Development, Value, and Implications of a Comprehensive Primary Care Payment Calculator for Family Medicine:
Report From Family Medicine for America's Health Payment Tactic Team

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BACKGROUND AND OBJECTIVES: Fee for service (FFS), the dominant payment model for primary care in the United States, compensates physicians based on volume. There are many initiatives exploring alternative payment models that prioritize value over volume. The Family Medicine for America's Health (FMAHealth) Payment Team has developed a comprehensive primary care payment (CPCP) model to support the move from activity- and volume-based payment to performance-based payment for value.

METHODS: In 2016-2017, the FMAHealth Payment Team performed a comprehensive study of the current state of primary care payment models in the United States. This study explored the features, motivations, successes, and failures of a wide variety of payment arrangements.

RESULTS: The results of this work have informed a definition of comprehensive primary care payment (CPCP) as well as a CPCP calculator. This quantitative methodology calculates a base rate and includes modifiers that recognize the importance of infrastructure and resources that have been found to be successful in innovative models. The modifiers also incorporate adjustments for chronic disease burden, social determinants of health, quality, and utilization.

CONCLUSIONS: The calculator and CPCP methodology offer a potential roadmap for transitioning from volume to value and details how to calculate such an adjustable comprehensive payment. This has impact and interest for all levels of the health care system and is intended for use by practices of all types as well as health systems, employers, and payers.

Background

The dominant mode of payment for primary care in the United States is FFS, where a provider is compensated for the number of tasks performed. This encourages a focus on illness and quantity rather than health and quality. Continued increases in the cost of care, in aggregate and to the patient, as well as mounting evidence that investments in quality reduce long-term costs, support the need for alternative and value-based payment models. Patient-centered medical home (PCMH) programs and accountable care organizations (ACOs) have helped create a culture of measurement, accountability and innovation in primary care. FFS-based payment, however, is still used in these care delivery models and has limited their potential. While the conversation continues on the importance of innovation within primary care payment, current payment systems lack the ability to truly recognize

The Charge

In 2014 eight family medicine organizations crafted Family Medicine for America's Health (FMAHealth), a specialty-wide strategic plan. FMAHealth's board of directors charged its Payment Team with an objective considered to be the plan's lynchpin aim: to help primary care practices, employers, and payers move as quickly as possible from a fee-for-service (FFS) payment framework to a comprehensive primary care payment (CPCP) framework.

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and incent quality, performance, outcomes, and value.

Method of Addressing the Charge

In 2015-2016 the FMAHealth Payment Team carried out a comprehensive review of the current state of primary care payment models in the United States. The review explored the features, motivations, successes, and failures of a wide variety of payment arrangements.[1] The results of this work have informed a definition of comprehensive primary care payment (CPCP) as well as development of a payment calculator, each a part of a framework for next-generation primary care payment.[2]

The first annual Starfield Summit—a national conference focused on advancing primary care—defined CPCP as:

payment-based in risk-adjusted per member per month (PMPM) fees designed to cover all practice expenses including salaries, infrastructure, and health information technology; this differs from traditional capitation where payments were based on average FFS expenditures and is intended to increase overall financial support for primary care practices.[3]

CPCP represents a new investment in primary care, with substantial increases in payment over current levels. This requires outlining a set of services that are to be included in a robust primary care model, inclusive of direct services, responsibilities for coordination of care, and requirements for quality improvement (Table 1).

The team's objective has been constant throughout, to move as quickly as possible from FFS to CPCP. To do this requires moving beyond the conversation about the importance of primary care payment reform toward expansion of a practical model for its implementation. To achieve that goal and refine the calculator as needed, the Payment Team is holding discussions with selected payers, employers, and practices around the United States.

Outcomes Produced

In contrast to FFS reimbursement, CPCP incorporates adjustments for chronic disease burden, social determinants of health, quality, and utilization. We outline the essential principles for structuring comprehensive primary care in a way that includes these adjustments in Table 2 and provide model case examples below. The outline is based on detailed background and

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Table 1: Possible Services Included in Comprehensive Primary Care Payment*

Direct Services

1. Patients have 24/7 access to their primary care team through a variety of mediums (eg, face-to-face visits, internet televisits, emails, phone calls, etc) and their personal health information (ie, patient portals)
2. Ongoing and appropriate wellness and prevention planning (including vaccine recommendations and other accepted prevention measures)
3. Chronic care management (including ongoing management of chronic diseases such as hypertension and diabetes, medication management, ordering and monitoring of appropriate labs, and coordination with specialists when appropriate)
4. Urgent/episodic care to address acute needs
5. Care is provided in a continuous patient-centered model that prioritizes relationships with a primary care team as the usual source of care
6. Care takes into consideration the social determinants of health affecting the patient and the broader community

Coordination of Care Responsibilities

7. Coordination of specialty care, diagnostic services, etc, across the health care continuum for conditions beyond the scope of the primary care physician
8. Connecting patients with locally available community resources
9. Coordination of transitions of care as appropriate (admissions to hospital/nursing home/etc, discharges, transfers)
10. Coordination of hospice, home health, and other health care outreach services
11. Connecting patients to nonphysician care management resources (patient education, health coaching, care coordination, etc)

Quality Improvement Requirements

12. Participates in continuous quality improvement activities
13. Participates in data analysis and reporting programs
14. Uses data analytics to optimize health for individuals AND the broader population of patients attributed to the primary care team

*This is intended to be a list of possible services, not a complete or definitive list. A complete list of services will be a result of negotiations between a specific practice and payer.

Table 2: Essential Principles of Comprehensive Primary Care Payment

Primary Care Payment Rate: The CPCP payment rate should account for approximately 10%-15% of total health care costs, in contrast to the 6%-9% supported by many health systems today.
Population Risk Adjustment: The payment should be risk adjusted using a hybrid model including the Primary Care Activity Level (PCAL) framework with a Minnesota Complexity Assessment Method (MCAM), component. The Chronic Illness and Disability Payment System (CDPS) can be used as a validation proxy for development and testing. Common commercial models may also be used.
Social Determinants of Health: The payment should be further adjusted by leveraging the University of Wisconsin Area Deprivation Index (ADI), which is a publicly available tool that provides a single index at the zip code, state, county, tract and block group level. A population of interest must be grouped by representative population weight into the most appropriate geographic groups and then averaged.
Infrastructure Adjustment: Recommend setting an infrastructure floor to align with research of the cost to maintain minimum PCMH standards. Scaling factors should be tied to a measure of comprehensiveness of care.
Efficiency Adjustment: Recommend using common and proven global efficiency metrics including hospital admissions for ambulatory care sensitive conditions (ACSC), potentially avoidable emergency department visits, generic fill rate, and a measure of comprehensiveness of care.
Quality Adjustment: Recommend using the Core Quality Measures Collaborative's PCMH-ACO-Primary Care Core Measure Set, with additional focus on measures of comprehensiveness and continuity of care. Metrics should focus on risk adjusted outcomes relative to expected outcomes.
Patient Attribution: For patients without positive selection records, recommend deploying an industry standard four-step attribution methodology supplemented by a matrix of stopping rules derived from physician productivity research to set boundary levels.

methodological reports that can be accessed at www.fmahealth.org.[1,4]

This methodology applies these recommendations by calculating a base rate that is driven by current FFS payment history for a specific patient population and then applying four modifiers to account for currently unreimbursed factors. These modifiers adjust the base rate to account for patient risk and social determinants of health for the population in question. They also provide adjustments for quality, efficiency, and infrastructure for the primary care practice/patient population in question.

The four components of the CPCP model provide the necessary details to calculate a prospective reimbursement schedule using the base rate and modifiers. This "calculator" can be used as a resource in a variety of settings to help understand what payment could look like using a CPCP framework. The CPCP calculator and an accompanying user's guide can be accessed at https://fmahealth.org/payment-tactic-team/#1505048214728-3cff81aa-f295.

A. Base Rate

To adequately fund a CPCP model, we recommend setting the total primary care payment rate to account for approximately 10%-15% of total cost of care (TCOC). Comprehensive services included in a CPCP payment are: direct services, coordination of care responsibilities, and quality improvement (Table 1).[5]

To derive an estimate of the payment level necessary for a comprehensive payment, calculate the primary care activity level (PCAL) for the population of interest and set this as an upper bound reference (refer to Appendix 1 [https://journals.stfm.org/media/2041/george-appendix1.pdf] for details on calculating the PCAL). The PCAL model incorporates FFS primary care dollars as well as resources spent on other types of care that could be impacted by primary care such as spending for prescription medications, ED visits, hospital admissions, and specialty care. Addressing simple problems in primary care that might otherwise be referred out, managing chronic problems to avert crisis care management, coordinating care

for patients during and after hospitalizations and prescribing generic medications can reduce total health care costs.

B. Modifier 1: Population Adjustment

Population health risk adjustment models play a critical role in avoiding adverse selection, to balance panels and allocate primary care resources. The Minnesota Complexity Assessment Model (MCAM), provides a framework for multilevel assessment that accounts for both evidence-based risk and heuristics for barriers to care.[6] The US Social Deprivation Index (SDI) provides a framework with which to model adjustments to compensate for social determinants of health in comprehensive primary care, with specific attention to income and education level. The Social Deprivation Index is positively associated with poor access and poor health outcomes, and it is more strongly associated with health outcomes than a measure of poverty alone. We recommend a hybrid risk model using three components: a standard commercial or

open-source risk model, along with MCAM, and SDI. Together they account for 5% of the total CPCP rate.

An adjustment for social determinants of health may be estimated from the University of Wisconsin Area Deprivation Index (ADI), a publicly available tool that provides a single index at the zip code, state, county, tract, and block group level. A 2014 study showed that the top 15% most disadvantaged households experienced a significant increase in health impact, particularly for readmission rates.[7] The ADI tables are packaged into the prospective calculator, and instructions for creating an area-level averaged ADI estimate are included.

C. Modifier 2: Quality Adjustment

The CPCP model supports a robust and flexible approach to performance measurement. Improved health outcomes, beyond the provision of health care services alone, should be the goal of the health care delivery system. The CPCP methodology encourages both superior outcomes and incremental improvement toward them, even for those patients who have not achieved a targeted goal.

We recommend conforming to the PCMH-ACO-Primary Care Core Measure Set.[8] This set of primary care quality measures was developed through consensus by the Core Quality Measure Collaborative as a minimum standard set of metrics for PCMH and ACO applications.

D. Modifier 3: Efficiency Adjustment

Efficiency metrics are a critical component of any measurement model, and these are particularly important for a comprehensive payment model. Current research points to the value of measuring comprehensiveness of care to assess the impact of physicians on the health of their patients. While more difficult to determine consistently and empirically, comprehensiveness has been shown to be a key indicator of overall primary care effectiveness and efficiency. In a CPCP framework, payments

are included to help offset the costs of maintaining hybrid claims and survey-based measures of comprehensiveness.

To create an aggregated scoring, we recommend that a CPCP model include at least eight Ambulatory Care-Sensitive Conditions (ACSC) admission measures, at least one potentially avoidable emergency department measure, and at least one of either generic fill rate or comprehensiveness of care.

E. Modifier 4: Infrastructure Adjustment

The purpose of the infrastructure adjustment, or care management fee mechanism, is to support the transition from the transactional visit-based model to one of team-based care focused on outcomes. Team-based care has two overarching goals: (1) to reduce inefficiencies by delegating clinical work across a team that can work more efficiently than a single physician, and (2) to improve the comprehensiveness of care, eg, to detect and address unmet needs and reduce unneeded resource utilization. This adjustment enables primary care practices to assemble and maintain the resources necessary to provide high-quality and efficient care for their specific patient population. With payment no longer tied to office visits alone, the practice may use nonphysician staff (RNs, LPNs, medical assistants, etc) to support patient care and follow up.

The maximum infrastructure adjustment a practice may receive is set at an absolute $7.50 PMPM, regardless of its percentage of the TCOC. Assessment of the practice can be made relative to the suggested components of primary care services listed in Table 1.

F. Final Rate Calculation

The final rate calculation is a sum of the base rate estimate and the four modifiers. The base rate and modifier schema is intended to serve as a framework for calculating CPCP. It is understood that each population,

payer, or provider will likely have idiosyncrasies that must be accommodated for contracting and/or other pragmatic purposes. This payment framework provides a starting point for further refining and negotiation of a mutually beneficial CPCP model. The simulated case studies that follow are designed to illustrate two realistic applications of this methodology.

CPCP Model Case Examples

In order to guide practices, employers, and payers, a calculator user guide has been devised. The CPCP Calculator and an accompanying user's guide can be accessed at: https://fmahealth.org/payment-tactic-team/#1505048214728-3cff81aa-f295. Further, below we provide two practical examples to illustrate how a practice or a self-insured employer could approach understanding the difference between payment in an FFS framework and payment using a CPCP framework.

ABC Primary Care Practice

ABC Practice is a relatively new primary care clinic that has embraced patient-centered medical standards from its inception. It has an electronic health record and has invested heavily in population health management. It has 3.5 FTE primary care providers, 5 medical assistants, 1 FTE registered nurse, and a 0.5 FTE population health coordinator. They have 5,200 patients and expect 3% growth over the next year. It is located in a suburban area in the Mid-Atlantic region with an area deprivation index of 74.52%. It has a majority middle-income population. Their payer mix is majority commercial insurance at 87% with 4% Medicaid and 9% Medicare. They participate in an Accountable Care Organization and take advantage of PCMH incentives through one of their commercial insurance carriers.

Using the CPCP Calculator, ABC Practice generated the data listed in Figure 1. Under an FFS model they would generate $25.21 PMPM. However, when a Comprehensive

Figure 1: CPCP Model Results

Estimated CPCP PMPM Payment

Base Rate	$40.63
Modifier 1 - Population Adjustment	($0.01)
Modifier 2 - Quality Adjustment	$2.03
Modifier 3 - Efficiency Adjustment	$0.61
Modifier 4 - Infrastructure Adjustment	$7.50
Estimated Adjusted CPCP Rate PMPM	$50.75
Percentage of TCOC	9.99%
Practice Revenue Annualized	3,166,998.47

Practice Revenue Comparison

Legend:
- Base Rate
- Modifier 1 - Population Adjustment
- Modifier 2 - Quality Adjustment
- Modifier 3 - Efficiency Adjustment
- Modifier 4 - Infrastructure Adjustment
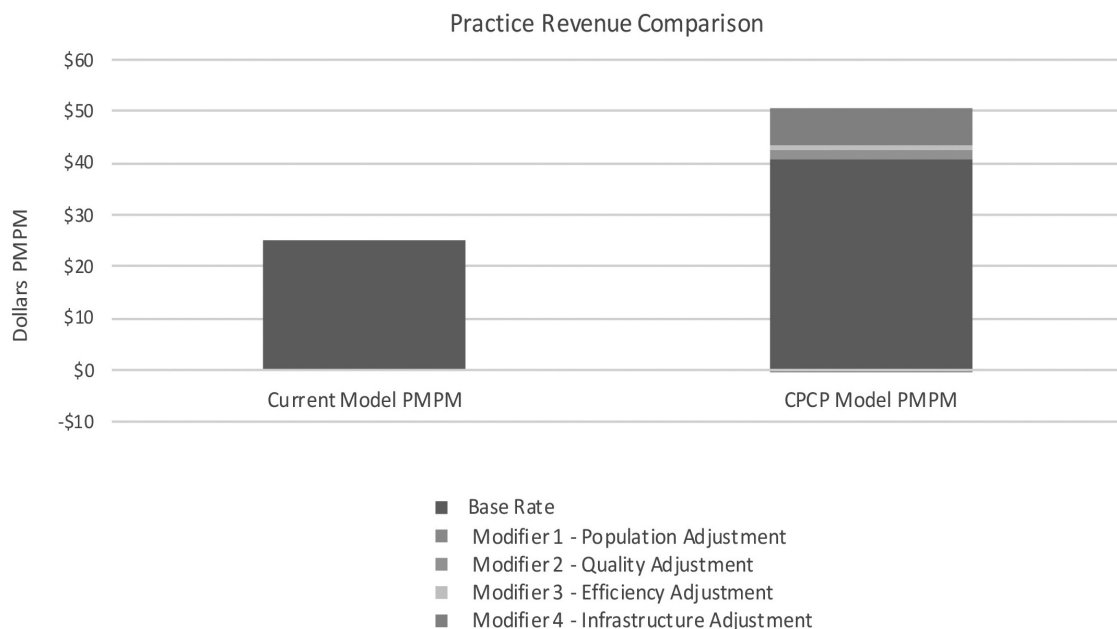
Disclaimer: Information provided in connection with this calculator by FMAHealth and its contributors is not a suggestion, invitation, direction or recommendation with respect to what you should charge or what your reimbursement rates should be for your services. Those determinations must be made by each physician or practice based on your own costs, patient population, regional and/or practice-specific circumstances, business judgment, discussions with payers, and other factors within your discretion. This information is intended to increase the quality and availability of care and services for patients and to enhance, not suppress, competition for such services.

Payment Model is applied they receive $50.75 PMPM. This would more than account for many of the infrastructure investments made in technology and personnel. The primary care percentage of total cost of care under the FFS model is 4.4%. Meanwhile, the comprehensive payment model demonstrates the primary care estimated percentage of total cost of care at 10%, which is more in line with recommended targets. A comprehensive payment model would more appropriately compensate this practice for managing the health of the population they are serving beyond episodic visits.

XYZ Company: Self-Insured Employer
XYZ Cable is a midsized, Arizona-based telecommunications company with 2,100 employees and a total of 3,990 covered members. They are self-insured and contract with a third-party administrator for processing and administration, as well as a reinsurer. They offer their employees a generous health benefit with low deductibles but high premiums and copays. The group's members are geographically dispersed across southern Arizona, but due to the rurality, roughly 60% are still attributable to Tucson Primary Care Associates (TPCA).

Table 3 details a TCOC report showing PMPM payments for a variety of services based on 2016 claims data.

Using the PCAL standard weights, the standard base rate is

Table 3: Self-Insured Employer CPCP Example: PMPM by Department

Primary Care PMPM	$24.15
Specialty PMPM	$44.56
Hospital PMPM	$68.45
Emergency PMPM	$17.64
Rx PMPM	$42.34
Total PMPM	$294.04
Total PMPY	$3,528.48

$23.52. The population ADI is 1.17 and considerably higher than average. Therefore, it reaches the threshold necessary for an adjustment of $5 PMPM. In the prior year, TCPA met the threshold for only 4 of the 10 quality measures resulting in a 1% adjustment for Modifier 2, the quality adjustment. Upon review of prior year claims-based performance, TPCA achieved contributions from admission measures, potentially avoidable emergency department measures, and a contribution from physician and behavior access measures resulting in a 2.5% adjustment for Modifier 3, the efficiency adjustment. Lastly, TPCA is a traditional primary care clinic that has been slow to adopt patient-centered medical home standards such as team-based care and electronic medical records. TPCA receives the base $5 PMPM to invest in infrastructure needed but does not receive other infrastructure payment adjustments at this time. TPCA will be eligible for rescoring based on infrastructure gains made in the coming experience year. See Appendix 2 (https://journals.stfm.org/media/2042/george-appendix2.pdf) for detailed calculations.

XYZ's previous investment in primary care averaged $24.15 PMPM. However, utilizing CPCP modeling, primary care investment increased to 12.1%, translating to $35.47 PMPM.

Summary

A CPCP model creates a more efficient use of practice resources that results in direct cost savings. It sets up practices to take advantage of payment incentives for adopting the functions of a PCMH, and at the same time better prepares them for enhanced payment under the Merit-based Incentive Payment System (MIPS) or Alternative Payment Models (APMs). In this model, the effort put forth outside the patient encounter to coordinate care and decrease resource utilization would be valued over episodic in-person encounters only.

Several recent pilots and experiments have started to demonstrate success in advancing payment, including Medicare's Comprehensive Primary Care Plus (CPC+) model. In CPC+, a retrospective quarterly care management fee and performance-based incentives are layered on top of the traditional Medicare physician fee schedule. While improvements have been noted in terms of access, delivery of care to high-risk populations and decreased emergency department visits, the program is currently slated to end in 2019.[9] CPCP provides one possible transition path for clinics and systems, such as those involved in CPC+, that have begun a transition away from FFS.

Failures and Lessons Learned

The major lesson that the Payment Team learned is that no one size fits all when it comes to primary care practice or payment. Models need be flexible and attentive to the community and population being served, and payment may vary greatly as a consequence. This comprehensive payment model may not work for every practice. Practices, for example,

that are high volume with little accountability for quality or value can thrive in a FFS framework. As it has been the dominant payment model for so long, many practices would have to make significant changes to their business models to be successful in a CPCP framework. CPCP requires investments in population health management and technology to track quality measures, and some practices do not currently have the culture, teamwork, or personnel to advance these—although increased prospective payment through CPCP can make many of these changes possible. At the same time, we believe these changes will be worthwhile to many physicians, practice teams, and patients alike. Perhaps the greatest lesson learned, and a common theme among all primary care models reviewed, is that leadership and a supportive organizational culture are necessary for CPCP to work well.

Advice for the Future

Primary care in the United States is transitioning from an illness model to a health model. This transition can better ensure higher quality of care at lower cost for individuals and populations, while improving the lives of physicians and their practice teams. Health care delivery and payment are too intrinsically linked to change independently, and movements to value-based care must be accompanied by value-based payment.

We believe that family medicine as a specialty should embrace the structure of comprehensive care and advance implementation of this payment calculator. The upfront prospective payments associated with CPCP make the transition less daunting for practices, and the rewards in improved health outcomes and patient and professional satisfaction are well worth the investment. With CPCP, reimbursement is uncoupled from visits, leading to decreased administrative burden and greater flexibility

Table 4: CPCP Benefits for Health Systems, Self-Insured Employers, and Payers

Benefits for Physicians and Independent Practices
• More fully recognizes efforts in patient care
• Decreases administrative burden
• Increases bottom line
• Allows for increasing infrastructure, staffing and resources
• Allows physicians to continue to serve as leaders of healthcare teams
• Allows team members to work to the top of license
Benefits for Health Systems
• Increases patient satisfaction
• Increases professional satisfaction
• Decreases provider attrition rate as well as costs of recruitment and retention
• Improves quality of care and health outcomes
• Decreases administrative burden
• Allows for better coordination of services and care
• Aligns with incentives for advanced payment models
Benefits for Self-Insured Employers
• Improves workplace wellness
• Decreases loss of productivity associated with absenteeism
• Imparts more predictable health care costs
Benefits for Payers
• Improves infrastructure in low-resourced communities and populations
• Decreases downstream costs
• Decreases emergency room visits and hospital readmissions
• Increases patient access and touch points
• Improves both preventative and chronic disease services

to use different modalities for patient encounters (eg, group visits, home visits, telehealth visits).

We believe there are benefits for health systems, self-insured employers, and payers to move to Comprehensive Primary Care Payment as well and list some of them in Table 4.

While the model calls for an increased investment in primary care, this investment is both strategic and purposeful. For physicians, this model creates the opportunity to be reimbursed for practice patterns and care objectives that benefit patients as well as the health care system. Physicians and practice groups participating in a CPCP contract should see their revenue and professional satisfaction improve in proportion to their commitment to the principles driving this model. This alternative payment model is designed to create complementary incentives between payers and practitioners and

is a flexible framework that can be adjusted by both payers and practitioners for a wide variety of populations, geographies, and existing contracting arrangements.

This paper is written to advance the conversation from discussion to implementation. We encourage health systems administrators, practice managers, employers, insurers and public servants to work with the calculator, test its method and put its components to work. We believe it can serve as an excellent starting point to replace our outdated and unsustainable FFS primary care payment system and accelerate comprehensive primary care delivery.

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