/10.1377/hlthaff.2018.05366)
- ¹² Types of Health Care Quality Measures. Agency for Healthcare Research and Quality. Published July 2015. Accessed July 25, 2022 <https://www.ahrq.gov/talkingquality/measures/types.html>
- ¹³ Walker D, Hefner J, Sova L, Hilligoss B, Song P, McAlearney S. Implementing Accountable Care Organizations: Lessons From a Qualitative Analysis of Four Private Sector Organizations. *J Healthc Manag.* 2017;62(6):419–431. <https://doi.org/10.1097/JHM-D-16-00021>
- ¹⁴ Shortell S. M., Sehgal, N. J., Bibi, S., Ramsay, P. P., Neuhauser, L., Colla, C. H., & Lewis, V. A. An Early Assessment of Accountable Care Organizations' Efforts to Engage Patients and Their Families. *Med Care Res Rev,* 2015;72(5):580–604. <https://doi.org/10.1177/1077558715588874>

-
- ¹⁵ Romaine M. Use of Primary Care and Specialty Providers: Findings from the Medical Expenditure Panel Survey. *J Gen Intern Med*, 2020;35(7):2003–2009. <https://doi.org/10.1007/s11606-020-05773-7>
- ¹⁶ McWilliams M, Chen A, Chernew M. 2021. From Vision to Design in Advancing Medicare Payment Reform: A Blueprint for Population-Based Payments.” Brookings Institution. Published on October 13, 2021. Accessed on July 25, 2022. <https://www.brookings.edu/research/from-vision-to-design-in-advancing-medicare-payment-reform-a-blueprint-for-population-based-payments/>.
- ¹⁷ NORC at the University of Chicago. Environmental Scan on Issues Related to the Development of Population-Based Total Cost of Care (TCOC) Models in the Broader Context of Alternative Payment Models (APMs) and Physician-Focused Payment Models (PFPMs). Department of Health and Human Services’ Office of Health Policy of the Assistant Secretary for Planning and Evaluation. Published on March 1, 2022. Accessed on August 2, 2022. <https://aspe.hhs.gov/sites/default/files/documents/871a839c1771919499e415b2dae8700a/TCOC-Escan.pdf>.
- ¹⁸ Next Generation ACO Model Calculation of the Performance Year Benchmark: Performance Year 2021. Center for Medicare and Medicaid Innovation. Published in 2021. Accessed on July 25, 2022. Center for Medicare and Medicaid Innovation. <https://innovation.cms.gov/media/document/ngaco-py6-benchmark-meth>.
- ¹⁹ Summary of Next Generation Model Program Methodology Changes for 2019 and 2020. National Association of ACOs. Accessed on July 28, 2022. https://www.naacos.com/assets/docs/pdf/SummaryNextGenerationModelProgramMethodologyChanges2019_2020v2.pdf.
- ²⁰ Final Rule Creates Pathways to Success for the Medicare Shared Savings Program. 2018. Centers for Medicare & Medicaid Services. Published on December 21, 2018. Accessed on July 28, 2022. <https://www.cms.gov/newsroom/fact-sheets/final-rule-creates-pathways-success-medicare-shared-savings-program>.
- ²¹ The Use of Benchmarks for Payment in Medicare Advantage and Necessary Adjustments. Better Medicare Alliance. Published on February 24, 2021. Accessed on July 28, 2022. <https://bettermedicarealliance.org/publication/the-use-of-benchmarks-for-payment-in-medicare-advantage-and-necessary-adjustments/>.
- ²² ACO Realizing Equity, Access, and Community Health (REACH) Model Request for Applications. Centers for Medicare & Medicaid Services. Published on February 24, 2022. Accessed on July 28, 2022. <https://innovation.cms.gov/media/document/aco-reach-rfa> .
- ²³ The Use of Benchmarks for Payment in Medicare Advantage and Necessary Adjustments. Better Medicare Alliance. Published on February 24, 2021. Accessed on July 28, 2022. <https://bettermedicarealliance.org/publication/the-use-of-benchmarks-for-payment-in-medicare-advantage-and-necessary-adjustments/> .
- ²⁴ Verma S. 2019 Medicare Shared Savings Program ACO Performance: Lower Costs And Promising Results Under ‘Pathways To Success. *Health Affairs Forefront*, Published September 14, 2020. Accessed on July 28, 2022. <https://www.healthaffairs.org/doi/10.1377/forefront.20200914.598838/>
- ²⁵ McWilliams M. Don’t Look Up? Medicare Advantage’s Trajectory And The Future Of Medicare. *Health Affairs Forefront*. Published on March 24, 2022. Accessed on July 28, 2022 <https://www.healthaffairs.org/doi/10.1377/forefront.20220323.773602>
- ²⁶ Innovation Center Strategy Refresh. Centers for Medicare & Medicaid Services. Accessed August 2, 2022. <https://innovation.cms.gov/strategic-direction-whitepaper>.
- ²⁷ The Use of Benchmarks for Payment in Medicare Advantage and Necessary Adjustments. Better Medicare Alliance. Published on February 24, 2021. Accessed on July 28, 2022.

<https://bettermedicarealliance.org/publication/the-use-of-benchmarks-for-payment-in-medicare-advantage-and-necessary-adjustments/> .

²⁸ McWilliams M, Chen A, Chernew M. 2021. From Vision to Design in Advancing Medicare Payment Reform: A Blueprint for Population-Based Payments.” Brookings Institution. Published on October 13, 2021. Accessed on July 25, 2022. <https://www.brookings.edu/research/from-vision-to-design-in-advancing-medicare-payment-reform-a-blueprint-for-population-based-payments/>.

²⁹ Werner R, Emanuel E, Pham H, Navathe, A. The Future of Value-Based Payment: A Road Map to 2030. University of Pennsylvania Leonard Davis Institute of Health Economics. Published on February 17, 2021. Accessed on July 25, 2022. <https://ldi.upenn.edu/our-work/research-updates/the-future-of-value-based-payment-a-road-map-to-2030/>.

³⁰ Chernew, M., Loera-Brust A, Rathi V, and McWilliams J. MSSP Participation Following Recent Rule Changes: What Does It Tell Us? Health Affairs Forefront. Published on November 22, 2019. Accessed on July 25, 2022. <https://www.healthaffairs.org/doi/10.1377/forefront.20191120.903566>

³¹ McWilliams J, Michael B, Landon R, Chernew M. “Getting More Savings from ACOs - Can the Pace Be Pushed?” *N Engl J Med*. 2019;380(23):2190–92. <https://www.nejm.org/doi/10.1056/NEJMp1900537>

³² McWilliams J, Chen A. Understanding The Latest ACO ‘Savings’: Curb Your Enthusiasm And Sharpen Your Pencils—Part 1.” Health Affairs Forefront. Published on November 12, 2020. Accessed on July 28, 2022. <https://www.healthaffairs.org/doi/10.1377/forefront.20201106.719550/full/>.

³³ June 2021 Report to the Congress: Medicare and the Health Care Delivery System. Medicare Payment Advisory Commission. Published in June 2021. Accessed on July 28, 2022. <https://www.medpac.gov/document/june-2021-report-to-the-congress-medicare-and-the-health-care-delivery-system/>.

³⁴ June 2021 Report to the Congress: Medicare and the Health Care Delivery System. Medicare Payment Advisory Commission. Published in June 2021. Accessed on July 28, 2022. <https://www.medpac.gov/document/june-2021-report-to-the-congress-medicare-and-the-health-care-delivery-system/>.

³⁵ NORC at the University of Chicago. Environmental Scan on Issues Related to the Development of Population-Based Total Cost of Care (TCOC) Models in the Broader Context of Alternative Payment Models (APMs) and Physician-Focused Payment Models (PFPs). Department of Health and Human Services’ Office of Health Policy of the Assistant Secretary for Planning and Evaluation. Published on March 1, 2022. Accessed on August 2, 2022. <https://aspe.hhs.gov/sites/default/files/documents/871a839c1771919499e415b2dae8700a/TCOC-Escan.pdf>.

³⁶ McWilliams M, Chen A, Chernew M. 2021. From Vision to Design in Advancing Medicare Payment Reform: A Blueprint for Population-Based Payments.” Brookings Institution. Published on October 13, 2021. Accessed on July 25, 2022. <https://www.brookings.edu/research/from-vision-to-design-in-advancing-medicare-payment-reform-a-blueprint-for-population-based-payments/>.

³⁷ Werner R, Emanuel E, Pham H, Navathe, A. The Future of Value-Based Payment: A Road Map to 2030. University of Pennsylvania Leonard Davis Institute of Health Economics. Published on February 17, 2021. Accessed on July 25, 2022. <https://ldi.upenn.edu/our-work/research-updates/the-future-of-value-based-payment-a-road-map-to-2030/>.

³⁸ Rose, Sherri, Alan M. Zaslavsky, and J. Michael McWilliams. “Variation In Accountable Care Organization Spending And Sensitivity To Risk Adjustment: Implications For Benchmarking.” *Health Aff*. 2015;35(3):440-448. <https://doi.org/10.1377/hlthaff.2015.1026>.

-
- ³⁹ Navathe A, Emanuel E, 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 Forefront. Published on December 18, 2020. Accessed on July 25, 2022. <https://www.healthaffairs.org/doi/10.1377/forefront.20201216.672904/>
- ⁴⁰ Navathe A, Emanuel E, 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 Forefront. Published on December 18, 2020. Accessed on July 25, 2022. <https://www.healthaffairs.org/doi/10.1377/forefront.20201216.672904/>
- ⁴¹ Matulis R. Medicaid Accountable Care Organization Shared Savings Programs: Options for Maximizing Provider Participation and Program Sustainability. Center for Health Care Strategies. Published in July 2017. Accessed on July 25, 2022. https://www.chcs.org/media/Medicaid-ACO-Benchmark-Rebasing-TA-Brief_072817.pdf.
- ⁴² NORC at the University of Chicago. Fourth Evaluation Report – Next Generation Accountable Care Organization (NGACO) Model Evaluation. Centers for Medicare and Medicaid Services. Published in October 2021. Accessed on July 25, 2022. <https://innovation.cms.gov/data-and-reports/2021/nextgenaco-fourthevalrpt>.
- ⁴³ NORC at the University of Chicago. Fourth Evaluation Report – Next Generation Accountable Care Organization (NGACO) Model Evaluation. Centers for Medicare and Medicaid Services. Published in October 2021. Accessed on July 25, 2022. <https://innovation.cms.gov/data-and-reports/2021/nextgenaco-fourthevalrpt>
- ⁴⁴ NORC at the University of Chicago. First Evaluation Report – Evaluation of the Vermont All-Payer Accountable Care Organization. Centers for Medicare and Medicaid Services. Published in August 2021. Accessed on July 25, 2022. <https://innovation.cms.gov/data-and-reports/2021/vtapm-1st-eval-full-report>.
- ⁴⁵ NORC at the University of Chicago. Fourth Evaluation Report – Next Generation Accountable Care Organization (NGACO) Model Evaluation. Centers for Medicare and Medicaid Services. Published in October 2021. Accessed on July 25, 2022. <https://innovation.cms.gov/data-and-reports/2021/nextgenaco-fourthevalrpt>
- ⁴⁶ NORC at the University of Chicago. First Evaluation Report – Evaluation of the Vermont All-Payer Accountable Care Organization. Centers for Medicare and Medicaid Services. Published in August 2021. Accessed on July 25, 2022. <https://innovation.cms.gov/data-and-reports/2021/vtapm-1st-eval-full-report>.
- ⁴⁷ NORC at the University of Chicago. Fourth Evaluation Report – Next Generation Accountable Care Organization (NGACO) Model Evaluation. Centers for Medicare and Medicaid Services. Published in October 2021. Accessed on July 25, 2022. <https://innovation.cms.gov/data-and-reports/2021/nextgenaco-fourthevalrpt>
- ⁴⁸ NORC at the University of Chicago. First Evaluation Report – Evaluation of the Vermont All-Payer Accountable Care Organization. Centers for Medicare and Medicaid Services. Published in August 2021. Accessed on July 25, 2022. <https://innovation.cms.gov/data-and-reports/2021/vtapm-1st-eval-full-report>.
- ⁴⁹ CT OHS’ Cost Growth Benchmark Unintended Adverse Consequences Measurement Plan. Connecticut Office of Health Strategy. Published on February 2, 2021. Accessed on July 25, 2022. <https://portal.ct.gov/-/media/OHS/Cost-Growth-Benchmark/Reports-and-Updates/Unintended-Adverse-Consequences-Measurement-Plan.pdf>.
- ⁵⁰ Harvey B, Gowda V, Gazelle G, Pandharipande P. The Ephemeral Accountable Care Organization—An Unintended Consequence of the Medicare Shared Savings Program. *J Am Coll Radiol*. 2013;11(2):121–24. <https://doi.org/10.1016/j.jacr.2013.07.012>.
- ⁵¹ Medford-Davis L, Marcozzi D, Agrawal S, Carr B, Carrier E. Value-Based Approaches for Emergency Care in a New Era. *Ann Emerg Med*. 2017;69(6):675–83. <https://doi.org/10.1016/j.annemergmed.2016.10.031>.

-
- ⁵² Kapoor D, Shore N, Kirsh G, Henderson J, Cohen T, Latino K. The LUGPA Alternative Payment Model for Initial Therapy of Newly Diagnosed Patients With Organ-Confined Prostate Cancer: Rationale and Development. *Rev Urol*. 2017;19(4):235–45. <https://pubmed.ncbi.nlm.nih.gov/29726849/>.
- ⁵³ Harvey B, Gowda V, Gazelle G, Pandharipande P. The Ephemeral Accountable Care Organization—An Unintended Consequence of the Medicare Shared Savings Program. *J Am Coll Radiol*. 2013;11(2):121–24. <https://doi.org/10.1016/j.jacr.2013.07.012>.
- ⁵⁴ CT OHS’ Cost Growth Benchmark Unintended Adverse Consequences Measurement Plan. Connecticut Office of Health Strategy. Published on February 2, 2021. Accessed on July 25, 2022. <https://portal.ct.gov/-/media/OHS/Cost-Growth-Benchmark/Reports-and-Updates/Unintended-Adverse-Consequences-Measurement-Plan.pdf>.
- ⁵⁵ CT OHS’ Cost Growth Benchmark Unintended Adverse Consequences Measurement Plan. Connecticut Office of Health Strategy. Published on February 2, 2021. Accessed on July 25, 2022. <https://portal.ct.gov/-/media/OHS/Cost-Growth-Benchmark/Reports-and-Updates/Unintended-Adverse-Consequences-Measurement-Plan.pdf>.
- ⁵⁶ CT OHS’ Cost Growth Benchmark Unintended Adverse Consequences Measurement Plan. Connecticut Office of Health Strategy. Published on February 2, 2021. Accessed on July 25, 2022. <https://portal.ct.gov/-/media/OHS/Cost-Growth-Benchmark/Reports-and-Updates/Unintended-Adverse-Consequences-Measurement-Plan.pdf>.
- ⁵⁷ Dinh C, Liao J, Navathe, A. Implications of Coding and Risk-Adjustment in Primary Care Payment Reform. *Int J Health Policy Manag*. 2019;3(10):253-261. <https://jhmhp.amegroups.com/article/view/5058>.
- ⁵⁸ McWilliams J, Hsu J, Newhouse J. New Risk-Adjustment System Was Associated with Reduced Favorable Selection in Medicare Advantage. *Health Aff*. 2012;31(12):2630–40. <https://doi.org/10.1377/hlthaff.2011.1344>.
- ⁵⁹ Markovitz A, Hollingsworth J, Ayanian J, Norton E, Moloci N, Yan P, Ryan A. Risk Adjustment in Medicare ACO Program Deters Coding Increases but May Lead ACOs to Drop High-Risk Beneficiaries. *Health Aff*. 2019;38(2): 253–61. <https://doi.org/10.1377/hlthaff.2018.05407>.
- ⁶⁰ Jaffrey, J. B., Ronk, K., and Smith, M. Does Beneficiary Switching Create Adverse Selection For Hospital-Based ACOs? *Health Aff*. (April 15, 2019). <https://www.healthaffairs.org/doi/10.1377/forefront.20190410.832542/full/>.
- ⁶¹ Comprehensive Primary Care Plus Payment Methodologies: Beneficiary Attribution, Care Management Fee, Performance-Based Incentive Payment and Payment Under the Medicare Physician Fee Schedule for Program Year 2018. Center for Medicare and Medicaid Innovation. Published on December 1, 2017. Accessed on August 2, 2022. <https://innovation.cms.gov/files/x/cpcplus-methodology.pdf>.
- ⁶² Direct Contracting Model: Professional and Global Options. Center for Medicare and Medicaid Innovation. Published December 11, 2019. Accessed July 28, 2022. <https://innovation.cms.gov/files/slides/dc-model-options-overviewalignment-slides.pdf>
- ⁶³ Direct Contracting Model: Professional and Global Options. Center for Medicare and Medicaid Innovation. Published December 11, 2019. Accessed July 28, 2022. <https://innovation.cms.gov/files/slides/dc-model-options-overviewalignment-slides.pdf>
- ⁶⁴ Gillock C. What is Voluntary Alignment in Global & Professional Direct Contracting (GPDC)? Pearl Health. Published November 23, 2021. Accessed July 29, 2022. <https://pearlhealth.com/blog/healthcare-101/what-is-voluntary-alignment-in-global-professional-direct-contracting-gpdc/>

-
- ⁶⁵ Direct Contracting Model: Professional and Global Options. Center for Medicare and Medicaid Innovation. Published December 11, 2019. Accessed July 28, 2022. <https://innovation.cms.gov/files/slides/dc-model-options-overviewalignment-slides.pdf>
- ⁶⁶ Gillock C. What is Voluntary Alignment in Global & Professional Direct Contracting (GPDC)? Pearl Health. Published November 23, 2021. Accessed July 29, 2022. <https://pearlhealth.com/blog/healthcare-101/what-is-voluntary-alignment-in-global-professional-direct-contracting-gpdc/>
- ⁶⁷ Gillock C. What is Voluntary Alignment in Global & Professional Direct Contracting (GPDC)? Pearl Health. Published November 23, 2021. Accessed July 29, 2022. <https://pearlhealth.com/blog/healthcare-101/what-is-voluntary-alignment-in-global-professional-direct-contracting-gpdc/>
- ⁶⁸ Next Generation ACO Model Voluntary Alignment Frequently Asked Questions Beneficiaries and Caregivers. Centers for Medicare and Medicaid Services. Published in 2019. Accessed July 29, 2022. <https://innovation.cms.gov/files/x/nextgenaco-volalignmentfaq.pdf>
- ⁶⁹ Next Generation ACO Model Voluntary Alignment Frequently Asked Questions Beneficiaries and Caregivers. Centers for Medicare and Medicaid Services. Published in 2019. Accessed July 29, 2022. <https://innovation.cms.gov/files/x/nextgenaco-volalignmentfaq.pdf>
- ⁷⁰ Direct Contracting Model: Professional and Global Options. Center for Medicare and Medicaid Innovation. Published December 11, 2019. Accessed July 28, 2022. <https://innovation.cms.gov/files/slides/dc-model-options-overviewalignment-slides.pdf>
- ⁷¹ Schulz J, DeCamp M, Berkowitz SA. Medicare Shared Savings Program: Public Reporting and Shared Savings Distributions. *Am J Manag Care*. 2015;21(8):546-553. <https://pubmed.ncbi.nlm.nih.gov/26295354/>
- ⁷² Schulz J, DeCamp M, Berkowitz SA. Medicare Shared Savings Program: Public Reporting and Shared Savings Distributions. *Am J Manag Care*. 2015;21(8):546-553. <https://pubmed.ncbi.nlm.nih.gov/26295354/>
- ⁷³ Schulz J, DeCamp M, Berkowitz SA. Medicare Shared Savings Program: Public Reporting and Shared Savings Distributions. *Am J Manag Care*. 2015;21(8):546-553. <https://pubmed.ncbi.nlm.nih.gov/26295354/>
- ⁷⁴ Siddiqui M, Berkowitz SA. Shared Savings Models for ACOs-Incentivizing Primary Care Physicians. *J Gen Intern Med*. 2014;29(6):832-834. <https://link.springer.com/article/10.1007/s11606-013-2733-5>
- ⁷⁵ Siddiqui M, Berkowitz SA. Shared Savings Models for ACOs-Incentivizing Primary Care Physicians. *J Gen Intern Med*. 2014;29(6):832-834. <https://link.springer.com/article/10.1007/s11606-013-2733-5>
- ⁷⁶ NORC at the University of Chicago. First Evaluation Report – Evaluation of the Vermont All-Payer Accountable Care Organization. Centers for Medicare and Medicaid Services. Published in August 2021. Accessed on July 25, 2022. <https://innovation.cms.gov/data-andreports/2021/vtapm-1st-eval-full-report>.
- ⁷⁷ Muhlestein D, Bleser WK, Saunders RS, Richards R, Singletary E, McClellan MB. Spread of ACOs And Value-Based Payment Models In 2019: Gauging the Impact of Pathways to Success, *Health Affairs Forefront*, Published on October 21, 2019. Accessed on August 2, 2022. <https://www.healthaffairs.org/doi/10.1377/forefront.20191020.962600/full/>
- ⁷⁸ Peck KA, Usadi B, Mainor AJ, Fisher ES, Colla CH. ACO Contracts with Downside Financial Risk Growing, but Still in the Minority. *Health Aff*. 2019;38(7):1201-1206. <https://www.healthaffairs.org/doi/10.1377/hlthaff.2018.05386>
- ⁷⁹ Muhlestein D, Bleser WK, Saunders RS, Richards R, Singletary E, McClellan MB. Spread of ACOs And Value-Based Payment Models In 2019: Gauging the Impact of Pathways to Success, *Health Affairs Forefront*, Published on October 21, 2019. Accessed on August 2, 2022. <https://www.healthaffairs.org/doi/10.1377/forefront.20191020.962600/full/>

-
- ⁸⁰ Peck KA, Usadi B, Mainor AJ, Fisher ES, Colla CH. ACO Contracts with Downside Financial Risk Growing, but Still in the Minority. *Health Aff.* 2019;38(7):1201-1206. <https://www.healthaffairs.org/doi/10.1377/hlthaff.2018.05386>
- ⁸¹ Muhlestein D, Bleser WK, Saunders RS, Richards R, Singletary E, McClellan MB. Spread of ACOs And Value-Based Payment Models In 2019: Gauging the Impact of Pathways to Success, *Health Affairs Forefront*, Published on October 21, 2019. Accessed on August 2, 2022. <https://www.healthaffairs.org/doi/10.1377/forefront.20191020.962600/full/>
- ⁸² LaPointe J. Number of MSSP ACOs Taking Downside Risk Doubles, CMS Reports. *RevCycleIntelligence*. Published January 14, 2020. Accessed August 1, 2022. <https://revcycleintelligence.com/news/number-of-mssp-acos-taking-downside-risk-doubles-cms-reports>
- ⁸³ ACOs at a Crossroads: Cost, Risk and MACRA White Paper. National Association of ACOs. Published in 2016. Accessed on August 1, 2022. <https://www.naacos.com/assets/docs/news/acosatacrossroads-naacoswhitepaperfinal.pdf>
- ⁸⁴ Peck KA, Usadi B, Mainor AJ, Fisher ES, Colla CH. ACO Contracts with Downside Financial Risk Growing, but Still in the Minority. *Health Aff.* 2019;38(7):1201-1206. <https://doi.org/10.1377/hlthaff.2018.05386>
- ⁸⁵ Muhlestein D, Bleser WK, Saunders RS, Richards R, Singletary E, McClellan MB. Spread of ACOs And Value-Based Payment Models In 2019: Gauging the Impact of Pathways to Success, *Health Affairs Forefront*, Published on October 21, 2019. Accessed on August 2, 2022. <https://www.healthaffairs.org/doi/10.1377/forefront.20191020.962600/full/>
- ⁸⁶ LaPointe J. Number of MSSP ACOs Taking Downside Risk Doubles, CMS Reports. *RevCycleIntelligence*. Published January 14, 2020. Accessed August 1, 2022. <https://revcycleintelligence.com/news/number-of-mssp-acos-taking-downside-risk-doubles-cms-reports>
- ⁸⁷ McWilliams JM, Chernew ME, Dalton JB, Landon BE. Outpatient Care Patterns and Organizational Accountability in Medicare. *JAMA Intern Med.* 2014;174(6):938-945. <https://doi.org/10.1001/jamainternmed.2014.1073>
- ⁸⁸ Han MA, Clarke R, Ettner SL, Steers WN, Leng M, Mangione CM. Predictors of Out-of-ACO Care in the Medicare Shared Savings Program. *Med Care.* 2016;54(7):679-688. <https://doi.org/10.1097/MLR.0000000000000541>
- ⁸⁹ McWilliams JM, Chernew ME, Dalton JB, Landon BE. Outpatient Care Patterns and Organizational Accountability in Medicare. *JAMA Intern Med.* 2014;174(6):938-945. <https://doi.org/10.1001/jamainternmed.2014.1073>
- ⁹⁰ Zheng Y, Lin K, White T, Pickreign J, Yuen-Reed G. On designing of a low leakage patient-centric provider network. *BMC Health Serv Res.* 2018;18:213. <https://doi.org/10.1186/s12913-018-3038-5>
- ⁹¹ Zheng Y, Lin K, White T, Pickreign J, Yuen-Reed G. On designing of a low leakage patient-centric provider network. *BMC Health Serv Res.* 2018;18:213. <https://doi.org/10.1186/s12913-018-3038-5>
- ⁹² Zheng Y, Lin K, White T, Pickreign J, Yuen-Reed G. On designing of a low leakage patient-centric provider network. *BMC Health Serv Res.* 2018;18:213. <https://doi.org/10.1186/s12913-018-3038-5>
- ⁹³ McWilliams JM, Chernew ME, Dalton JB, Landon BE. Outpatient Care Patterns and Organizational Accountability in Medicare. *JAMA Intern Med.* 2014;174(6):938-945. <https://doi.org/10.1001/jamainternmed.2014.1073>
- ⁹⁴ McWilliams JM, Chernew ME, Dalton JB, Landon BE. Outpatient Care Patterns and Organizational Accountability in Medicare. *JAMA Intern Med.* 2014;174(6):938-945. <https://doi.org/10.1001/jamainternmed.2014.1073>
- ⁹⁵ Mehrotra A, Forrest CB, Lin CY. Dropping the Baton: Specialty Referrals in the United States. *Milbank Q.* 2011;89(1):39-68. <https://doi.org/10.1111/j.1468-0009.2011.00619.x>

-
- ⁹⁶ Mehrotra A, Forrest CB, Lin CY. Dropping the Baton: Specialty Referrals in the United States. *Milbank Q*. 2011;89(1):39-68. <https://doi.org/10.1111/j.1468-0009.2011.00619.x>
- ⁹⁷ Patel MP, Schettini P, O'Leary CP, Bosworth HB, Anderson JB, Shah KP. Closing the Referral Loop: an Analysis of Primary Care Referrals to Specialists in a Large Health System. *J Gen Intern Med*. 2018;33(5):715-721. <https://doi.org/10.1007/s11606-018-4392-z>
- ⁹⁸ Fraud & Abuse Laws. U.S. Department of Health and Human Services Office of Inspector General. Published on September 1, 2021. Accessed on July 27, 2022. <https://oig.hhs.gov/compliance/physician-education/fraud-abuse-laws/>
- ⁹⁹ Fraud & Abuse Laws. U.S. Department of Health and Human Services Office of Inspector General. Published on September 1, 2021. Accessed on July 27, 2022. <https://oig.hhs.gov/compliance/physician-education/fraud-abuse-laws/>
- ¹⁰⁰ Taking advantage of Medicare ACO waivers. Advisory Board. Published July 12, 2013. Accessed July 27, 2022. <https://www.advisory.com/Daily-Briefing/2013/07/12/Law-review>
- ¹⁰¹ Fraud and Abuse Waivers. Centers for Medicare & Medicaid Services. Accessed on July 27, 2022. <https://www.cms.gov/medicare/physician-self-referral/fraud-and-abuse-waivers#PCF>
- ¹⁰² Medicare Shared Savings Program Skilled Nursing Facility 3-Day Rule Waiver Guidance. Center for Medicare & Medicaid Services; Published in 2022. Accessed on August 3, 2022. <https://www.cms.gov/medicare/medicare-fee-for-service-payment/sharedsavingsprogram/downloads/snf-waiver-guidance.pdf>
- ¹⁰³ Medicare Shared Savings Program Skilled Nursing Facility 3-Day Rule Waiver Guidance. Center for Medicare & Medicaid Services; Published in 2022. Accessed on August 3, 2022. <https://www.cms.gov/medicare/medicare-fee-for-service-payment/sharedsavingsprogram/downloads/snf-waiver-guidance.pdf>
- ¹⁰⁴ Kazungu, JS, Barasa, EW, Obadha, M, Chuma, J. What characteristics of provider payment mechanisms influence health care providers' behaviour? A literature review. *Int J Health Plann Mgmt*. 2018; 33: e892– e905. <https://doi.org/10.1002/hpm.2565>
- ¹⁰⁵ Yellen J, Walsh M, Becerra X, Kijakazi K, Brooks-LaSure C. 2021 Annual Report of The Boards of Trustees of The Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds. Boards of Trustees of The Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds; 2021:1-257. <https://www.cms.gov/files/document/2021-medicare-trustees-report.pdf>
- ¹⁰⁶ Sterling S, Chi F, Weisner C, et al. Association of behavioral health factors and social determinants of health with high and persistently high healthcare costs. *Prev Med Rep*. 2018;11:154-159. <https://doi.org/10.1016/j.pmedr.2018.06.017>
- ¹⁰⁷ Johnston KJ, Joynt Maddox KE. The Role Of Social, Cognitive, And Functional Risk Factors In Medicare Spending For Dual And Nondual Enrollees. *Health Aff*. 2019;38(4):569-576. <https://doi.org/10.1377/hlthaff.2018.05032>
- ¹⁰⁸ The Facts About Medicare Spending. KFF. Published June 7, 2022. Accessed August 2, 2022. <https://www.kff.org/interactive/medicare-spending/>
- ¹⁰⁹ Yellen J, Walsh M, Becerra X, Kijakazi K, Brooks-LaSure C. 2022 Annual Report of The Boards of Trustees of The Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds. Boards of Trustees of The Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds; 2022:1-257. <https://www.cms.gov/files/document/2022-medicare-trustees-report.pdf>
- ¹¹⁰ Yellen J, Walsh M, Becerra X, Kijakazi K, Brooks-LaSure C. 2022 Annual Report of The Boards of Trustees of The Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds. Boards of Trustees of The

Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds; 2022:1-257.
<https://www.cms.gov/files/document/2022-medicare-trustees-report.pdf>

¹¹¹ Yellen J, Walsh M, Becerra X, Kijakazi K, Brooks-LaSure C. 2022 Annual Report of The Boards of Trustees of The Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds. Boards of Trustees of The Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds; 2022:1-257.
<https://www.cms.gov/files/document/2022-medicare-trustees-report.pdf>

¹¹² June 2021 Report to the Congress: Medicare and the Health Care Delivery System. Medicare Payment Advisory Commission. Published on June 14, 2021. Accessed on August 2, 2022. https://www.medpac.gov/wp-content/uploads/import_data/scrape_files/docs/default-source/reports/jun21_medpac_report_to_congress_sec.pdf

¹¹³ Figueroa J, Zhou X, Jha A. More Than One-Quarter of High-Cost Medicare Patients Have Persistent High Costs Over Three Years. Commonwealth Fund. Published January 7, 2019. Accessed August 2, 2022.
<https://www.commonwealthfund.org/publications/journal-article/2019/jan/high-cost-medicare-patients-persistent-three-years>

¹¹⁴ Khullar D, Zhang Y, Kaushal R. Potentially Preventable Spending Among High-Cost Medicare Patients: Implications for Healthcare Delivery. *J Gen Intern Med.* 2020;35(10):2845-2852. <https://doi.org/10.1007/s11606-020-05691-8>

¹¹⁵ Khullar D, Zhang Y, Kaushal R. Potentially Preventable Spending Among High-Cost Medicare Patients: Implications for Healthcare Delivery. *J Gen Intern Med.* 2020;35(10):2845-2852. <https://doi.org/10.1007/s11606-020-05691-8>

¹¹⁶ Fong JH. Out-of-pocket health spending among Medicare beneficiaries: Which chronic diseases are most costly? *PLOS ONE.* 2019;14(9):e0222539. <https://doi.org/10.1371/journal.pone.0222539>

¹¹⁷ Chronic Kidney Disease Basics. Centers for Disease Control. Published February 28, 2022. Accessed August 12, 2022. <https://www.cdc.gov/kidneydisease/basics.html#:~:text=Top%20of%20Page-Costs,beneficiary%20older%20than%2065%20years.>

¹¹⁸ Brooks GA, Li L, Uno H, Hassett MJ, Landon BE, Schrag D. Acute Hospital Care Is The Chief Driver Of Regional Spending Variation In Medicare Patients With Advanced Cancer. *Health Aff.* 2014;33(10):1793-1800.
<https://www.healthaffairs.org/doi/10.1377/hlthaff.2014.0280>

¹¹⁹ Pyenson B, Sawhney TG, Steffens C, et al. The Real-World Medicare Costs of Alzheimer Disease: Considerations for Policy and Care. *JMCP.* 2019;25(7):800-809. <https://www.jmcp.org/doi/10.18553/jmcp.2019.25.7.800>

¹²⁰ Chronic Conditions. Centers for Medicare & Medicaid Services. Accessed August 2, 2022.
https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Chronic-Conditions/CC_Main

¹²¹ NORC at the University of Chicago. Environmental Scan on Issues Related to the Development of Population-Based Total Cost of Care (TCOC) Models in the Broader Context of Alternative Payment Models (APMs) and Physician-Focused Payment Models (PFPs). Department of Health and Human Services' Office of Health Policy of the Assistant Secretary for Planning and Evaluation. Published on March 1, 2022. Accessed on August 2, 2022.
<https://aspe.hhs.gov/sites/default/files/documents/871a839c1771919499e415b2dae8700a/TCOC-Escan.pdf>.

¹²² NORC at the University of Chicago. Environmental Scan on Issues Related to the Development of Population-Based Total Cost of Care (TCOC) Models in the Broader Context of Alternative Payment Models (APMs) and Physician-Focused Payment Models (PFPs). Department of Health and Human Services' Office of Health Policy of the Assistant Secretary for Planning and Evaluation. Published on March 1, 2022. Accessed on August 2, 2022.
<https://aspe.hhs.gov/sites/default/files/documents/871a839c1771919499e415b2dae8700a/TCOC-Escan.pdf>.

-
- ¹²³ NORC at the University of Chicago. Environmental Scan on Issues Related to the Development of Population-Based Total Cost of Care (TCOC) Models in the Broader Context of Alternative Payment Models (APMs) and Physician-Focused Payment Models (PFPMs). Department of Health and Human Services' Office of Health Policy of the Assistant Secretary for Planning and Evaluation. Published on March 1, 2022. Accessed on August 2, 2022. <https://aspe.hhs.gov/sites/default/files/documents/871a839c1771919499e415b2dae8700a/TCOC-Escan.pdf>.
- ¹²⁴ Mathews JE. Improving the Medicare Advantage Program. Medicare Payment Advisory Commission. Published on June 28, 2022. Accessed on August 2, 2022. https://www.medpac.gov/wp-content/uploads/2022/06/EC-Medicare-Advantage-testimony-FINAL-v2_SEC.pdf
- ¹²⁵ Mathews JE. Improving the Medicare Advantage Program. Medicare Payment Advisory Commission. Published on June 28, 2022. Accessed on August 2, 2022. https://www.medpac.gov/wp-content/uploads/2022/06/EC-Medicare-Advantage-testimony-FINAL-v2_SEC.pdf
- ¹²⁶ Meyers DJ, Mor V, Rahman M, Trivedi AN. Growth In Medicare Advantage Greatest Among Black And Hispanic Enrollees. *Health Aff*, 2021;40(6) 945–950. <https://doi.org/10.1377/hlthaff.2021.00118>
- ¹²⁷ Mathews JE. Improving the Medicare Advantage Program. Medicare Payment Advisory Commission. Published on June 28, 2022. Accessed on August 2, 2022. https://www.medpac.gov/wp-content/uploads/2022/06/EC-Medicare-Advantage-testimony-FINAL-v2_SEC.pdf
- ¹²⁸ Mathews JE. Improving the Medicare Advantage Program. Medicare Payment Advisory Commission. Published on June 28, 2022. Accessed on August 2, 2022. https://www.medpac.gov/wp-content/uploads/2022/06/EC-Medicare-Advantage-testimony-FINAL-v2_SEC.pdf
- ¹²⁹ Freed M, Damico A. A Dozen Facts About Medicare Advantage in 2020. KFF. Published on August 25, 2022. Accessed on August 2, 2022. <https://www.kff.org/medicare/issue-brief/a-dozen-facts-about-medicare-advantage-in-2020/>
- ¹³⁰ Mathews JE. Improving the Medicare Advantage Program. Medicare Payment Advisory Commission. Published on June 28, 2022. Accessed on August 2, 2022. https://www.medpac.gov/wp-content/uploads/2022/06/EC-Medicare-Advantage-testimony-FINAL-v2_SEC.pdf
- ¹³¹ DuGoff E, Tabak R, Diduch T, Garth, V. Quality, Health, and Spending in Medicare Advantage and Traditional Medicare. *Am J Manag Care*. 2021;27(9):395-400. [doi:10.37765/ajmc.2021.88641](https://doi.org/10.37765/ajmc.2021.88641)
- ¹³² Better Medicare Alliance. (2020). Positive Outcomes for High-Need, High-Cost Beneficiaries in Medicare Advantage Compared to Traditional Fee-For-Service Medicare. Better Medicare Alliance. Published in December 2020. Accessed on August 2, 2022. <https://www.bettermedicarealliance.org/wp-content/uploads/2020/12/BMA-High-Need-Report.pdf>
- ¹³³ Tummalapalli SL, Estrella MM, Jannat-Khah DP, Keyhani S, Ibrahim S. Capitated versus fee-for-service reimbursement and quality of care for chronic disease: a US cross-sectional analysis. *BMC Health Serv Res*. 2022;22(1):19. <https://doi.org/10.1186/s12913-021-07313-3>
- ¹³⁴ Medicare Advantage vs. Traditional Medicare: How Do Beneficiaries' Characteristics and Experiences Differ? Commonwealth Fund. Published on October 14, 2021. Accessed on August 2, 2022. [Medicare Advantage vs. Traditional Medicare Beneficiaries Differ | Commonwealth Fund](https://www.commonwealthfund.org/publications/issue-briefs/2021/10/medicare-advantage-vs-traditional-medicare-beneficiaries-differ)
- ¹³⁵ The Facts About Medicare Spending. KFF. Published June 7, 2022. Accessed August 2, 2022. <https://www.kff.org/interactive/medicare-spending/>

-
- ¹³⁶ Mathews JE. Improving the Medicare Advantage Program. Medicare Payment Advisory Commission. Published on June 28, 2022. Accessed on August 2, 2022. https://www.medpac.gov/wp-content/uploads/2022/06/EC-Medicare-Advantage-testimony-FINAL-v2_SEC.pdf
- ¹³⁷ Freed M, Damico A. A Dozen Facts About Medicare Advantage in 2020. KFF. Published on August 25, 2022. Accessed on August 2, 2022. <https://www.kff.org/medicare/issue-brief/a-dozen-facts-about-medicare-advantage-in-2020/>
- ¹³⁸ Accountable Care Financial Arrangements: Options and Considerations. Health Care Transformation Task Force. Published in 2016. Accessed on August 2, 2022. https://hcttf.org/wp-content/uploads/2018/01/HCTTF_ACOFinancialArrangementsWhitePaper.pdf
- ¹³⁹ RTI International. Global and Professional Direct Contracting Model PY2022 Financial Operating Guide: Overview. 2021. Centers for Medicare & Medicaid Services. Published December 1, 2021. Accessed July 25, 2022. <https://innovation.cms.gov/media/document/gpdc-py2022-fin-op-guide-ovw>
- ¹⁴⁰ Primary Care First: Payment and Attribution Methodologies. Published June 2022. Centers for Medicare & Medicaid Services. Accessed July 25, 2022. <https://innovation.cms.gov/media/document/payment-and-attribution-methodologies-py20>
- ¹⁴¹ Primary Care First Multi-Payer Alignment Principles. Center for Medicare and Medicaid Innovation. Accessed on July 28, 2022. <https://innovation.cms.gov/files/x/pcf-payer-rubric.pdf>
- ¹⁴² Navathe AS, Emanuel EJ, Bond A, et al. Association Between the Implementation of a Population-Based Primary Care Payment System and Achievement on Quality Measures in Hawaii. *JAMA*. 2019;322(1):57-68. <https://doi.org/10.1001/jama.2019.8113>
- ¹⁴³ Pines JM, Vats S, Zocchi MS, Black B. Maryland's Experiment With Capitated Payments For Rural Hospitals: Large Reductions In Hospital-Based Care. *Health Aff*. 2019;38(4):594-603. <https://doi.org/10.1377/hlthaff.2018.05366>
- ¹⁴⁴ Pines JM, Vats S, Zocchi MS, Black B. Maryland's Experiment With Capitated Payments For Rural Hospitals: Large Reductions In Hospital-Based Care. *Health Aff*. 2019;38(4):594-603. <https://doi.org/10.1377/hlthaff.2018.05366>
- ¹⁴⁵ Types of Health Care Quality Measures. Agency for Healthcare Research and Quality. Published July 2015. Accessed July 25, 2022 <https://www.ahrq.gov/talkingquality/measures/types.html>
- ¹⁴⁶ Walker D, Hefner J, Sova L, Hilligoss B, Song P, McAlearney S. Implementing Accountable Care Organizations: Lessons From a Qualitative Analysis of Four Private Sector Organizations. *J Healthc Manag*. 2017;62(6):419-431. <https://doi.org/10.1097/JHM-D-16-00021>
- ¹⁴⁷ Shortell S. M., Sehgal, N. J., Bibi, S., Ramsay, P. P., Neuhauser, L., Colla, C. H., & Lewis, V. A. An Early Assessment of Accountable Care Organizations' Efforts to Engage Patients and Their Families. *Med Care Res Rev*, 2015;72(5):580-604. <https://doi.org/10.1177/1077558715588874>
- ¹⁴⁸ Romaine M. Use of Primary Care and Specialty Providers: Findings from the Medical Expenditure Panel Survey. *J Gen Intern Med*, 2020;35(7):2003-2009. <https://doi.org/10.1007/s11606-020-05773-7>
- ¹⁴⁹ Primary Care in the United States: A Chartbook of Facts and Statistics. IBM-Watson Health. Published in February 2021. Accessed on August 2, 2022. <https://www.graham-center.org/content/dam/rgc/documents/publications-reports/reports/PrimaryCareChartbook2021.pdf>
- ¹⁵⁰ McWilliams M, Chen A, Chernew M. 2021. From Vision to Design in Advancing Medicare Payment Reform: A Blueprint for Population-Based Payments." Brookings Institution. Published on October 13, 2021. Accessed on July 25, 2022. <https://www.brookings.edu/research/from-vision-to-design-in-advancing-medicare-payment-reform-a-blueprint-for-population-based-payments/>.

-
- ¹⁵¹ NORC at the University of Chicago. Environmental Scan on Issues Related to the Development of Population-Based Total Cost of Care (TCOC) Models in the Broader Context of Alternative Payment Models (APMs) and Physician-Focused Payment Models (PFPMs). Department of Health and Human Services' Office of Health Policy of the Assistant Secretary for Planning and Evaluation. Published on March 1, 2022. Accessed on August 2, 2022. <https://aspe.hhs.gov/sites/default/files/documents/871a839c1771919499e415b2dae8700a/TCOC-Escan.pdf>.
- ¹⁵² Next Generation ACO Model Calculation of the Performance Year Benchmark: Performance Year 2021. Center for Medicare and Medicaid Innovation. Published in 2021. Accessed on July 25, 2022. Center for Medicare and Medicaid Innovation. <https://innovation.cms.gov/media/document/ngaco-py6-benchmark-meth>.
- ¹⁵³ Summary of Next Generation Model Program Methodology Changes for 2019 and 2020. National Association of ACOs. Accessed on July 28, 2022. https://www.naacos.com/assets/docs/pdf/SummaryNextGenerationModelProgramMethodologyChanges2019_2020v2.pdf.
- ¹⁵⁴ Final Rule Creates Pathways to Success for the Medicare Shared Savings Program. 2018. Centers for Medicare & Medicaid Services. Published on December 21, 2018. Accessed on July 28, 2022. <https://www.cms.gov/newsroom/fact-sheets/final-rule-creates-pathways-success-medicare-shared-savings-program>.
- ¹⁵⁵ The Use of Benchmarks for Payment in Medicare Advantage and Necessary Adjustments. Better Medicare Alliance. Published on February 24, 2021. Accessed on July 28, 2022. <https://bettermedicarealliance.org/publication/the-use-of-benchmarks-for-payment-in-medicare-advantage-and-necessary-adjustments/>.
- ¹⁵⁶ Explainer: Medicare Advantage: A Policy Primer. The Commonwealth Fund. Published on May 3, 2022. Accessed on August 2, 2022. <https://www.commonwealthfund.org/publications/explainer/2022/may/medicare-advantage-policy-primer>.
- ¹⁵⁷ ACO Realizing Equity, Access, and Community Health (REACH) Model Request for Applications. Centers for Medicare & Medicaid Services. Published on February 24, 2022. Accessed on July 28, 2022. <https://innovation.cms.gov/media/document/aco-reach-rfa>.
- ¹⁵⁸ ACO Realizing Equity, Access, and Community Health (REACH) Model Request for Applications. Centers for Medicare & Medicaid Services. Published on February 24, 2022. Accessed on July 28, 2022. <https://innovation.cms.gov/media/document/aco-reach-rfa>.
- ¹⁵⁹ The Use of Benchmarks for Payment in Medicare Advantage and Necessary Adjustments. Better Medicare Alliance. Published on February 24, 2021. Accessed on July 28, 2022. <https://bettermedicarealliance.org/publication/the-use-of-benchmarks-for-payment-in-medicare-advantage-and-necessary-adjustments/>.
- ¹⁶⁰ Explainer: Medicare Advantage: A Policy Primer. The Commonwealth Fund. Published on May 3, 2022. Accessed on August 2, 2022. <https://www.commonwealthfund.org/publications/explainer/2022/may/medicare-advantage-policy-primer>.
- ¹⁶¹ Freed M, Fuglesten JB, Damico A, Neuman T. Medicare Advantage in 2021: Premiums, Cost Sharing, Out-of-Pocket Limits and Supplemental Benefits. Kaiser Family Foundation. Published in 2021. Accessed on August 2, 2022. <https://www.kff.org/medicare/issue-brief/medicare-advantage-in-2021-premiums-cost-sharing-out-of-pocket-limits-and-supplemental-benefits/>.
- ¹⁶² Verma S. 2019 Medicare Shared Savings Program ACO Performance: Lower Costs And Promising Results Under 'Pathways To Success. Health Affairs Forefront, Published September 14, 2020. Accessed on July 28, 2022. <https://www.healthaffairs.org/doi/10.1377/forefront.20200914.598838/>

-
- ¹⁶³ McWilliams M. Don't Look Up? Medicare Advantage's Trajectory And The Future Of Medicare. Health Affairs Forefront. Published on March 24, 2022. Accessed on July 28, 2022. <https://www.healthaffairs.org/doi/10.1377/forefront.20220323.773602>
- ¹⁶⁴ Innovation Center Strategy Refresh. Centers for Medicare & Medicaid Services. Accessed August 2, 2022. <https://innovation.cms.gov/strategic-direction-whitepaper>.
- ¹⁶⁵ The Use of Benchmarks for Payment in Medicare Advantage and Necessary Adjustments. Better Medicare Alliance. Published on February 24, 2021. Accessed on July 28, 2022. <https://bettermedicarealliance.org/publication/the-use-of-benchmarks-for-payment-in-medicare-advantage-and-necessary-adjustments/>.
- ¹⁶⁶ June 2021 Report to the Congress: Medicare and the Health Care Delivery System. Medicare Payment Advisory Commission. Published in June 2021. Accessed on July 28, 2022. <https://www.medpac.gov/document/june-2021-report-to-the-congress-medicare-and-the-health-care-delivery-system/>.
- ¹⁶⁷ McWilliams M. Don't Look Up? Medicare Advantage's Trajectory And The Future Of Medicare. Health Affairs Forefront. Published on March 24, 2022. Accessed on July 28, 2022. <https://www.healthaffairs.org/doi/10.1377/forefront.20220323.773602>
- ¹⁶⁸ June 2021 Report to the Congress: Medicare and the Health Care Delivery System. Medicare Payment Advisory Commission. Published in June 2021. Accessed on July 28, 2022. <https://www.medpac.gov/document/june-2021-report-to-the-congress-medicare-and-the-health-care-delivery-system/>.
- ¹⁶⁹ The Use of Benchmarks for Payment in Medicare Advantage and Necessary Adjustments. Better Medicare Alliance. Published on February 24, 2021. Accessed on July 28, 2022. <https://bettermedicarealliance.org/publication/the-use-of-benchmarks-for-payment-in-medicare-advantage-and-necessary-adjustments/>.
- ¹⁷⁰ McWilliams M, Chen A, Chernew M. 2021. From Vision to Design in Advancing Medicare Payment Reform: A Blueprint for Population-Based Payments." Brookings Institution. Published on October 13, 2021. Accessed on July 25, 2022. <https://www.brookings.edu/research/from-vision-to-design-in-advancing-medicare-payment-reform-a-blueprint-for-population-based-payments/>.
- ¹⁷¹ Chernew, M., Loera-Brust A, Rathi V, and McWilliams J. MSSP Participation Following Recent Rule Changes: What Does It Tell Us? Health Affairs Forefront. Published on November 22, 2019. Accessed on July 25, 2022. <https://www.healthaffairs.org/doi/10.1377/forefront.20191120.903566>
- ¹⁷² McWilliams M, Chen A, Chernew M. 2021. From Vision to Design in Advancing Medicare Payment Reform: A Blueprint for Population-Based Payments." Brookings Institution. Published on October 13, 2021. Accessed on July 25, 2022. <https://www.brookings.edu/research/from-vision-to-design-in-advancing-medicare-payment-reform-a-blueprint-for-population-based-payments/>.
- ¹⁷³ Finke B, Davidson K, Rawal P. Addressing Challenges in Primary Care—Lessons to Guide Innovation. JAMA Health Forum. 2022;3(8):e222690. doi:10.1001/jamahealthforum.2022.2690.
- ¹⁷⁴ Finke B, Davidson K, Rawal P. Addressing Challenges in Primary Care—Lessons to Guide Innovation. JAMA Health Forum. 2022;3(8):e222690. doi:10.1001/jamahealthforum.2022.2690.
- ¹⁷⁵ Werner R, Emanuel E, Pham H, Navathe, A. The Future of Value-Based Payment: A Road Map to 2030. University of Pennsylvania Leonard Davis Institute of Health Economics. Published on February 17, 2021. Accessed on July 25, 2022. <https://ldi.upenn.edu/our-work/research-updates/the-future-of-value-based-payment-a-road-map-to-2030/>.

-
- ¹⁷⁶ Chernew, M., Loera-Brust A, Rathi V, and McWilliams J. MSSP Participation Following Recent Rule Changes: What Does It Tell Us? Health Affairs Forefront. Published on November 22, 2019. Accessed on July 25, 2022. <https://www.healthaffairs.org/doi/10.1377/forefront.20191120.903566>
- ¹⁷⁷ McWilliams J, Michael B, Landon R, Chernew M. "Getting More Savings from ACOs - Can the Pace Be Pushed?" *N Engl J Med*. 2019;380(23):2190–92. <https://www.nejm.org/doi/10.1056/NEJMp1900537>
- ¹⁷⁸ McWilliams J, Chen A. Understanding The Latest ACO 'Savings': Curb Your Enthusiasm And Sharpen Your Pencils—Part 1." Health Affairs Forefront. Published on November 12, 2020. Accessed on July 28, 2022. <https://www.healthaffairs.org/doi/10.1377/forefront.20201106.719550/full/>.
- ¹⁷⁹ June 2021 Report to the Congress: Medicare and the Health Care Delivery System. Medicare Payment Advisory Commission. Published in June 2021. Accessed on July 28, 2022. <https://www.medpac.gov/document/june-2021-report-to-the-congress-medicare-and-the-health-care-delivery-system/>.
- ¹⁸⁰ NORC at the University of Chicago. Environmental Scan on Issues Related to the Development of Population-Based Total Cost of Care (TCOC) Models in the Broader Context of Alternative Payment Models (APMs) and Physician-Focused Payment Models (PFPs). Department of Health and Human Services' Office of Health Policy of the Assistant Secretary for Planning and Evaluation. Published on March 1, 2022. Accessed on August 2, 2022. <https://aspe.hhs.gov/sites/default/files/documents/871a839c1771919499e415b2dae8700a/TCOC-Escan.pdf>.
- ¹⁸¹ June 2021 Report to the Congress: Medicare and the Health Care Delivery System. Medicare Payment Advisory Commission. Published in June 2021. Accessed on July 28, 2022. <https://www.medpac.gov/document/june-2021-report-to-the-congress-medicare-and-the-health-care-delivery-system/>.
- ¹⁸² NORC at the University of Chicago. Environmental Scan on Issues Related to the Development of Population-Based Total Cost of Care (TCOC) Models in the Broader Context of Alternative Payment Models (APMs) and Physician-Focused Payment Models (PFPs). Department of Health and Human Services' Office of Health Policy of the Assistant Secretary for Planning and Evaluation. Published on March 1, 2022. Accessed on August 2, 2022. <https://aspe.hhs.gov/sites/default/files/documents/871a839c1771919499e415b2dae8700a/TCOC-Escan.pdf>.
- ¹⁸³ McWilliams M, Chen A, Chernew M. 2021. From Vision to Design in Advancing Medicare Payment Reform: A Blueprint for Population-Based Payments." Brookings Institution. Published on October 13, 2021. Accessed on July 25, 2022. <https://www.brookings.edu/research/from-vision-to-design-in-advancing-medicare-payment-reform-a-blueprint-for-population-based-payments/>.
- ¹⁸⁴ McWilliams M, Chen A, Chernew M. 2021. From Vision to Design in Advancing Medicare Payment Reform: A Blueprint for Population-Based Payments." Brookings Institution. Published on October 13, 2021. Accessed on July 25, 2022. <https://www.brookings.edu/research/from-vision-to-design-in-advancing-medicare-payment-reform-a-blueprint-for-population-based-payments/>.
- ¹⁸⁵ June 2021 Report to the Congress: Medicare and the Health Care Delivery System. Medicare Payment Advisory Commission. Published in June 2021. Accessed on July 28, 2022. <https://www.medpac.gov/document/june-2021-report-to-the-congress-medicare-and-the-health-care-delivery-system/>.
- ¹⁸⁶ McWilliams M, Chen A, Chernew M. 2021. From Vision to Design in Advancing Medicare Payment Reform: A Blueprint for Population-Based Payments." Brookings Institution. Published on October 13, 2021. Accessed on July 25, 2022. <https://www.brookings.edu/research/from-vision-to-design-in-advancing-medicare-payment-reform-a-blueprint-for-population-based-payments/>.
- ¹⁸⁷ Werner R, Emanuel E, Pham H, Navathe, A. The Future of Value-Based Payment: A Road Map to 2030. University of Pennsylvania Leonard Davis Institute of Health Economics. Published on February 17, 2021. Accessed on July 25, 2022. <https://ldi.upenn.edu/our-work/research-updates/the-future-of-value-based-payment-a-road-map-to-2030/>.

-
- ¹⁸⁸ Rose, Sherri, Alan M. Zaslavsky, and J. Michael McWilliams. "Variation In Accountable Care Organization Spending And Sensitivity To Risk Adjustment: Implications For Benchmarking." *Health Aff.* 2015;35(3):440-448. <https://doi.org/10.1377/hlthaff.2015.1026>.
- ¹⁸⁹ Navathe A, Emanuel E, 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 Forefront*. Published on December 18, 2020. Accessed on July 25, 2022. <https://www.healthaffairs.org/doi/10.1377/forefront.20201216.672904/>
- ¹⁹⁰ Navathe A, Emanuel E, 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 Forefront*. Published on December 18, 2020. Accessed on July 25, 2022. <https://www.healthaffairs.org/doi/10.1377/forefront.20201216.672904/>
- ¹⁹¹ Matulis R. Medicaid Accountable Care Organization Shared Savings Programs: Options for Maximizing Provider Participation and Program Sustainability. Center for Health Care Strategies. Published in July 2017. Accessed on July 25, 2022. https://www.chcs.org/media/Medicaid-ACO-Benchmark-Rebasing-TA-Brief_072817.pdf.
- ¹⁹² Introduction to Cost Growth Benchmarks. Nevada Patient Protection Commission Advisory Subcommittee. Published on June 30, 2021. Accessed on July 25, 2022. https://ppc.nv.gov/uploadedFiles/ppcnvgov/content/Meetings/2021/2021-06-30_Attachments_PPC-AdvisorySubcommitteeMtg.pdf
- ¹⁹³ Primary Care ACO Contract Appendix A: Included Services in TCOC Calculations. MassHealth. Accessed July 30, 2022. <https://www.mass.gov/doc/primary-care-aco-contract-appendices/download> .
- ¹⁹⁴ Introduction to Cost Growth Benchmarks. Nevada Patient Protection Commission Advisory Subcommittee. Published on June 30, 2021. Accessed on July 25, 2022. https://ppc.nv.gov/uploadedFiles/ppcnvgov/content/Meetings/2021/2021-06-30_Attachments_PPC-AdvisorySubcommitteeMtg.pdf
- ¹⁹⁵ NORC at the University of Chicago. First Evaluation Report – Evaluation of the Vermont All-Payer Accountable Care Organization. Centers for Medicare and Medicaid Services. Published in August 2021. Accessed on July 25, 2022. <https://innovation.cms.gov/data-and-reports/2021/vtapm-1st-eval-full-report>.
- ¹⁹⁶ Introduction to Cost Growth Benchmarks. Nevada Patient Protection Commission Advisory Subcommittee. Published on June 30, 2021. Accessed on July 25, 2022. https://ppc.nv.gov/uploadedFiles/ppcnvgov/content/Meetings/2021/2021-06-30_Attachments_PPC-AdvisorySubcommitteeMtg.pdf
- ¹⁹⁷ From Claims to Clarity: Deriving Actionable Healthcare Cost Benchmarks from Aggregated Commercial Claims Data. Network for Regional Healthcare Improvement. Published in October 2016. http://www.nrhi.org/uploads/rwj_tcoc_phaseii_benchmarkbrief_nov30_final_print.pdf.
- ¹⁹⁸ From Claims to Clarity: Deriving Actionable Healthcare Cost Benchmarks from Aggregated Commercial Claims Data. Network for Regional Healthcare Improvement. Published in October 2016. http://www.nrhi.org/uploads/rwj_tcoc_phaseii_benchmarkbrief_nov30_final_print.pdf.
- ¹⁹⁹ Mathematica Policy Research. Independent Evaluation of Comprehensive Primary Care Plus (CPC+): Fourth Annual Report. Centers for Medicare & Medicaid Services. Published in May 2022. Accessed on August 2, 2022. <https://innovation.cms.gov/data-and-reports/2022/cpc-plus-fourth-annual-eval-report>.
- ²⁰⁰ From Claims to Clarity: Deriving Actionable Healthcare Cost Benchmarks from Aggregated Commercial Claims Data. Network for Regional Healthcare Improvement. Published in October 2016. http://www.nrhi.org/uploads/rwj_tcoc_phaseii_benchmarkbrief_nov30_final_print.pdf.

-
- ²⁰¹ NORC at the University of Chicago. First Evaluation Report – Evaluation of the Vermont All-Payer Accountable Care Organization. Centers for Medicare and Medicaid Services. Published in August 2021. Accessed on July 25, 2022. <https://innovation.cms.gov/data-andreports/2021/vtapm-1st-eval-full-report>.
- ²⁰² Drake, M. Total Cost of Care Shared Savings Methodology. Ohio Department of Medicaid. Published in 2019. Accessed on July 25, 2022. <https://medicaid.ohio.gov/static/Providers/PaymentInnovation/CPC/SharedSavingsMethodology.pdf>
- ²⁰³ Maryland Health Services Cost Review Commission. Total Cost of Care (TCOC) Workgroup. Published on December 4, 2019. Accessed on July 25, 2022. [https://hscrc.maryland.gov/Documents/Work%20Group%20Uploads/Total%20Cost%20of%20Care%20\(TCOC\)/2019.12.4/TCOC%20WG%20Slides%2012.4.19_vF.pdf](https://hscrc.maryland.gov/Documents/Work%20Group%20Uploads/Total%20Cost%20of%20Care%20(TCOC)/2019.12.4/TCOC%20WG%20Slides%2012.4.19_vF.pdf).
- ²⁰⁴ Maryland Total Cost of Care Model. Centers for Medicare & Medicaid Services. Accessed July 30, 2022. <https://innovation.cms.gov/innovation-models/md-tccm> .
- ²⁰⁵ Maryland Health Services Cost Review Commission. Total Cost of Care (TCOC) Workgroup. Published on December 4, 2019. Accessed on July 25, 2022. [https://hscrc.maryland.gov/Documents/Work%20Group%20Uploads/Total%20Cost%20of%20Care%20\(TCOC\)/2019.12.4/TCOC%20WG%20Slides%2012.4.19_vF.pdf](https://hscrc.maryland.gov/Documents/Work%20Group%20Uploads/Total%20Cost%20of%20Care%20(TCOC)/2019.12.4/TCOC%20WG%20Slides%2012.4.19_vF.pdf).
- ²⁰⁶ Primary Care ACO Contract Appendix A: Included Services in TCOC Calculations. MassHealth. Accessed July 30, 2022. <https://www.mass.gov/doc/primary-care-aco-contract-appendices/download> .
- ²⁰⁷ NORC at the University of Chicago. Environmental Scan on Issues Related to the Development of Population-Based Total Cost of Care (TCOC) Models in the Broader Context of Alternative Payment Models (APMs) and Physician-Focused Payment Models (PFPMs). Department of Health and Human Services' Office of Health Policy of the Assistant Secretary for Planning and Evaluation. Published on March 1, 2022. Accessed on August 2, 2022. <https://aspe.hhs.gov/sites/default/files/documents/871a839c1771919499e415b2dae8700a/TCOC-Escan.pdf>.
- ²⁰⁸ Matulis R. Medicaid Accountable Care Organization Shared Savings Programs: Options for Maximizing Provider Participation and Program Sustainability. Center for Health Care Strategies. Published in July 2017. Accessed on July 25, 2022. https://www.chcs.org/media/Medicaid-ACO-Benchmark-Rebasing-TA-Brief_072817.pdf.
- ²⁰⁹ Shared Savings Program. Centers for Medicare & Medicaid Services. Accessed July 30, 2022. <https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/sharedsavingsprogram>.
- ²¹⁰ BPCI Advanced: Participant Resources. Centers for Medicare & Medicaid Services. Accessed July 30, 2022. <https://innovation.cms.gov/innovation-models/bpci-advanced/participant-resources>.
- ²¹¹ The Use of Benchmarks for Payment in Medicare Advantage and Necessary Adjustments. Better Medicare Alliance. Published on February 24, 2021. Accessed on July 28, 2022. <https://bettermedicarealliance.org/publication/the-use-of-benchmarks-for-payment-in-medicare-advantage-and-necessary-adjustments/> .
- ²¹² RTI International. Next Generation ACO Model Calculation of the Performance Year Benchmark: Performance Years 2019 and 2020. Center for Medicare & Medicare Services. Published in September 2018. Accessed on July 28, 2022. <https://innovation.cms.gov/files/x/nextgenaco-benchmarkmethodology-py4.pdf>.
- ²¹³ Direct Contracting: Global and Professional Options Payment Part Two Webinar. Center for Medicare and Medicaid Innovation. Published on January 22, 2020. Accessed on July 28, 2022. <https://innovation.cms.gov/files/slides/dc-model-options-paymenttwo-slides.pdf>.

-
- ²¹⁴ ACO Realizing Equity, Access, and Community Health (REACH) Model Request for Applications. Centers for Medicare & Medicaid Services. Published on February 24, 2022. Accessed on July 28, 2022. <https://innovation.cms.gov/media/document/aco-reach-rfa> . .
- ²¹⁵ Maryland All-Payer Model Performance: Years 1 Through 5 (CY 2014 – CY 2018). Maryland Hospital Association. Accessed July 30, 2022. [https://www.mhaonline.org/docs/default-source/transforming-health-care/maryland-model-dashboard/medicare-waiver-performance-\(final\).pdf?sfvrsn=cf79d60d_18](https://www.mhaonline.org/docs/default-source/transforming-health-care/maryland-model-dashboard/medicare-waiver-performance-(final).pdf?sfvrsn=cf79d60d_18).
- ²¹⁶ Maryland All-Payer Model Performance: Years 1 Through 5 (CY 2014 – CY 2018). Maryland Hospital Association. Accessed July 30, 2022. [https://www.mhaonline.org/docs/default-source/transforming-health-care/maryland-model-dashboard/medicare-waiver-performance-\(final\).pdf?sfvrsn=cf79d60d_18](https://www.mhaonline.org/docs/default-source/transforming-health-care/maryland-model-dashboard/medicare-waiver-performance-(final).pdf?sfvrsn=cf79d60d_18).
- ²¹⁷ NORC at the University of Chicago. Fourth Evaluation Report – Next Generation Accountable Care Organization (NGACO) Model Evaluation. Centers for Medicare and Medicaid Services. Published in October 2021. Accessed on July 25, 2022. <https://innovation.cms.gov/data-and-reports/2021/nextgenaco-fourthevalrpt>.
- ²¹⁸ NORC at the University of Chicago. Fourth Evaluation Report – Next Generation Accountable Care Organization (NGACO) Model Evaluation. Centers for Medicare and Medicaid Services. Published in October 2021. Accessed on July 25, 2022. <https://innovation.cms.gov/data-and-reports/2021/nextgenaco-fourthevalrpt>.
- ²¹⁹ RTI International. Global and Professional Direct Contracting Model PY2022 Financial Operating Guide: Overview. 2021. Centers for Medicare & Medicaid Services. Published December 1, 2021. Accessed July 25, 2022. <https://innovation.cms.gov/media/document/gpdc-py2022-fin-op-guide-ovw>
- ²²⁰ NORC at the University of Chicago. Fourth Evaluation Report – Next Generation Accountable Care Organization (NGACO) Model Evaluation. Centers for Medicare and Medicaid Services. Published in October 2021. Accessed on July 25, 2022. <https://innovation.cms.gov/data-and-reports/2021/nextgenaco-fourthevalrpt>.
- ²²¹ RTI International. Global and Professional Direct Contracting Model PY2022 Financial Operating Guide: Overview. 2021. Centers for Medicare & Medicaid Services. Published December 1, 2021. Accessed July 25, 2022. <https://innovation.cms.gov/media/document/gpdc-py2022-fin-op-guide-ovw>
- ²²² Mathematica Policy Research. Evaluation of the Maryland Total Cost of Care Model: Implementation Report. Centers for Medicare & Medicaid Services. Published in July 2021. Accessed on July 25, 2022. <https://innovation.cms.gov/data-and-reports/2021/md-tcoc-imp-eval-report>.
- ²²³ NORC at the University of Chicago. Fourth Evaluation Report – Next Generation Accountable Care Organization (NGACO) Model Evaluation. Centers for Medicare and Medicaid Services. Published in October 2021. Accessed on July 25, 2022. <https://innovation.cms.gov/data-and-reports/2021/nextgenaco-fourthevalrpt>.
- ²²⁴ Medicare Shared Savings Program – Shared Savings and Losses and Assignment Methodology: Specifications. Centers for Medicare & Medicaid Services. Published on Medicare Shared Savings Program – Shared Savings and Losses and Assignment Methodology: Specifications. January 2022. Accessed on July 25, 2022. <https://www.cms.gov/files/document/medicare-shared-savings-program-shared-savings-and-losses-and-assignment-methodology-specifications.pdf-1>.
- ²²⁵ RTI International. Global and Professional Direct Contracting Model PY2022 Financial Operating Guide: Overview. 2021. Centers for Medicare & Medicaid Services. Published December 1, 2021. Accessed July 25, 2022. <https://innovation.cms.gov/media/document/gpdc-py2022-fin-op-guide-ovw>
- ²²⁶ RTI International. Global and Professional Direct Contracting Model PY2022 Financial Operating Guide: Overview. 2021. Centers for Medicare & Medicaid Services. Published December 1, 2021. Accessed July 25, 2022. <https://innovation.cms.gov/media/document/gpdc-py2022-fin-op-guide-ovw>

-
- ²²⁷ NORC at the University of Chicago. Fourth Evaluation Report – Next Generation Accountable Care Organization (NGACO) Model Evaluation. Centers for Medicare and Medicaid Services. Published in October 2021. Accessed on July 25, 2022. <https://innovation.cms.gov/data-and-reports/2021/nextgenaco-fourthevalrpt>.
- ²²⁸ NORC at the University of Chicago. First Evaluation Report – Evaluation of the Vermont All-Payer Accountable Care Organization. Centers for Medicare and Medicaid Services. Published in August 2021. Accessed on July 25, 2022. <https://innovation.cms.gov/data-and-reports/2021/vtapm-1st-eval-full-report>.
- ²²⁹ NORC at the University of Chicago. Fourth Evaluation Report – Next Generation Accountable Care Organization (NGACO) Model Evaluation. Centers for Medicare and Medicaid Services. Published in October 2021. Accessed on July 25, 2022. <https://innovation.cms.gov/data-and-reports/2021/nextgenaco-fourthevalrpt>.
- ²³⁰ NORC at the University of Chicago. First Evaluation Report – Evaluation of the Vermont All-Payer Accountable Care Organization. Centers for Medicare and Medicaid Services. Published in August 2021. Accessed on July 25, 2022. <https://innovation.cms.gov/data-and-reports/2021/vtapm-1st-eval-full-report>.
- ²³¹ NORC at the University of Chicago. Fourth Evaluation Report – Next Generation Accountable Care Organization (NGACO) Model Evaluation. Centers for Medicare and Medicaid Services. Published in October 2021. Accessed on July 25, 2022. <https://innovation.cms.gov/data-and-reports/2021/nextgenaco-fourthevalrpt>.
- ²³² NORC at the University of Chicago. First Evaluation Report – Evaluation of the Vermont All-Payer Accountable Care Organization. Centers for Medicare and Medicaid Services. Published in August 2021. Accessed on July 25, 2022. <https://innovation.cms.gov/data-and-reports/2021/vtapm-1st-eval-full-report>.
- ²³³ NORC at the University of Chicago. Environmental Scan on Issues Related to the Development of Population-Based Total Cost of Care (TCOC) Models in the Broader Context of Alternative Payment Models (APMs) and Physician-Focused Payment Models (PFPMs). Department of Health and Human Services’ Office of Health Policy of the Assistant Secretary for Planning and Evaluation. Published on March 1, 2022. Accessed on August 2, 2022. <https://aspe.hhs.gov/sites/default/files/documents/871a839c1771919499e415b2dae8700a/TCOC-Escan.pdf>.
- ²³⁴ Drake, M. Total Cost of Care Shared Savings Methodology. Ohio Department of Medicaid. Published in 2019. Accessed on July 25, 2022. <https://medicaid.ohio.gov/static/Providers/PaymentInnovation/CPC/SharedSavingsMethodology.pdf>
- ²³⁵ Shared Savings Program. Centers for Medicare & Medicaid Services. Accessed July 30, 2022. <https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/sharedsavingsprogram>.
- ²³⁶ NORC at the University of Chicago. Fourth Evaluation Report – Next Generation Accountable Care Organization (NGACO) Model Evaluation. Centers for Medicare and Medicaid Services. Published in October 2021. Accessed on July 25, 2022. <https://innovation.cms.gov/data-and-reports/2021/nextgenaco-fourthevalrpt>.
- ²³⁷ NORC at the University of Chicago. First Evaluation Report – Evaluation of the Vermont All-Payer Accountable Care Organization. Centers for Medicare and Medicaid Services. Published in August 2021. Accessed on July 25, 2022. <https://innovation.cms.gov/data-and-reports/2021/vtapm-1st-eval-full-report>.
- ²³⁸ Li X, Evans J. Incentivizing Performance in Health Care: A Rapid Review, Typology and Qualitative Study of Unintended Consequences. *BMC Health Serv Res*. 2022;22(1): 690. <https://doi.org/10.1186/s12913-022-08032-z>.
- ²³⁹ CT OHS’ Cost Growth Benchmark Unintended Adverse Consequences Measurement Plan. Connecticut Office of Health Strategy. Published on February 2, 2021. Accessed on July 25, 2022. <https://portal.ct.gov/-/media/OHS/Cost-Growth-Benchmark/Reports-and-Updates/Unintended-Adverse-Consequences-Measurement-Plan.pdf>.

-
- ²⁴⁰ Navathe AS, Liao JM. Aligning Value-Based Payments With Health Equity: A Framework for Reforming Payment Reforms. *JAMA*. Published online August 15, 2022. <https://pubmed.ncbi.nlm.nih.gov/35969407/>
- ²⁴¹ Harvey B, Gowda V, Gazelle G, Pandharipande P. The Ephemeral Accountable Care Organization—An Unintended Consequence of the Medicare Shared Savings Program. *J Am Coll Radiol*. 2013;11(2):121–24. <https://doi.org/10.1016/j.jacr.2013.07.012>.
- ²⁴² Medford-Davis L, Marcozzi D, Agrawal S, Carr B, Carrier E. Value-Based Approaches for Emergency Care in a New Era. *Ann Emerg Med*. 2017;69(6):675–83. <https://doi.org/10.1016/j.annemergmed.2016.10.031>.
- ²⁴³ Kapoor D, Shore N, Kirsh G, Henderson J, Cohen T, Latino K. The LUGPA Alternative Payment Model for Initial Therapy of Newly Diagnosed Patients With Organ-Confined Prostate Cancer: Rationale and Development. *Rev Urol*. 2017;19(4):235–45. <https://pubmed.ncbi.nlm.nih.gov/29726849/>.
- ²⁴⁴ Powell, A, White KM, Partin MR, Halek K, Christianson JB, Neil B, Hysong S, Zarling EJ, Bloomfield HE. Unintended Consequences of Implementing a National Performance Measurement System into Local Practice. *J Gen Intern Med*. 2012;27(4):405–12. <https://doi.org/10.1007/s11606-011-1906-3>.
- ²⁴⁵ Apte SM, Patel K.. Payment Reform: Unprecedented and Evolving Impact on Gynecologic Oncology. *Front Oncol*. 2016;6(84):1-10. <https://www.frontiersin.org/articles/10.3389/fonc.2016.00084>.
- ²⁴⁶ NORC at the University of Chicago. Fourth Evaluation Report – Next Generation Accountable Care Organization (NGACO) Model Evaluation. Centers for Medicare and Medicaid Services. Published in October 2021. Accessed on July 25, 2022. <https://innovation.cms.gov/data-and-reports/2021/nextgenaco-fourthevalrpt>.
- ²⁴⁷ CT OHS’ Cost Growth Benchmark Unintended Adverse Consequences Measurement Plan. Connecticut Office of Health Strategy. Published on February 2, 2021. Accessed on July 25, 2022. <https://portal.ct.gov/-/media/OHS/Cost-Growth-Benchmark/Reports-and-Updates/Unintended-Adverse-Consequences-Measurement-Plan.pdf>.
- ²⁴⁸ Powell, A, White KM, Partin MR, Halek K, Christianson JB, Neil B, Hysong S, Zarling EJ, Bloomfield HE. Unintended Consequences of Implementing a National Performance Measurement System into Local Practice. *J Gen Intern Med*. 2012;27(4):405–12. <https://doi.org/10.1007/s11606-011-1906-3>.
- ²⁴⁹ CT OHS’ Cost Growth Benchmark Unintended Adverse Consequences Measurement Plan. Connecticut Office of Health Strategy. Published on February 2, 2021. Accessed on July 25, 2022. <https://portal.ct.gov/-/media/OHS/Cost-Growth-Benchmark/Reports-and-Updates/Unintended-Adverse-Consequences-Measurement-Plan.pdf>.
- ²⁵⁰ Powell A, White KM, Partin MR, Halek K, Christianson JB, Neil B, Hysong S, Zarling EJ, Bloomfield HE. Unintended Consequences of Implementing a National Performance Measurement System into Local Practice. *J Gen Intern Med*. 2012;27(4):405–12. <https://doi.org/10.1007/s11606-011-1906-3>.
- ²⁵¹ Apte SM, Patel K.. Payment Reform: Unprecedented and Evolving Impact on Gynecologic Oncology. *Front Oncol*. 2016;6(84):1-10. <https://www.frontiersin.org/articles/10.3389/fonc.2016.00084>.
- ²⁵² NORC at the University of Chicago. Fourth Evaluation Report – Next Generation Accountable Care Organization (NGACO) Model Evaluation. Centers for Medicare and Medicaid Services. Published in October 2021. Accessed on July 25, 2022. <https://innovation.cms.gov/data-and-reports/2021/nextgenaco-fourthevalrpt>.
- ²⁵³ CT OHS’ Cost Growth Benchmark Unintended Adverse Consequences Measurement Plan. Connecticut Office of Health Strategy. Published on February 2, 2021. Accessed on July 25, 2022. <https://portal.ct.gov/-/media/OHS/Cost-Growth-Benchmark/Reports-and-Updates/Unintended-Adverse-Consequences-Measurement-Plan.pdf>.

-
- ²⁵⁴ CT OHS' Cost Growth Benchmark Unintended Adverse Consequences Measurement Plan. Connecticut Office of Health Strategy. Published on February 2, 2021. Accessed on July 25, 2022. <https://portal.ct.gov/-/media/OHS/Cost-Growth-Benchmark/Reports-and-Updates/Unintended-Adverse-Consequences-Measurement-Plan.pdf>.
- ²⁵⁵ Powell, A, White KM, Partin MR, Halek K, Christianson JB, Neil B, Hysong S, Zarling EJ, Bloomfield HE. Unintended Consequences of Implementing a National Performance Measurement System into Local Practice. *J Gen Intern Med*. 2012;27(4):405–12. <https://doi.org/10.1007/s11606-011-1906-3>.
- ²⁵⁶ DiGiorgio, AM, Menger RP. Commentary: An Analysis of Medicare Reimbursement for Neurosurgeon Office Visits: 2010 Compared to 2018. *Neurosurgery*. 2021;89(2):E128. <https://doi.org/10.1093/neuros/nyab172>.
- ²⁵⁷ Powell, A, White KM, Partin MR, Halek K, Christianson JB, Neil B, Hysong S, Zarling EJ, Bloomfield HE. Unintended Consequences of Implementing a National Performance Measurement System into Local Practice. *J Gen Intern Med*. 2012;27(4):405–12. <https://doi.org/10.1007/s11606-011-1906-3>.
- ²⁵⁸ Provide Consolidation: The role of Medicare policy. Medicare Payment Advisory Commission. Published in June 2017. Accessed on August 2, 2022. https://www.medpac.gov/wp-content/uploads/import_data/scrape_files/docs/default-source/reports/jun17_ch10.pdf.
- ²⁵⁹ CT OHS' Cost Growth Benchmark Unintended Adverse Consequences Measurement Plan. Connecticut Office of Health Strategy. Published on February 2, 2021. Accessed on July 25, 2022. <https://portal.ct.gov/-/media/OHS/Cost-Growth-Benchmark/Reports-and-Updates/Unintended-Adverse-Consequences-Measurement-Plan.pdf>.
- ²⁶⁰ Gondi, S, Chokshi, DA. 2020. Financial Stability as a Goal of Payment Reform—A Lesson From COVID-19. *JAMA Health Forum* 2020. ;1(8):e201012. <https://doi.org/10.1001/jamahealthforum.2020.1012>.
- ²⁶¹ Hippen, BE, Reed AI, Ketchersid T, Maddux FW. Implications of the Advancing American Kidney Health Initiative for Kidney Transplant Centers. *Am J Transplant*. 2020;20(5):1244–50. <https://doi.org/10.1111/ajt.15619>.
- ²⁶² Harvey B, Gowda V, Gazelle G, Pandharipande P. The Ephemeral Accountable Care Organization—An Unintended Consequence of the Medicare Shared Savings Program. *J Am Coll Radiol*. 2013;11(2):121–24. <https://doi.org/10.1016/j.jacr.2013.07.012>.
- ²⁶³ AHCP: Current Medicare Advantage Benchmark Caps Penalize Seniors.” HealthPayerIntelligence. Published on August 13, 2021. Accessed on August 2, 2022. <https://healthpayerintelligence.com/news/achp-current-medicare-advantage-benchmark-caps-penalize-seniors>.
- ²⁶⁴ FACT SHEET – Support The Quality Payment Relief Act. Alliance of Community Health Plans. Published on April 19, 2022. Accessed on August 2, 2022. <https://achp.org/fact-sheet-support-the-quality-payment-relief-act/>.
- ²⁶⁵ O’Kane, ME. A Glitch In The Road To Pay-For-Performance. Health Affairs Forefront. Published on October 7, 2015. Accessed on August 2, 2022. <https://www.healthaffairs.org/doi/10.1377/forefront.20151007.051043/full/>.
- ²⁶⁶ Navathe AS, Liao JM. Aligning Value-Based Payments With Health Equity: A Framework for Reforming Payment Reforms. *JAMA*. Published online August 15, 2022. <https://jamanetwork.com/journals/jama/article-abstract/2795498>.
- ²⁶⁷ Navathe AS, Liao JM. Aligning Value-Based Payments With Health Equity: A Framework for Reforming Payment Reforms. *JAMA*. Published online August 15, 2022. <https://jamanetwork.com/journals/jama/article-abstract/2795498>.

-
- ²⁶⁸ Navathe AS, Liao JM. Aligning Value-Based Payments With Health Equity: A Framework for Reforming Payment Reforms. *JAMA*. Published online August 15, 2022. <https://jamanetwork.com/journals/jama/article-abstract/2795498>.
- ²⁶⁹ CT OHS' Cost Growth Benchmark Unintended Adverse Consequences Measurement Plan. Connecticut Office of Health Strategy. Published on February 2, 2021. Accessed on July 25, 2022. <https://portal.ct.gov/-/media/OHS/Cost-Growth-Benchmark/Reports-and-Updates/Unintended-Adverse-Consequences-Measurement-Plan.pdf>.
- ²⁷⁰ ESRD Treatment Choices (ETC) Model. Centers for Medicare & Medicaid Services. Accessed July 30, 2022. <https://innovation.cms.gov/innovation-models/esrd-treatment-choices-model>.
- ²⁷¹ "Kidney Care Choices (KCC) Model." Centers for Medicare & Medicaid Services. Accessed July 30, 2022. <https://innovation.cms.gov/innovation-models/kidney-care-choices-kcc-model>.
- ²⁷² "Oncology Care Model." Centers for Medicare & Medicaid Services. Accessed July 30, 2022. <https://innovation.cms.gov/innovation-models/oncology-care>.
- ²⁷³ Harvey B, Gowda V, Gazelle G, Pandharipande P. The Ephemeral Accountable Care Organization—An Unintended Consequence of the Medicare Shared Savings Program. *J Am Coll Radiol*. 2013;11(2):121–24. <https://doi.org/10.1016/j.jacr.2013.07.012>.
- ²⁷⁴ Apte SM, Patel K.. Payment Reform: Unprecedented and Evolving Impact on Gynecologic Oncology. *Front Oncol*. 2016;6(84):1-10. <https://www.frontiersin.org/articles/10.3389/fonc.2016.00084>.
- ²⁷⁵ NORC at the University of Chicago. Fourth Evaluation Report – Next Generation Accountable Care Organization (NGACO) Model Evaluation. Centers for Medicare and Medicaid Services. Published in October 2021. Accessed on July 25, 2022. <https://innovation.cms.gov/data-and-reports/2021/nextgenaco-fourthevalrpt>.
- ²⁷⁶ CT OHS' Cost Growth Benchmark Unintended Adverse Consequences Measurement Plan. Connecticut Office of Health Strategy. Published on February 2, 2021. Accessed on July 25, 2022. <https://portal.ct.gov/-/media/OHS/Cost-Growth-Benchmark/Reports-and-Updates/Unintended-Adverse-Consequences-Measurement-Plan.pdf>.
- ²⁷⁷ CT OHS' Cost Growth Benchmark Unintended Adverse Consequences Measurement Plan. Connecticut Office of Health Strategy. Published on February 2, 2021. Accessed on July 25, 2022. <https://portal.ct.gov/-/media/OHS/Cost-Growth-Benchmark/Reports-and-Updates/Unintended-Adverse-Consequences-Measurement-Plan.pdf>.
- ²⁷⁸ CT OHS' Cost Growth Benchmark Unintended Adverse Consequences Measurement Plan. Connecticut Office of Health Strategy. Published on February 2, 2021. Accessed on July 25, 2022. <https://portal.ct.gov/-/media/OHS/Cost-Growth-Benchmark/Reports-and-Updates/Unintended-Adverse-Consequences-Measurement-Plan.pdf>.
- ²⁷⁹ CT OHS' Cost Growth Benchmark Unintended Adverse Consequences Measurement Plan. Connecticut Office of Health Strategy. Published on February 2, 2021. Accessed on July 25, 2022. <https://portal.ct.gov/-/media/OHS/Cost-Growth-Benchmark/Reports-and-Updates/Unintended-Adverse-Consequences-Measurement-Plan.pdf>.
- ²⁸⁰ Navathe AS, Liao JM. Aligning Value-Based Payments With Health Equity: A Framework for Reforming Payment Reforms. *JAMA*. Published online August 15, 2022. doi:10.1001/jama.2022.14606.
- ²⁸¹ Navathe AS, Liao JM. Aligning Value-Based Payments With Health Equity: A Framework for Reforming Payment Reforms. *JAMA*. Published online August 15, 2022. doi:10.1001/jama.2022.14606.

-
- ²⁸² Navathe AS, Liao JM. Aligning Value-Based Payments With Health Equity: A Framework for Reforming Payment Reforms. *JAMA*. Published online August 15, 2022. doi:10.1001/jama.2022.14606.
- ²⁸³ Navathe AS, Liao JM. Aligning Value-Based Payments With Health Equity: A Framework for Reforming Payment Reforms. *JAMA*. Published online August 15, 2022. doi:10.1001/jama.2022.14606.
- ²⁸⁴ Harvey B, Gowda V, Gazelle G, Pandharipande P. The Ephemeral Accountable Care Organization—An Unintended Consequence of the Medicare Shared Savings Program. *J Am Coll Radiol*. 2013;11(2):121–24. <https://doi.org/10.1016/j.jacr.2013.07.012>.
- ²⁸⁵ Kessler, S., Desai, M., McConnell, W., Jai, E. M., Mebine, P., Nguyen, J., Kiroyan, C., Ho, D., Von Schweber, E. and Von Schweber, L. Economic and Utilization Outcomes of Medication Management at a Large Medicaid Plan with Disease Management Pharmacists Using a Novel Artificial Intelligence Platform from 2018 to 2019: A Retrospective Observational Study Using Regression Methods. *J Manag Care Spec*. 2021;27(9):1186–96. <https://doi.org/10.18553/jmcp.2021.21036>.
- ²⁸⁶ NORC at the University of Chicago. Fourth Evaluation Report – Next Generation Accountable Care Organization (NGACO) Model Evaluation. Centers for Medicare and Medicaid Services. Published in October 2021. Accessed on July 25, 2022. <https://innovation.cms.gov/data-and-reports/2021/nextgenaco-fourthevalrpt>.
- ²⁸⁷ Kessler, S., Desai, M., McConnell, W., Jai, E. M., Mebine, P., Nguyen, J., Kiroyan, C., Ho, D., Von Schweber, E. and Von Schweber, L. Economic and Utilization Outcomes of Medication Management at a Large Medicaid Plan with Disease Management Pharmacists Using a Novel Artificial Intelligence Platform from 2018 to 2019: A Retrospective Observational Study Using Regression Methods. *J Manag Care Spec*. 2021;27(9):1186–96. <https://doi.org/10.18553/jmcp.2021.21036>.
- ²⁸⁸ Dinh C, Liao J, Navathe, A. Implications of Coding and Risk-Adjustment in Primary Care Payment Reform. *Int J Health Policy Manag*. 2019;3(10):253-261. <https://jhmhp.amegroups.com/article/view/5058>. <https://jhmhp.amegroups.com/article/view/5058>.
- ²⁸⁹ McWilliams J, Hsu J, Newhouse J. New Risk-Adjustment System Was Associated with Reduced Favorable Selection in Medicare Advantage. *Health Aff*. 2012;31(12):2630–40. <https://doi.org/10.1377/hlthaff.2011.1344>.
- ²⁹⁰ Markovitz A, Hollingsworth J, Ayanian J, Norton E, Moloci N, Yan P, Ryan A. Risk Adjustment in Medicare ACO Program Deters Coding Increases but May Lead ACOs to Drop High-Risk Beneficiaries. *Health Aff*. 2019;38(2): 253–61. <https://doi.org/10.1377/hlthaff.2018.05407>.
- ²⁹¹ Jaffrey, J. B., Ronk, K., and Smith, M. Does Beneficiary Switching Create Adverse Selection For Hospital-Based ACOs? *Health Aff*. (April 15, 2019). <https://www.healthaffairs.org/doi/10.1377/forefront.20190410.832542/full/>.
- ²⁹² Markovitz A, Hollingsworth J, Ayanian J, Norton E, Moloci N, Yan P, Ryan A. Risk Adjustment in Medicare ACO Program Deters Coding Increases but May Lead ACOs to Drop High-Risk Beneficiaries. *Health Aff*. 2019;38(2): 253–61. <https://doi.org/10.1377/hlthaff.2018.05407>.
- ²⁹³ Comprehensive Primary Care Plus Payment Methodologies: Beneficiary Attribution, Care Management Fee, Performance-Based Incentive Payment and Payment Under the Medicare Physician Fee Schedule for Program Year 2018. Center for Medicare and Medicaid Innovation. Published on December 1, 2017. Accessed on August 2, 2022. <https://innovation.cms.gov/files/x/cpcplus-methodology.pdf>.
- ²⁹⁴ Markovitz A, Hollingsworth J, Ayanian J, Norton E, Moloci N, Yan P, Ryan A. Risk Adjustment in Medicare ACO Program Deters Coding Increases but May Lead ACOs to Drop High-Risk Beneficiaries. *Health Aff*. 2019;38(2): 253–61. <https://doi.org/10.1377/hlthaff.2018.05407>.
- ²⁹⁵ Song, Z., Chokshi, D. A., and Press, M. J. Primary Care and Financial Risk — Navigating the Crossroads. *New England Journal of Medicine*. (July 23, 2022). 387:292-294.

<https://www.nejm.org/doi/full/10.1056/NEJMp2201897?query=TOC&cid=NEJM+eToc%2C+July+28%2C+2022+DM1292814> NEJM Non Subscriber&bid=1086833989.

²⁹⁶ NORC at the University of Chicago. Environmental Scan on Issues Related to the Development of Population-Based Total Cost of Care (TCOC) Models in the Broader Context of Alternative Payment Models (APMs) and Physician-Focused Payment Models (PFPMs). Department of Health and Human Services' Office of Health Policy of the Assistant Secretary for Planning and Evaluation. Published on March 1, 2022. Accessed on August 2, 2022. <https://aspe.hhs.gov/sites/default/files/documents/871a839c1771919499e415b2dae8700a/TCOC-Escan.pdf>.

²⁹⁷ Markovitz A, Hollingsworth J, Ayanian J, Norton E, Moloci N, Yan P, Ryan A. Risk Adjustment in Medicare ACO Program Deters Coding Increases but May Lead ACOs to Drop High-Risk Beneficiaries. *Health Aff.* 2019;38(2): 253–61. <https://doi.org/10.1377/hlthaff.2018.05407>.

²⁹⁸ Gillock C. What is Voluntary Alignment in Global & Professional Direct Contracting (GPDC)? Pearl Health. Published November 23, 2021. Accessed July 29, 2022. <https://pearlhealth.com/blog/healthcare-101/what-is-voluntary-alignment-in-global-professional-direct-contracting-gpdc/>

²⁹⁹ Direct Contracting Model: Professional and Global Options. Center for Medicare and Medicaid Innovation. Published December 11, 2019. Accessed July 28, 2022. <https://innovation.cms.gov/files/slides/dc-model-options-overviewalignment-slides.pdf>

³⁰⁰ Gillock C. What is Voluntary Alignment in Global & Professional Direct Contracting (GPDC)? Pearl Health. Published November 23, 2021. Accessed July 29, 2022. <https://pearlhealth.com/blog/healthcare-101/what-is-voluntary-alignment-in-global-professional-direct-contracting-gpdc/>

³⁰¹ Direct Contracting Model: Professional and Global Options. Center for Medicare and Medicaid Innovation. Published December 11, 2019. Accessed July 28, 2022. <https://innovation.cms.gov/files/slides/dc-model-options-overviewalignment-slides.pdf>

³⁰² Direct Contracting Model: Professional and Global Options. Center for Medicare and Medicaid Innovation. Published December 11, 2019. Accessed July 28, 2022. <https://innovation.cms.gov/files/slides/dc-model-options-overviewalignment-slides.pdf>

³⁰³ Direct Contracting Model: Professional and Global Options. Center for Medicare and Medicaid Innovation. Published December 11, 2019. Accessed July 28, 2022. <https://innovation.cms.gov/files/slides/dc-model-options-overviewalignment-slides.pdf>

³⁰⁴ Gillock C. What is Voluntary Alignment in Global & Professional Direct Contracting (GPDC)? Pearl Health. Published November 23, 2021. Accessed July 29, 2022. <https://pearlhealth.com/blog/healthcare-101/what-is-voluntary-alignment-in-global-professional-direct-contracting-gpdc/>

³⁰⁵ Gillock C. What is Voluntary Alignment in Global & Professional Direct Contracting (GPDC)? Pearl Health. Published November 23, 2021. Accessed July 29, 2022. <https://pearlhealth.com/blog/healthcare-101/what-is-voluntary-alignment-in-global-professional-direct-contracting-gpdc/>

³⁰⁶ NORC at the University of Chicago. Environmental Scan on Issues Related to the Development of Population-Based Total Cost of Care (TCOC) Models in the Broader Context of Alternative Payment Models (APMs) and Physician-Focused Payment Models (PFPMs). Department of Health and Human Services' Office of Health Policy of the Assistant Secretary for Planning and Evaluation. Published on March 1, 2022. Accessed on August 2, 2022. <https://aspe.hhs.gov/sites/default/files/documents/871a839c1771919499e415b2dae8700a/TCOC-Escan.pdf>.

³⁰⁷ Pham HH, Cohen M, Conway PH. The Pioneer Accountable Care Organization Model: Improving Quality and Lowering Costs. *JAMA.* 2014;312(16):1635-1636. <https://pubmed.ncbi.nlm.nih.gov/25229477/>

-
- ³⁰⁸ NORC at the University of Chicago. Third Evaluation Report: Next Generation Accountable Care Organization Model Evaluation. Centers for Medicare & Medicaid Services. Published on September 2020. Accessed on August 2, 2022. <https://innovation.cms.gov/data-and-reports/2020/nextgenaco-thirdevalrpt-fullreport>
- ³⁰⁹ Global and Professional Direct Contracting (GPDC) Model Voluntary Alignment Frequently Asked Questions. Centers for Medicare & Medicaid. Published in April 2021. Accessed on August 2, 2022. <https://innovation.cms.gov/media/document/gpdc-model-general-faqs>
- ³¹⁰ Peck KA, Usadi B, Mainor AJ, Fisher ES, Colla CH. ACO Contracts with Downside Financial Risk Growing, but Still in the Minority. *Health Aff.* 2019;38(7):1201-1206. <https://www.healthaffairs.org/doi/10.1377/hlthaff.2018.05386>
- ³¹¹ Deloitte. CMS Finalizes Redesign of Medicare Shared Savings Program. Reg Pulse Blog. Published March 26, 2019. Accessed July 25, 2022. <https://www2.deloitte.com/us/en/pages/regulatory/articles/mssp-aco-pathways-to-success-shared-savings-program-changes.html>
- ³¹² Sweeney E. CMS pushes ACOs to take on more risk with Medicare Shared Savings Program overhaul. Fierce Healthcare. Published on August 9, 2018. Accessed on July 20, 2022. <https://www.fiercehealthcare.com/regulatory/aco-cms-mssp-accountable-care-organizations-seema-verma-value-based-care>
- ³¹³ Siddiqui M, Berkowitz SA. Shared Savings Models for ACOs-Incentivizing Primary Care Physicians. *J Gen Intern Med.* 2014;29(6):832-834. <https://link.springer.com/article/10.1007/s11606-013-2733-5>
- ³¹⁴ Siddiqui M, Berkowitz SA. Shared Savings Models for ACOs-Incentivizing Primary Care Physicians. *J Gen Intern Med.* 2014;29(6):832-834. <https://link.springer.com/article/10.1007/s11606-013-2733-5>
- ³¹⁵ Weissman JS, Bailit M, D'Andrea G, Rosenthal MB. The Design And Application Of Shared Savings Programs: Lessons From Early Adopters. *Health Aff.* 2012;31(9):1959-1968. <https://www.healthaffairs.org/doi/10.1377/hlthaff.2012.0383>
- ³¹⁶ NORC at the University of Chicago. Fourth Evaluation Report – Next Generation Accountable Care Organization (NGACO) Model Evaluation. Centers for Medicare and Medicaid Services. Published in October 2021. Accessed on July 25, 2022. <https://innovation.cms.gov/data-and-reports/2021/nextgenaco-fourthevalrpt>.
- ³¹⁷ NORC at the University of Chicago. First Evaluation Report – Evaluation of the Vermont All-Payer Accountable Care Organization. Centers for Medicare and Medicaid Services. Published in August 2021. Accessed on July 25, 2022. <https://innovation.cms.gov/data-and-reports/2021/vtapm-1st-eval-full-report>.
- ³¹⁸ Siddiqui M, Berkowitz SA. Shared Savings Models for ACOs-Incentivizing Primary Care Physicians. *J Gen Intern Med.* 2014;29(6):832-834. <https://link.springer.com/article/10.1007/s11606-013-2733-5>
- ³¹⁹ Siddiqui M, Berkowitz SA. Shared Savings Models for ACOs-Incentivizing Primary Care Physicians. *J Gen Intern Med.* 2014;29(6):832-834. <https://link.springer.com/article/10.1007/s11606-013-2733-5>
- ³²⁰ Schulz J, DeCamp M, Berkowitz SA. Medicare Shared Savings Program: Public Reporting and Shared Savings Distributions. *Am J Manag Care.* 2015;21(8):546-553.
- ³²¹ Siddiqui M, Berkowitz SA. Shared Savings Models for ACOs-Incentivizing Primary Care Physicians. *J Gen Intern Med.* 2014;29(6):832-834. <https://link.springer.com/article/10.1007/s11606-013-2733-5>
- ³²² Schulz J, DeCamp M, Berkowitz SA. Medicare Shared Savings Program: Public Reporting and Shared Savings Distributions. *Am J Manag Care.* 2015;21(8):546-553. <https://www.ajmc.com/view/medicare-shared-savings-program-public-reporting-and-shared-savings-distributions>

-
- ³²³ Schulz J, DeCamp M, Berkowitz SA. Medicare Shared Savings Program: Public Reporting and Shared Savings Distributions. *Am J Manag Care*. 2015;21(8):546-553. <https://www.ajmc.com/view/medicare-shared-savings-program-public-reporting-and-shared-savings-distributions>
- ³²⁴ Schulz J, DeCamp M, Berkowitz SA. Medicare Shared Savings Program: Public Reporting and Shared Savings Distributions. *Am J Manag Care*. 2015;21(8):546-553. <https://www.ajmc.com/view/medicare-shared-savings-program-public-reporting-and-shared-savings-distributions>
- ³²⁵ Schulz J, DeCamp M, Berkowitz SA. Medicare Shared Savings Program: Public Reporting and Shared Savings Distributions. *Am J Manag Care*. 2015;21(8):546-553. <https://www.ajmc.com/view/medicare-shared-savings-program-public-reporting-and-shared-savings-distributions>
- ³²⁶ Schulz J, DeCamp M, Berkowitz SA. Medicare Shared Savings Program: Public Reporting and Shared Savings Distributions. *Am J Manag Care*. 2015;21(8):546-553. <https://www.ajmc.com/view/medicare-shared-savings-program-public-reporting-and-shared-savings-distributions>
- ³²⁷ Schulz J, DeCamp M, Berkowitz SA. Medicare Shared Savings Program: Public Reporting and Shared Savings Distributions. *Am J Manag Care*. 2015;21(8):546-553. <https://www.ajmc.com/view/medicare-shared-savings-program-public-reporting-and-shared-savings-distributions>
- ³²⁸ Siddiqui M, Berkowitz SA. Shared Savings Models for ACOs-Incentivizing Primary Care Physicians. *J Gen Intern Med*. 2014;29(6):832-834. <https://link.springer.com/article/10.1007/s11606-013-2733-5>
- ³²⁹ Siddiqui M, Berkowitz SA. Shared Savings Models for ACOs-Incentivizing Primary Care Physicians. *J Gen Intern Med*. 2014;29(6):832-834. <https://link.springer.com/article/10.1007/s11606-013-2733-5>
- ³³⁰ Phipps-Taylor M, Shortell SM. More Than Money: Motivating Physician Behavior Change in Accountable Care Organizations. *Milbank Quarterly*. 2016;94(4):832-861. <https://doi.org/10.1111/1468-0009.12230>
- ³³¹ Siddiqui M, Berkowitz SA. Shared Savings Models for ACOs-Incentivizing Primary Care Physicians. *J Gen Intern Med*. 2014;29(6):832-834. <https://link.springer.com/article/10.1007/s11606-013-2733-5>
- ³³² NORC at the University of Chicago. First Evaluation Report – Evaluation of the Vermont All-Payer Accountable Care Organization. Centers for Medicare and Medicaid Services. Published in August 2021. Accessed on July 25, 2022. <https://innovation.cms.gov/data-andreports/2021/vtapm-1st-eval-full-report>.
- ³³³ Siddiqui M, Berkowitz SA. Shared Savings Models for ACOs-Incentivizing Primary Care Physicians. *J Gen Intern Med*. 2014;29(6):832-834. <https://link.springer.com/article/10.1007/s11606-013-2733-5>
- ³³⁴ Phipps-Taylor M, Shortell SM. More Than Money: Motivating Physician Behavior Change in Accountable Care Organizations. *Milbank Quarterly*. 2016;94(4):832-861. <https://doi.org/10.1111/1468-0009.12230>
- ³³⁵ Muhlestein D, Bleser WK, Saunders RS, Richards R, Singletary E, McClellan MB. Spread of ACOs And Value-Based Payment Models In 2019: Gauging the Impact of Pathways to Success, *Health Affairs Forefront*, Published on October 21, 2019. Accessed on August 2, 2022. <https://www.healthaffairs.org/doi/10.1377/forefront.20191020.962600/full/>
- ³³⁶ Peck KA, Usadi B, Mainor AJ, Fisher ES, Colla CH. ACO Contracts with Downside Financial Risk Growing, but Still in the Minority. *Health Aff*. 2019;38(7):1201-1206. <https://www.healthaffairs.org/doi/10.1377/hlthaff.2018.05386>
- ³³⁷ Muhlestein D, Bleser WK, Saunders RS, Richards R, Singletary E, McClellan MB. Spread of ACOs And Value-Based Payment Models In 2019: Gauging the Impact of Pathways to Success, *Health Affairs Forefront*, Published on October 21, 2019. Accessed on August 2, 2022. <https://www.healthaffairs.org/doi/10.1377/forefront.20191020.962600/full/>

-
- ³³⁸ Comparing GPDC to the ACO REACH Model. Center for Medicare and Medicaid Innovation. Accessed July 29, 2022. <https://innovation.cms.gov/media/document/gpdc-aco-reach-comparison>
- ³³⁹ Deloitte. CMS Finalizes Redesign of Medicare Shared Savings Program. Reg Pulse Blog. Published March 26, 2019. Accessed July 25, 2022. <https://www2.deloitte.com/us/en/pages/regulatory/articles/mssp-aco-pathways-to-success-shared-savings-program-changes.html>
- ³⁴⁰ Deloitte. CMS Finalizes Redesign of Medicare Shared Savings Program. Reg Pulse Blog. Published March 26, 2019. Accessed July 25, 2022. <https://www2.deloitte.com/us/en/pages/regulatory/articles/mssp-aco-pathways-to-success-shared-savings-program-changes.html>
- ³⁴¹ Markovitz A, Hollingsworth J, Ayanian J, Norton E, Moloci N, Yan P, Ryan A. Risk Adjustment in Medicare ACO Program Deters Coding Increases but May Lead ACOs to Drop High-Risk Beneficiaries. *Health Aff.* 2019;38(2): 253–61. <https://doi.org/10.1377/hlthaff.2018.05407>.
- ³⁴² Markovitz A, Hollingsworth J, Ayanian J, Norton E, Moloci N, Yan P, Ryan A. Risk Adjustment in Medicare ACO Program Deters Coding Increases but May Lead ACOs to Drop High-Risk Beneficiaries. *Health Aff.* 2019;38(2): 253–61. <https://doi.org/10.1377/hlthaff.2018.05407>.
- ³⁴³ Comparing GPDC to the ACO REACH Model. Center for Medicare and Medicaid Innovation. Accessed July 29, 2022. <https://innovation.cms.gov/media/document/gpdc-aco-reach-comparison>
- ³⁴⁴ ACO Realizing Equity, Access, and Community Health (REACH) Model Request for Applications. Centers for Medicare & Medicaid Services. Published on February 24, 2022. Accessed on July 28, 2022. <https://innovation.cms.gov/media/document/aco-reach-rfa> .
- ³⁴⁵ Peck KA, Usadi B, Mainor AJ, Fisher ES, Colla CH. ACO Contracts with Downside Financial Risk Growing, but Still in the Minority. *Health Aff.* 2019;38(7):1201-1206. <https://www.healthaffairs.org/doi/10.1377/hlthaff.2018.05386>
- ³⁴⁶ Muhlestein D, Bleser WK, Saunders RS, Richards R, Singletary E, McClellan MB. Spread of ACOs And Value-Based Payment Models In 2019: Gauging the Impact of Pathways to Success, Health Affairs Forefront, Published on October 21, 2019. Accessed on August 2, 2022. <https://www.healthaffairs.org/doi/10.1377/forefront.20191020.962600/full/>
- ³⁴⁷ LaPointe J. Number of MSSP ACOs Taking Downside Risk Doubles, CMS Reports. RevCycleIntelligence. Published January 14, 2020. Accessed August 1, 2022. <https://revcycleintelligence.com/news/number-of-mssp-acos-taking-downside-risk-doubles-cms-reports>
- ³⁴⁸ ACOs at a Crossroads: Cost, Risk and MACRA White Paper. National Association of ACOs. Published in 2016. Accessed on August 1, 2022. <https://www.naacos.com/assets/docs/news/acosatacrossroads-naacoswhitepaperfinal.pdf>
- ³⁴⁹ Peck KA, Usadi B, Mainor AJ, Fisher ES, Colla CH. ACO Contracts with Downside Financial Risk Growing, but Still in the Minority. *Health Aff.* 2019;38(7):1201-1206. <https://www.healthaffairs.org/doi/10.1377/hlthaff.2018.05386>
- ³⁵⁰ Muhlestein D, Bleser WK, Saunders RS, Richards R, Singletary E, McClellan MB. Spread of ACOs And Value-Based Payment Models In 2019: Gauging the Impact of Pathways to Success, Health Affairs Forefront, Published on October 21, 2019. Accessed on August 2, 2022. <https://www.healthaffairs.org/doi/10.1377/forefront.20191020.962600/full/>
- ³⁵¹ Muhlestein D, Bleser WK, Saunders RS, Richards R, Singletary E, McClellan MB. Spread of ACOs And Value-Based Payment Models In 2019: Gauging the Impact of Pathways to Success, Health Affairs Forefront, Published on October 21, 2019. Accessed on August 2, 2022. <https://www.healthaffairs.org/doi/10.1377/forefront.20191020.962600/full/>

-
- ³⁵² LaPointe J. Number of MSSP ACOs Taking Downside Risk Doubles, CMS Reports. RevCycleIntelligence. Published January 14, 2020. Accessed August 1, 2022. <https://revcycleintelligence.com/news/number-of-mssp-acos-taking-downside-risk-doubles-cms-reports>
- ³⁵³ LaPointe J. Number of MSSP ACOs Taking Downside Risk Doubles, CMS Reports. RevCycleIntelligence. Published January 14, 2020. Accessed August 1, 2022. <https://revcycleintelligence.com/news/number-of-mssp-acos-taking-downside-risk-doubles-cms-reports>
- ³⁵⁴ McWilliams JM, Chernew ME, Dalton JB, Landon BE. Outpatient Care Patterns and Organizational Accountability in Medicare. *JAMA Intern Med.* 2014;174(6):938-945. <https://doi.org/10.1001/jamainternmed.2014.1073>
- ³⁵⁵ Han MA, Clarke R, Ettner SL, Steers WN, Leng M, Mangione CM. Predictors of Out-of-ACO Care in the Medicare Shared Savings Program. *Med Care.* 2016;54(7):679-688. <https://doi.org/10.1097/MLR.0000000000000541>
- ³⁵⁶ Patel MP, Schettini P, O'Leary CP, Bosworth HB, Anderson JB, Shah KP. Closing the Referral Loop: an Analysis of Primary Care Referrals to Specialists in a Large Health System. *J Gen Intern Med.* 2018;33(5):715-721. <https://doi.org/10.1007/s11606-018-4392-z>
- ³⁵⁷ Zheng Y, Lin K, White T, Pickreign J, Yuen-Reed G. On designing of a low leakage patient-centric provider network. *BMC Health Serv Res.* 2018;18:213. <https://doi.org/10.1186/s12913-018-3038-5>
- ³⁵⁸ Zheng Y, Lin K, White T, Pickreign J, Yuen-Reed G. On designing of a low leakage patient-centric provider network. *BMC Health Serv Res.* 2018;18:213. <https://doi.org/10.1186/s12913-018-3038-5>
- ³⁵⁹ McWilliams JM, Chernew ME, Dalton JB, Landon BE. Outpatient Care Patterns and Organizational Accountability in Medicare. *JAMA Intern Med.* 2014;174(6):938-945. <https://doi.org/10.1001/jamainternmed.2014.1073>
- ³⁶⁰ Zheng Y, Lin K, White T, Pickreign J, Yuen-Reed G. On designing of a low leakage patient-centric provider network. *BMC Health Serv Res.* 2018;18:213. <https://doi.org/10.1186/s12913-018-3038-5>
- ³⁶¹ Zheng Y, Lin K, White T, Pickreign J, Yuen-Reed G. On designing of a low leakage patient-centric provider network. *BMC Health Serv Res.* 2018;18:213. <https://doi.org/10.1186/s12913-018-3038-5>
- ³⁶² McWilliams JM, Chernew ME, Dalton JB, Landon BE. Outpatient Care Patterns and Organizational Accountability in Medicare. *JAMA Intern Med.* 2014;174(6):938-945. <https://doi.org/10.1001/jamainternmed.2014.1073>
- ³⁶³ Patel MP, Schettini P, O'Leary CP, Bosworth HB, Anderson JB, Shah KP. Closing the Referral Loop: an Analysis of Primary Care Referrals to Specialists in a Large Health System. *J Gen Intern Med.* 2018;33(5):715-721. <https://doi.org/10.1007/s11606-018-4392-z>
- ³⁶⁴ Mehrotra A, Forrest CB, Lin CY. Dropping the Baton: Specialty Referrals in the United States. *Milbank Q.* 2011;89(1):39-68. <https://doi.org/10.1111/j.1468-0009.2011.00619.x>
- ³⁶⁵ McWilliams JM, Chernew ME, Dalton JB, Landon BE. Outpatient Care Patterns and Organizational Accountability in Medicare. *JAMA Intern Med.* 2014;174(6):938-945. <https://doi.org/10.1001/jamainternmed.2014.1073>
- ³⁶⁶ McWilliams JM, Chernew ME, Dalton JB, Landon BE. Outpatient Care Patterns and Organizational Accountability in Medicare. *JAMA Intern Med.* 2014;174(6):938-945. <https://doi.org/10.1001/jamainternmed.2014.1073>
- ³⁶⁷ McWilliams JM, Chernew ME, Dalton JB, Landon BE. Outpatient Care Patterns and Organizational Accountability in Medicare. *JAMA Intern Med.* 2014;174(6):938-945. <https://doi.org/10.1001/jamainternmed.2014.1073>
- ³⁶⁸ Mehrotra A, Forrest CB, Lin CY. Dropping the Baton: Specialty Referrals in the United States. *Milbank Q.* 2011;89(1):39-68. <https://doi.org/10.1111/j.1468-0009.2011.00619.x>

-
- ³⁶⁹ Mehrotra A, Forrest CB, Lin CY. Dropping the Baton: Specialty Referrals in the United States. *Milbank Q.* 2011;89(1):39-68. <https://doi.org/10.1111/j.1468-0009.2011.00619.x>
- ³⁷⁰ Mehrotra A, Forrest CB, Lin CY. Dropping the Baton: Specialty Referrals in the United States. *Milbank Q.* 2011;89(1):39-68. <https://doi.org/10.1111/j.1468-0009.2011.00619.x>
- ³⁷¹ Patel MP, Schettini P, O'Leary CP, Bosworth HB, Anderson JB, Shah KP. Closing the Referral Loop: an Analysis of Primary Care Referrals to Specialists in a Large Health System. *J Gen Intern Med.* 2018;33(5):715-721. <https://doi.org/10.1007/s11606-018-4392-z>
- ³⁷² Patel MP, Schettini P, O'Leary CP, Bosworth HB, Anderson JB, Shah KP. Closing the Referral Loop: an Analysis of Primary Care Referrals to Specialists in a Large Health System. *J Gen Intern Med.* 2018;33(5):715-721. <https://doi.org/10.1007/s11606-018-4392-z>
- ³⁷³ Advisory Board. Taking advantage of Medicare ACO waivers. Published July 12, 2013. Accessed July 27, 2022. <https://www.advisory.com/Daily-Briefing/2013/07/12/Law-review>
- ³⁷⁴ Fraud & Abuse Laws. U.S. Department of Health and Human Services Office of Inspector General. Published on September 1, 2021. Accessed on July 27, 2022. <https://oig.hhs.gov/compliance/physician-education/fraud-abuse-laws/>
- ³⁷⁵ Fraud and Abuse Waivers. Centers for Medicare & Medicaid Services. Accessed on July 27, 2022. <https://www.cms.gov/medicare/physician-self-referral/fraud-and-abuse-waivers>
- ³⁷⁶ Fraud and Abuse Waivers. Centers for Medicare & Medicaid Services. Accessed on July 27, 2022. <https://www.cms.gov/medicare/physician-self-referral/fraud-and-abuse-waivers>
- ³⁷⁷ Fraud and Abuse Waivers. Centers for Medicare & Medicaid Services. Accessed on July 27, 2022. <https://www.cms.gov/medicare/physician-self-referral/fraud-and-abuse-waivers>
- ³⁷⁸ Fraud and Abuse Waivers. Centers for Medicare & Medicaid Services. Accessed on July 27, 2022. <https://www.cms.gov/medicare/physician-self-referral/fraud-and-abuse-waivers>
- ³⁷⁹ Fraud and Abuse Waivers. Centers for Medicare & Medicaid Services. Accessed on July 27, 2022. <https://www.cms.gov/medicare/physician-self-referral/fraud-and-abuse-waivers>
- ³⁸⁰ Department of Health and Human Services. *Federal Register*. Published on October 29, 2015. Accessed on July 28, 2022. <https://www.govinfo.gov/content/pkg/FR-2015-10-29/pdf/2015-27599.pdf>
- ³⁸¹ Department of Health and Human Services. *Federal Register*. Published on October 29, 2015. Accessed on July 28, 2022. <https://www.govinfo.gov/content/pkg/FR-2015-10-29/pdf/2015-27599.pdf>
- ³⁸² Department of Health and Human Services. *Federal Register*. Published on October 29, 2015. Accessed on July 28, 2022. <https://www.govinfo.gov/content/pkg/FR-2015-10-29/pdf/2015-27599.pdf>
- ³⁸³ Notice of Waivers of Certain Fraud and Abuse Laws in Connection With the Vermont Medicare ACO Initiative Within the Vermont All-Payer ACO Model. Centers for Medicare & Medicaid Services. Published on December 20, 2018. Accessed on July 28, 2022. <https://www.hhs.gov/guidance/document/notice-waivers-certain-fraud-and-abuse-laws-connection-vermont-medicare-aco-initiative>
- ³⁸⁴ Notice of Waiver of Certain Fraud and Abuse Laws in Connection With the Global and Professional Options of the Direct Contracting Model. Centers for Medicare & Medicaid Services. Published on September 16, 2020. Accessed on July 28, 2022. <https://www.cms.gov/files/document/notice-waiver-certain-fraud-and-abuse-laws-connection-global-and-professional-options->

[direct.pdf#:~:text=Pursuant%20to%20section%201115A%28d%29%281%29%20of%20the%20Act%2C%20this,the%20Global%20and%20Professional%20Options%20of%20the%20Model.](#)

³⁸⁵ Notice of Waivers of Certain Fraud and Abuse Laws in Connection With the Vermont Medicare ACO Initiative Within the Vermont All-Payer ACO Model. CMS. Published on December 20, 2018. Accessed on July 28, 2022. <https://www.hhs.gov/guidance/document/notice-waivers-certain-fraud-and-abuse-laws-connection-vermont-medicare-aco-initiative>

³⁸⁶ Medicare Shared Savings Program Skilled Nursing Facility 3-Day Rule Waiver Guidance. Centers for Medicare & Medicaid Services. Published in May 2022. Accessed on August 3, 2022. <https://www.cms.gov/medicare/medicare-fee-for-service-payment/sharedsavingsprogram/downloads/snf-waiver-guidance.pdf>

³⁸⁷ CMS. *Medicare Shared Savings Program Skilled Nursing Facility 3-Day Rule Waiver Guidance.*; 2022. Accessed August 3, 2022. <https://www.cms.gov/medicare/medicare-fee-for-service-payment/sharedsavingsprogram/downloads/snf-waiver-guidance.pdf>

³⁸⁸ Medicare Shared Savings Program Skilled Nursing Facility 3-Day Rule Waiver Guidance. Centers for Medicare & Medicaid Services. Published in May 2022. Accessed on August 3, 2022. <https://www.cms.gov/medicare/medicare-fee-for-service-payment/sharedsavingsprogram/downloads/snf-waiver-guidance.pdf>

³⁸⁹ Kazungu, JS, Barasa, EW, Obadha, M, Chuma, J. What characteristics of provider payment mechanisms influence health care providers' behaviour? A literature review. *Int J Health Plann Mgmt.* 2018; 33: e892– e905. <https://doi.org/10.1002/hpm.2565>

³⁹⁰ Hippen, BE, Reed AI, Ketchersid T, Maddux FW. Implications of the Advancing American Kidney Health Initiative for Kidney Transplant Centers. *Am J Transplant.* 2020;20(5):1244–50. <https://doi.org/10.1111/ajt.15619>.

³⁹¹ Conrad DA, The Theory of Value-Based Payment Incentives and Their Application to Health Care. *Health Serv Res.* 2015;50: 2057-2089. <https://doi.org/10.1111/1475-6773.12408>

³⁹² NORC at the University of Chicago. Environmental Scan on Issues Related to the Development of Population-Based Total Cost of Care (TCOC) Models in the Broader Context of Alternative Payment Models (APMs) and Physician-Focused Payment Models (PFPs). Department of Health and Human Services' Office of Health Policy of the Assistant Secretary for Planning and Evaluation. Published on March 1, 2022. Accessed on August 2, 2022. <https://aspe.hhs.gov/sites/default/files/documents/871a839c1771919499e415b2dae8700a/TCOC-Escan.pdf>.

³⁹³ Yellen J, Walsh M, Becerra X, Kijakazi K, Brooks-LaSure C. 2022 Annual Report of The Boards of Trustees of The Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds. Boards of Trustees of The Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds; 2022:1-257. <https://www.cms.gov/files/document/2022-medicare-trustees-report.pdf>

³⁹⁴ Cubanski J, Neuman T, Damico A. Millions of Medicare part d enrollees have had out-of-pocket drug spending above the catastrophic threshold over time. KFF. Published July 23, 2021. Accessed August 18, 2022. <https://www.kff.org/medicare/issue-brief/millions-of-medicare-part-d-enrollees-have-had-out-of-pocket-drug-spending-above-the-catastrophic-threshold-over-time/>

³⁹⁵ Sterling S, Chi F, Weisner C, et al. Association of behavioral health factors and social determinants of health with high and persistently high healthcare costs. *Prev Med Rep.* 2018;11:154-159. <https://doi.org/10.1016/j.pmedr.2018.06.017>

³⁹⁶ Johnston KJ, Joynt Maddox KE. The Role Of Social, Cognitive, And Functional Risk Factors In Medicare Spending For Dual And Nondual Enrollees. *Health Aff.* 2019;38(4):569-576. <https://doi.org/10.1377/hlthaff.2018.05032>

³⁹⁷ Johnston KJ, Joynt Maddox KE. The Role Of Social, Cognitive, And Functional Risk Factors In Medicare Spending For Dual And Nondual Enrollees. *Health Aff*. 2019;38(4):569-576. <https://doi.org/10.1377/hlthaff.2018.05032>

³⁹⁸ Willink A, Reed NS, Swenor B, Leinbach L, DuGoff EH, Davis K. Dental, Vision, And Hearing Services: Access, Spending, And Coverage For Medicare Beneficiaries. *Health Aff (Millwood)*. 2020;39(2):297-304. <https://doi.org/10.1377/hlthaff.2019.00451>

³⁹⁹ Willink A, Reed NS, Swenor B, Leinbach L, DuGoff EH, Davis K. Dental, Vision, And Hearing Services: Access, Spending, And Coverage For Medicare Beneficiaries. *Health Aff (Millwood)*. 2020;39(2):297-304. <https://doi.org/10.1377/hlthaff.2019.00451>