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An Actuarial Perspective on the Relationship of Patient Centered Medical Homes and Healthcare Costs

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An Actuarial Perspective on the Relationship of Primary Care Programs and Healthcare Costs

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Executive Summary

As healthcare costs rise, so too does the interest in controlling those costs while maintaining or improving the quality of care. To achieve these results, there are a variety of innovative models being developed that change how healthcare is delivered. The focus of some of these models is on the primary care physicians (PCPs) as primary care is widely acknowledged as a key driver of downstream costs[1,2].

As gatekeepers to the healthcare system, PCPs treat a variety of conditions, coordinate specialist care, and monitor chronic conditions. Because of PCPs' ongoing relationship with their patients as well as their generalist training, they are positioned to provide or manage whole person care.

Primary care models take advantage of the PCP's unique role. The staffing of most primary care programs consists of a variety of primary care providers including primary care physicians, physician assistants, nurse practitioners, and midwives.

While the broad concept of emphasizing primary care is consistent across all primary care programs, there is variation in the design details. For example, the payment models used to finance a primary care model may be more traditional such as a fee-for-service or capitated arrangement while others may have shared savings or incentive bonus components. Because some primary care programs expand a PCP's administrative duties, some primary care programs receive care coordination payments or up-front funding for items such as health technology upgrades.

The initiatives, tasks, processes, and procedures implemented to improve clinical outcomes or financial results, also vary by primary care program. For example, a primary care program with limited resources might choose initiatives with lower administrative cost such as improving drug adherence by only prescribing drugs on the patient's formulary whereas a larger system might have the resources to provide patient transportation to and from their visits.

Because any new initiative will require an investment in the form of time or other resources, it is important to perform an analysis to determine if the clinically appropriate initiatives also make sound financial sense. An initiative that may provide savings to one primary care program may result in losses for another.

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[1] Macinko, J., Starfield, B., & Shi, L. (2007). Quantifying the health benefits of primary care physician supply in the United States. *International Journal of Health Services*; 37(1):111-126.

[2] Reschovsky, J.D., Ghosh, A., Stewart, K., & Chollet, D. (March 2012). Paying More for Primary Care: Can It Help Bend the Medicare Cost Curve? The Commonwealth Fund. Retrieved February 6, 2020, from https://www.commonwealthfund.org/sites/default/files/documents/___media_files_publications_issue_brief_2012_mar_1585_reschovsky_paying_more_for_primary_care_finalv2.pdf.

Detailed in our report, there are several items to be considered when providing a financial analysis of these initiatives. These considerations include what data and analytic tools are available, what assumptions are required, how does the estimated savings compare against available benchmarks and given multiple initiatives checking if the savings overlap. We also provide two examples of a hypothetical primary care program implementing initiatives to reduce ambulatory care sensitive admissions and emergency room visits.

Introduction

The cost for healthcare is unsustainable as already expensive health insurance premiums increase at a faster pace than income[3,4], at the same time that benefits remain the same or become leaner. In 2020, the cost of healthcare for a hypothetical American family of four covered by an average employer-sponsored preferred provider organization (PPO) plan is $28,653, according to the Milliman Medical Index. In order to achieve the CMS triple aim "better care, healthier members, and smarter spending (i.e. lower costs and affordable premiums)",[5] innovative programs have been designed and implemented. Many of these programs focus on primary care providers, including Comprehensive Primary Care (CPC), Comprehensive Primary Care Plus (CPC+), Primary Care First, Direct Contracting and expand their role in the health care system.

Alongside this renewed emphasis on primary care programs are significant changes in the business models, payment systems and analytic approaches applied to primary care physicians (PCPs). Some changes are major new innovations; others represent modifications designed to improve historic models. The combination of these changes has a wide range of potential impacts on patient care, patient health, and costs. COVID-19 also has a major business impact on PCPs in addition to the health impact on their patients.

There are many published articles that summarize the "new" approaches to primary care. These articles often include: a summary of the concept, a set of principles, and an explanation of how the program will impact the patient's experience during their direct contact with PCPs. Other published material describes the clinical impact of these programs. However, most of the published articles don't provide the necessary detail to evaluate the financial impact of the approach.

There is no single definition of a primary care program. For this paper, a primary care program provides financial incentives to the primary care provider related to both the total cost of care and health outcomes in exchange for the PCP assuming additional responsibilities for care. Examples of primary care programs include Patient Centered Medical Homes (PCMHs) and Federally Qualified Health Centers (FQHCs).

PCPs are uniquely positioned with buyers (large employers and insurers) as they have many aligned goals, namely improving patients' health and reducing downstream costs and can directly influence cost and quality. More buyers are moving towards more robust PCP support models as well as sophisticated compensation approaches to primary care payment. The buyer may bring additional volume/members, create bonuses built on measurable performance, fund on-site staff free to PCPs, offer support that lowers PCP administrative costs, and help with PCP workloads.

Within a broad designation such as PCMH there can be significant variation in program design and implementation. Each primary care program will implement various initiatives designed to control costs and/or improve health outcomes. Different designs will likely lead to different financial results.

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[3] https://www.census.gov/newsroom/press-releases/2020/income-poverty.html
[4] https://us.milliman.com/en/insight/2020-milliman-medical-index
[5] https://innovation.cms.gov/about/our-mission

Examples of primary care programs are shown in Appendix A.

The Society of Actuaries (SOA) engaged the authors to prepare this issue paper for educational purposes. It is intended for a wide audience, including, but not limited to: health actuaries; health insurers; and those pursuing actuarial careers. This paper helps the audience understand the actuary's role in estimating the financial impact of primary care programs. In addition, the paper can be used by actuaries to think about key issues when estimating the financial impact of their employers' and clients' own primary care programs.

The major focus of this paper is the description of initiatives that primary care models can implement that will have a financial impact. We use the term initiatives throughout this paper to categorize new tasks, processes, and procedures that primary care programs may implement to improve outcomes and/or financial results. Each initiative focuses on a specific desired result (such as reduction in emergency room visits) and the associated actions to implement. We provide a framework for assessing the expected financial performance of these programs. We also discuss payment models used to support these programs. The type of programs, which initiatives are implemented, and the payment model chosen will all influence the financial results of the program. This results in a myriad of combinations and is one of the reasons these programs are difficult to compare and have such wide variation in reported financial results.

A financial analysis of a primary care program provides information that can be useful in many business decisions, such as:

- A one-time feasibility decision regarding whether to implement a PCP program with defined payments to the PCPs.
- Providing a framework for decisions on the number of initiatives to implement as well as the customization of the initiatives (i.e. increase all generic prescriptions or focus on generic prescriptions for diabetics)
- Making a broad business decision on whether to offer more support to primary care physicians.
- Providing ongoing management of an existing program (identify cost drivers, set priorities, offer useful feedback to physician, monitor results, etc.).
- Building working relationships with primary care physicians as the first step in an overall physician strategy in the local community.
- Developing contract terms and payment (capitation, gainsharing, and other options).

The main body of the paper, at a high level, can be broken down into the following six sections:

1. The first section, *Primary Care Overview*, of this paper discusses the current primary care provider environment.
2. The second section, *Types of Primary Care Programs*, outlines several types of primary care programs and identifies the most common models.
3. The third section, *Elements of Primary Care Programs*, outlines parameters and considerations for primary care programs.
4. The fourth section, *Initiatives*, highlights many of the initiatives that these programs utilize to achieve financial savings.
5. The fifth section, *Financial Models*, provides examples of estimating the impact on medical cost for these programs.
6. The sixth section, *Other Considerations*, provides a brief overview of other program characteristics to be considered.

This report uses information from a wide variety of sources: published material, industry analytic tools, and long-standing business approaches used by provider organizations (such as physician groups and hospitals) to pay, support, and develop strong working relationships with primary care physicians.

Section 1: Primary Care Overview

As foundation for program design, it is critical to understand the role of primary care and the primary care physician (PCP) in the healthcare system. Moreover, a strong understanding of the business needs of PCPs will provide an understanding of the type of program that may be best suited to a specific situation. In this section, we discuss the role of the PCP, its importance in the US healthcare system and the current business environment for primary care.

1.1 ROLE OF PCPs

The American Academy of Family Physicians (AAFP) defines primary care as

" Care provided by physicians specifically trained for and skilled in comprehensive first contact and continuing care for persons with any undiagnosed sign, symptom, or health concern (the "undifferentiated" patient) not limited by problem origin (biological, behavioral, or social), organ system, or diagnosis[6]. "

Typically, primary care is provided by physicians trained as internists, family practitioners, doctors of osteopathy (DO), pediatricians, and geriatric physicians. Some programs (and this paper) treat obstetrician-gynecologist as primary care providers. Nurse practitioners and physician assistants can act as lead contact for members in some programs particularly in rural areas or Medicaid programs.

PCPs are generalists that understand, diagnose and treat a broad array of health conditions, manage ongoing members, and provide preventive care. PCPs help patients navigate an increasingly complex health care system. The PCP understands the outpatient delivery system, coordinates specialist care, and provides the continuum of care over time. The PCP has an on-going relationship with the patient, knows their medical history, how well the patient understands and describes their health status, the patient's compliance with treatment, and can assess marked changes in the patient that may be health related.

The roles and responsibilities of the PCP vary by market, condition, and patient age. In commercial (both employer and exchange) plans, the PCP is most often the main contact. For Medicare and Medicaid, it is usually desirable to have a PCP as the main point of contact until the patient develops a condition that warrants specialty management or a major ongoing condition. When this happens, the specialist may be the most frequent contact, but the PCP may continue to monitor the overall patient health. For some complex conditions, the specialist may be the primary point of contact. For example, members with End Stage Renal Disease (ESRD) are more effectively managed by nephrologists given the high intensity care associated with ESRD. In the Medicare market, the PCP may have more responsibility coordinating specialist care and may provide end of life care counseling.

Approaches to primary care models should consider the population that will be served. Medicare, Medicaid and commercial populations, can be very different in terms of the following:

- Frequency and severity of health conditions – A larger percentage of Medicare members have more illnesses and co-morbidities than a commercial population, which creates a different role for PCPs.
- Social needs and behavioral health challenges are quite different for each population.

[6] https://www.aafp.org/about/policies/all/primary-care.html

- The split of roles and duties between PCP, nurses, and other staff vary substantially. These differences are driven by state regulation, size of physician office, payment arrangement and other characteristics.
- Fee levels are much different in each program.
- Payment systems, bonuses, and total compensation are quite different given the legal requirements: original Medicare and Medicare Advantage, state variations in Medicaid and Managed Medicaid programs, and significant differences between states in regulations of physicians, Health Maintenance Organizations (HMOs), commercial, and self-insured programs.

Appendix B outlines the considerations for these different lines of business.

1.2 BUSINESS ENVIRONMENT

As discussed in the introduction, there are many changes in health delivery systems such as new business models, new or revised payment systems, and technology. Many of these business models are being created to find new ways to support PCPs who have historically faced many challenges, including lower compensation compared to specialists, undersupply, and an aging workforce.

Of the 624,434 physicians in the United States who spend the majority of their time in direct patient care, slightly less than one-third are specialists in primary care.[7] The number of primary care physician jobs grew by approximately 8 percent from 2005 to 2015, while the number of jobs for specialists grew about six times faster[8]. Thus, the share of the physician workforce devoted to primary care actually decreased from 44 percent to 37 percent, and the number of primary care physicians per capita has remained roughly flat. This has led to concern regarding the supply of PCPs as the expansion of health coverage through the ACA increased during the same period that the PCP supply decreased. Additionally, external forces such as an aging population require an increasing number of PCPs.

Historically, PCPs have earned less than specialists. According to the Medical Group Management Association, the average 2018 gross annual earnings for PCPs and specialists were $267,000 and $444,000, respectively[9]. The gap has slightly narrowed in recent years primarily due to the move from fee-for-service reimbursement to value-based care (VBC) as well as a restructuring in evaluation and management codes that favored PCPs, and inclusion of reimbursement for chronic patient management.

Many PCPs were independent or worked in small practices. For decades, the most common payment to PCPs in most locations was a fee for an office visit. Payment was only made for in-person visits; if the physician and patient did not meet face-to-face, no payment was made. However, PCPs in some parts of the country worked through provider-based organizations (such as hospital systems, staff-model HMOs, clinics, or physician groups). PCPs were often paid through salaries or capitation with bonuses. In recent years, telehealth reimbursement has become more common with several states offering telehealth payment parity.[10] The COVID-19 pandemic has further accelerated the efforts to reimburse for telehealth visits.

Analytic systems to support PCPs were limited. Organized information comparing their fees or performance to other practitioners was rarely available to them. Therefore, it was challenging for them to

[7] https://www.ahrq.gov/research/findings/factsheets/primary/pcwork1/index.html
[8] https://www.healthaffairs.org/do/10.1377/hblog20170728.061252/full/
[9] https://www.healio.com/news/primary-care/20190718/average-pcp-salary-exceeds-266500-increasing-at-faster-rate-than-specialists
[10] https://www.foley.com/-/media/files/insights/health-care-law-today/19mc21486-50state-survey-of-telehealth-commercial.pdf

identify suboptimal care patterns, or to manage resource use or costs that may have led to overtreatment or undertreatment. Additionally, individual performance was not measured.

Today, relationships between buyers and PCPs are changing. Medicare and Medicaid also have numerous care improvement initiatives that are aligned with PCP objectives. In some markets, private sector relations between some insurers and PCPs are improving as insurers promote strong primary care programs. PCPs are uniquely positioned with buyers as they have many aligned goals as PCPs can directly influence quality of care and cost. The historic fee-based contracting process was focused on contracting all primary care doctors at the same rate without differentiation for quality or breadth of services. Payers are increasingly moving to a more sophisticated compensation approach to primary care support and payment. These sophisticated compensation approaches borrow techniques used by provider organizations who have long-standing partnerships with PCPs. The buyer may bring additional volume/members, create bonuses built on measurable performance, fund on-site staff free to PCPs, offer support that lowers PCP administrative costs, and help with PCP workloads.

The growth of high-deductible health plans impacts PCPs more significantly than other providers or hospitals. This is because PCPs often have early and frequent contact with members when they are still in the deductible phase of their benefits and thus paying out of their own pocket. Therefore, the PCP must collect from the member, which is time-consuming and can result in bad debt.

There are many other changes across the health industry that impact primary care. These changes offer both challenges and opportunities. These changes include:

- Health technology
- Telemedicine
- Sources of information (web, standardized education, etc.): Treatments continue to change, web-based educational material is more widely available.
- Communication methods with members (email, phone apps, etc.)
- Electronic connections with other parts of the health system
- Electronic medical records: Electronic Medical Records are trying to address the complex environment for all providers, including primary care physicians (although outpatient tracking remains challenging).
- Systems to support physicians in operations, clinical practice, etc.: Operational support such as scheduling software or telehealth is available.
- Analytic systems: Systems to provide providers information on cost and quality of patients they are responsible for treating often with comparisons to other providers. These systems are becoming more comprehensive and efficient.
- Alternate use of nurses and other support staff: For example, the “top of license” change is aimed at using other staff to perform duties optimally at the top of their skill set. PCPs supervise, but free up their valuable resources.
- Integration with community resources

It is hard to find the right resources at a reasonable price. This is even more difficult for physicians in smaller practices. In some cases, substantial support can come from the business model that the PCPs join.

Given these challenges, many public programs have been created to support PCPs. Some funds have come from the federal government and some from states. There are also continuing refinements in programs like Patient Centered Medical Homes.

Amid these changes, there are multiple business models for PCPs to evaluate. Primary care physicians may consolidate into large practices, multi-specialty physician groups, or clinics. Hospitals are purchasing PCP practices. Alternatively, PCPs can implement concierge programs where the PCP charges members an annual fee to provide a set menu of services and members get increased access to the PCP. Federal physician based Accountable Care Organizations (ACOs) (tracked as "low revenue" ACOs) are also gaining members. A physician may be offered a salaried position at the local hospital at the same time a new program to support PCPs is being implemented by the major local insurer. Some primary care physicians are considering retirement given the cumulative effect of these various problems.

It is complicated for the physician to assess the business and financial implications from the potential business models in this rapidly changing environment. Each business model can have widely different impacts on physician practice methods, the level of support they get from buyers and other providers, and total cost.

1.3 PANDEMIC RISK AND ACUTE HEALTHCARE CRISES

The COVID-19 pandemic has taught us that pandemics and acute healthcare crises including the related social and financial impact, are challenging for everyone. It is particularly difficult for PCPs given their frontline role, relatively older ages, high level of face-to-face patient contact, and lower margins. They need to deliver care, avoid patient infection, and protect the health of themselves and their staff. The cumulative impact can be overwhelming. Some PCPs are considering retirement.

There are both operational and financial problems each PCP needs to address. With COVID-19, most PCPs saw a large initial drop in services resulting in a commensurate drop in income. PCP utilization recovered, but many services shifted to a telehealth environment. For example, one survey reports that physician groups are "anticipating approximately 25% of primary care visits will remain as telehealth services."[11] This would have major implications to staffing, patient support, and expenses.

The implications to PCPs and their staffs will vary due to the following factors:

- Physician & staff age. If a pandemic is more contagious or deadly among a certain age group, those employees may only want to work remotely. This may limit in-office staff and may reduce the capacity and utilization of medical services. Alternatively, it may spark innovation to switch to a telehealth model.
- Staff shortfalls, including early retirements, layoffs due to financial issues, and high-risk employee time off. Staff shortfalls will reduce the capacity for PCP visits, reducing payments in a fee-for-service system.
- Personal stress. Stress may lead to staff taking time off from work, leading to staff shortfalls. It will also impact the patients and require PCPs to be more aware of the psychological toll the virus is taking on their patients.
- Patient vulnerability (due to age, comorbidities, or social situation)
- Practice location (rural, inner city, suburb)
- Primary line of business

- Business model (independent, small group, large group, employed). Independent PCPs may not have the resources to be able to adapt quickly to a pandemic by performing staff testing, personal protective equipment and other supplies, or to switch to conducting visits in a telehealth setting.
- Level of support from intermediaries such as hospitals, clinics, and physician groups
  - Personal protective equipment (PPE) and other supplies
  - Practical operational support such as office redesign, file access, added staff and clinical updates
  - Technology such as laptops for physicians and staff to perform telehealth visits
  - Mental health services for employees to cope with pressures of being frontline workers
- Payment arrangements
  - Fee-for-service, capitation, and salary
  - Incentive pay or bonuses
  - Revisions of quality metrics and standards for bonuses
- Local virus situation (surge, stable, controlled)
- Local personal behavior
- Local government requirements
- Staying up-to-date on virus research including patients with comorbidities
- Technology to support telehealth services
- Short term financial relief
  - Federal government funding under the Coronavirus Aid, Relief, and Economic Security (CARES) Act
  - Advanced funding of bonuses from buyers

There are also major financial problems. Some PCPs received funding from the federal government, but all saw a large initial drop in services. This created a large drop in income, particularly for those primarily paid on under fee-for-service arrangements. A physician paid under salary or capitation still has all of the operational challenges, but far fewer financial issues. Quality metrics and standards for bonuses are being revised to reflect the impact of COVID-19.

Many PCPs are currently in a transition period. Patient contacts are closer to normal, especially if telehealth is included. Physicians, staff, and patients are re-evaluating the need for face-to-face contact.

Some larger provider organizations, such as hospitals, physician groups, or clinics, have taken substantive actions to support their physicians, staff, and members. This business support includes:

1. Personal protective equipment (PPE) and other supplies
2. Practical operational such as office redesign, file access, added staff and clinical updates
3. Telehealth for physicians and members (laptops and connectivity for physicians, staff, and members).
4. Other technology and connections (beyond telehealth)
5. At-risk patient identification and support (for any serious illness, not just the virus or those with missed appointments)
6. Personal behavioral health (for workers and patients)

Section 2: Types of Primary Care Programs

A wide range of primary care programs are being used and the public summaries often look entirely different. Some topics may be covered extensively; others not mentioned. Each has a different structure and size, applies to different lines of business, and uses different metrics and payment arrangements. Also, the approach used to select physicians and the number and type of initiatives done may be quite different.

However, these programs can still be compared and evaluated by examining each of the major elements. The summary table below offers a simplified overview of the major differences. This is intended as a starting overview of the evaluation approach. For example, one PCMH program may do the six major initiatives, another program with the same name may be working on dozens of initiatives in greater depth. The following sections will go into detail about each of the programs and the features of each program.

Program	Major Feature	Organizer	Structure	Lines of Business	Size	Metrics	Payment	Selection	Number of initiatives
PCMH	Primary care whole person approach	State/ Insurer/ Providers	Primary care physicians; physician assistants, nurse practitioners; midwifes.	Commercial; Medicaid; Medicare	Varies; Mostly small. National average of 8.1 physicians in 2013; Need some volume due to infrastructure requirements	Quality metrics	Varies; FFS; shared savings; enhanced care coordination payment; lump sum for infrastructure; combinations of these may be used	Voluntary in most cases	Basic: 6 Advanced: 10 or more
Bridges to Excellence	Physician performance on nine major conditions.	Insurer	Primary care physicians; physician assistants, nurse practitioners	Commercial; Medicaid; Medicare	Individual working in any business model	Multiple quality metrics for nine major conditions	Recognition or flat payment per patient per year	Formal review based on comparison to peers	Varies by condition
Concierge	Enhanced access for a fee	Individual Provider; Small Group of Providers	Primary care physicians	Primarily Commercial; Some Medicare	Solo or small practices	None	Wide range of flat payments with FFS	Self-select	2 or 3
FQHC	Primary care access for low-income patients	State	Primary care physicians; physician assistants, nurse practitioners; midwifes; dentists; social worker	Medicaid; Strong rural presence	Small to Medium	Varies by state; process, access, and outcome measures may be used	Salary; Pay for performance; Shared savings; Risk-based capitation	Hire as employee	Varies
Provider Group (multispecialty or PCP only)	Varies	State/ Insurer/ Providers		Commercial; Medicaid; Medicare	Medium to Large	Varies	All	Pre-screen before acceptance - Independent, employee, or owner	Many but wide variation
Network of PCPs selected by buyer	Varies	Buyer	Primary care physicians	Commercial; Medicaid; Medicare	Varies	Quality metrics H4(such as HEDIS)	Members and bonus	Quality and/or efficiency profiling	Based on results of existing initiatives not new initiatives

There are a variety of primary care programs and business models including: Patient Centered Medical Homes (PCMH), Bridges to Excellence®[12], concierge medicine, federally qualified health clinics, larger provider groups, hospital employment, and recent insurer efforts to align with primary-care-only physician groups to work on value-based care.

Yet the implications of each business model and support system for PCPs are much different. Some of these new business models are independent stand-alone programs (such as the Concierge or Direct Contracting models), while others come with significant support systems and economies of scale for primary care physicians that make it easier for the PCP to work effectively (such as FQHCs and large provider organizations). For example, support can come from hospitals or active physician groups and their management teams. Each business model has different expenses, economies of scale, and impact on net physician income.

The readily-available summaries of any particular program are often short; evaluation needs a clear description of components and well-defined terms. An inventory of initiatives is one way to do this. This happens at both a program level and an initiative level. A program called a "PCMH" in one location may have a simpler compensation structure or do fewer initiatives with a clear financial impact than another "PCMH". Programs may implement initiatives targeted at one, several or all conditions that may have a financial impact. In fact, this variation in the number and depth of initiatives appears to be one possible reason for the different reported impacts of PCMH programs. Additionally, even programs that implement the identical initiatives may report different results based on the effectiveness of the implementation.

States, hospitals, physician groups, or clinics, may provide assistance to PCPs in some of these business models. In some cases, the main focus is negotiation of reimbursement and physician support. In other cases, they offer significant resources, infrastructure, and create a better work environment that makes it easier for each physician to offer better care and lower spending.

Some of the more common types of primary care program are as follows:

2.1 PATIENT-CENTERED MEDICAL HOME

The patient centered medical home model provides comprehensive primary care by redesigning healthcare delivery processes. This is accomplished through an emphasis on team-based care delivery, a whole-person approach to patient care, collaborative relationships between individuals and their physicians, and the use of evidence-based medicine and clinical decision support tools. A PCMH consists of a variety of primary care providers including primary care physicians, physician assistants, nurse practitioners, and midwives. PCMH practice size varies but is typically larger than non-PCMH practices due to the volume needed to implement the required infrastructure.

A PCMH can take on many different organization structures and designs. A formal definition has been developed, as discussed below, however, many PCMHs exist that do not fit into the formal definition.

In 2007, four nationally recognized physician organizations identified seven principles considered foundational to the PCMH model:

1. Personal physicians
2. Physician directed medical practices

[12] http://www.bridgestoexcellence.org/

3. Whole person orientation
4. Coordinated/integrated care
5. Quality and safety
6. Enhanced access
7. Payment reform

Typically, any primary care physician can join a PCMH although there is often a credentialing process over time. A variety of quality metrics are used ranging from Healthcare Effective Data and Information Set (HEDIS) measures to customer satisfaction surveys. Additionally, there are added categories of responsibility that the PCP must be willing to take such as:

- Prescription drug counseling
- Counseling for certain chronic conditions such as pediatric asthma
- Outreach to high risk members

A PCMH can be organized by an insurer, a state, or providers. PCMHs are found in Medicaid, Commercial, and Medicare although a particular PCMH may choose to focus on a single line of business.

Some PCMHs are paid on a fee-for-service basis with an additional payment for care coordination, some receive a lump sum for infrastructure; others participate in shared savings. Combinations of these approaches may be used. Costs for PCMH functions will vary depending on location and functions. In 2015, the average monthly cost of PCMH functions were $7,691 and $9,658 in Utah and Colorado, respectively.[13]

Appendix A contains additional information on Patient Centered Medical Homes.

2.2 BRIDGES TO EXCELLENCE

Bridges to Excellence® (BTE) is a family of programs designed to reward recognized physicians, nurse practitioners and physician assistants who improve healthcare quality and value by implementing comprehensive solutions in the management of patients, and delivery of safe, timely, effective, efficient, equitable and patient-centered care. BTE programs measure health outcomes, reduce preventable care defects, promote a team-based approach to caring for patients, realign provider payment incentives around quality and reward excellence for significant leaps in the quality of care.

Although we have not reviewed their analysis, their website reports "lower average total episode costs and lower probability of experiencing a potentially avoidable complication for three costly and prevalent chronic conditions."[14]

BTE programs exist for many conditions including asthma, cardiac, chronic obstructive pulmonary disease (COPD), depression, diabetes, heart failure, hypertension, irritable bowel disorder, and maternity.

These programs are often organized by the insurer. Providers are selected based on a formal review process based on comparison to peers. Multiple quality measures are published for each condition. BTE programs exist in Commercial, Medicaid, and Medicare. Providers in practices ranging from solo to large can participate in BTE programs. Many programs provide recognition of BTE but no additional payment. However, in some cases, an

[13] https://www.annfammed.org/content/13/5/429.full
[14] http://www.bridgestoexcellence.org/deeper-dive/press-releases

additional flat payment per year is provided. BlueCross BlueShield of Texas, for example, pays Bridges to Excellence recognized physicians $100 per patient per program year.[15]

Appendix A contains additional information on Bridges to Excellence.

2.3 CONCIERGE / DIRECT PRIMARY CARE

Concierge and Direct Primary Care models focus on enhanced access to primary care physicians. A short overview is below, but there are wide variations in how any specific program works including the specific services offered, metrics, physician selection, support systems, and other elements.

In a concierge model a patient pays their PCP an annual fee. The annual fee can cover all services or certain services such as lab work or X-rays may be excluded. Services that are excluded would be paid for on a fee-for-service basis. The monthly fee for concierge/direct primary care will vary based on the location and services that are included. Based on a survey conducted by the Direct Primary Care Journal, two thirds of practices have monthly fees ranging from $25 to $85.[16]

The most common additional benefits and services in a concierge model are same day access, cell phone and text messaging, no copays, little in-office waiting time, on-line consultations, convenient appointment scheduling, and focus on preventive care.

Given the up-front fee for members, the concierge model is most prevalent in the commercial market. While less frequent, some Medicare members may also elect to join a concierge model. Concierge PCPs, most often solo or small practices, tend to have fewer members than other programs (smaller panel sizes). Given their small size, they tend to focus on fewer initiatives. They are organized by an individual provider or a small group of providers. Typically, no metrics are published.

Direct Primary Care (DPC) is a similar model. The DPC practice model is still evolving, and there is no single accepted definition of what constitutes a DPC practice. However, the most commonly used definition is as follows:

DPC physician practices are those that[17]:

1. Charge patients a recurring—typically monthly—membership fee to cover most or all primary care-related services.

2. Do not charge patients per-visit out-of-pocket amounts greater than the monthly equivalent of the retainer fee.

3. Do not bill third parties on a fee-for-service (FFS) basis for services provided.

DPCs rarely bill insurers (including Medicare) for non-covered services if rendered, while concierge doctors most often do. Additionally, concierge models typically have significantly higher average fees than DPCs.

2.4 FEDERALLY QUALIFIED HEALTH CENTER (FQHC)

FQHCs are “safety net” providers that include community health centers and public housing centers and primarily serve individuals and groups lacking access to traditional health services, often underserved urban and rural

[15] https://www.texmed.org/BTE.aspx
[16] https://www.healthaffairs.org/doi/10.1377/hlthaff.2015.1281
[17] https://www.soa.org/globalassets/assets/files/resources/research-report/2020/direct-primary-care-eval-model.pdf

communities. FQHCs provide primary care and preventive care, including health, oral and mental health/substance abuse services to patients regardless of their ability to pay. In order to provide this wide range of services, providers include PCPs, physician assistants, nurse practitioners, dentists, midwives, and social workers. These centers provide outpatient health programs funded by the Indian Health Service along with several additional programs that serve migrants and the homeless.

Health centers overcome geographic, cultural, linguistic, and other barriers to care by delivering coordinated and comprehensive primary and preventive services. This care reduces health disparities by emphasizing care management of patients with multiple health care needs and the use of key quality improvement practices, including health information technology.

Providers are typically hired as employees. Historically, providers were paid on a salary basis. However, there has been a shift to other arrangements including pay for performance, shared savings, and risk-based capitation. Metrics vary by state – process, access, and outcome measures may all be used. Patients are predominantly uninsured or Medicaid eligible.

Most health centers are organized by the state and receive Health Center Program federal grant funding to improve the health of underserved and vulnerable populations. Some health centers receive funding to focus on special populations including individuals and families experiencing homelessness, migratory and seasonal agricultural workers, and residents of public housing.

Appendix A contains additional information on FQHCs.

2.5 LARGE PROVIDER ORGANIZATIONS

There are also many primary care programs within larger provider organizations, such a large physician groups, hospital independent practice associations, and staff model organizations. Some physician groups are PCP only; others are multi-specialty. In some cases, primary care physicians are part of the leadership team and/or part-owners. Primary care physicians are often pre-screened before acceptance using quality profiling, local reputation, or other performance information.

As is often the case, the official program names can be confusing. For example, the Physician Group Incentive Program (PGIP) organized by Blue Cross Blue Shield of Michigan is often called a PCMH program. However, the PGIP program uses physician groups as intermediary managers, rather than directly working with physicians. They operate in commercial, Medicare, and Medicaid.

Some of the larger provider organizations may offer substantive support to PCPs.[18] Their size and market presence have greater ability to invest in infrastructure, manage parts of the local delivery system, and implement many initiatives. For example, physicians affiliated with larger provider organizations report more frequent support during COVID to deliver care and protect health workers.

There is wide variation in how payments are structured including fee-for-service, shared savings, global capitation, partial capitation, and salary. Each has a different impact on revenue and net income. PCPs affiliated with larger provider organizations may also be involved in PCMH, BTE, or other programs discussed earlier.

[18] Value-Based Care Through Physician Groups: An Actuarial Business Perspective at https://www.ccactuaries.org/LinkClick.aspx?fileticket=wQKPRoemmRM%3d&portalid=0

Most provider groups consider primary care a key component of their programs. In some cases, they ask patients to choose a PCP at the time of enrollment in an insurance plan. Typically, PCPs serve as the first point of contact for patients, guiding them to the most appropriate resources.

Section 3: Elements of Primary Care Programs

The following discusses many of the elements and characteristics of primary care programs that can to be evaluated.

3.1 PAYMENT

PCPs and provider groups receive payment from insurers, employers and government agencies. In addition to these sources, PCPs must collect payment directly from their patients in the form of copays and deductibles. The revenue allocation as compensation to the PCPs and staff depend on the business model of the physician group.

3.1.1 Contracted payments from insurers, employers and government agencies

Fee for Service

Historically, most insurers, employers, and government agencies used fee-for-service payments. This was done as a production process, there were many physicians to contact and a contract offer was made every few years. Typically, independent PCPs were given the same fees; organized physician associations might negotiate higher fees. The fee-for-service base payment method pays for each service and typically provides a higher revenue for higher intensity or more time-consuming services. A provider increases revenue by generating more services and/or higher intensity services. This system requires monitoring for over-use of services. Sometimes quality metrics or service surveys are also monitored.

Salary or Capitated Arrangements

Under a salary or capitated arrangement for their own services, the PCP receives the same income regardless of number or intensity of services. The PCP takes overall responsibility and risk for care and services for their panel at a fixed payment and chooses the most cost-efficient services. This creates an incentive to provide fewer wasteful services. Either system requires management, monitoring for over-use under fee-for-service or monitoring a fixed payment method for underuse of services. Sometimes quality metrics or service surveys are also monitored.

PCP capitation is typically adjusted for the characteristics of the PCP's members. This can be using a simple structure such as adjusting for age and gender but no other factors. More sophisticated PCP capitation models may be adjusted for underlying medical conditions and other risk factors.

One description of the impact was discussed in the Health Affairs article on capitation mentioned later. A move to capitation can have a positive impact on net income and/or physician workload as other staff takes a large role.

Fee for service versus salary or capitated arrangements

The PCP perception of fee-for-service versus capitation is very different depending on the product and part of the country. In some locations, PCP capitation is widely accepted. For example, in highly managed states, a capitated PCP may not only be capitated for their own services but be part owner of the physician group who holds their

contract. This aligns the financial goals of PCPs and buyers. Therefore, they get a share of any financial gains from better management. In other states, where PCPs have little power and lower incomes, capitation may be yet another way to cut their revenue or increase workloads.

Regulations and laws also vary significantly by program and state. Capitation or strong risk sharing is acceptable in some states, depending on the product line. In other states, capitation or incentive payments have limitations. Also, the regulations for insurers and provider organizations are quite different, so some reimbursement models are possible within a provider-owned organization that are not allowed for insurers in a particular state. For example, insurer channeling to a particular provider may be discouraged while channeling within a large provider system is legally acceptable.

Newer Payment Arrangements

As primary care programs have become more sophisticated, so have the payment arrangements. Newer payment approaches include up-front flat payments, bonuses, and buyers funding support staff at the physician office. While many of them bring more revenue, they also impact responsibilities, accountability, workload, and/or expenses. Each arrangement has widely different impacts on members, expenses, fees, and business conditions. Some alternative payment arrangements reduce the administrative burden for PCPs.

As discussed earlier, there are business and financial challenges facing primary care physicians such as the gap between the pay of primary care physicians and specialists. Various types of value-based payment offer different responsibility and new initiatives in exchange for higher pay are being used. This includes additional staff funded by buyers, up-front monthly fees, and incentive bonuses for measurable quality, reducing waste, and increasing efficiency. A few programs are also testing bundled payment approaches for PCPs. This increased emphasis and sophistication of unique PCPs approaches is driven by the various environmental factors discussed earlier, relative salaries, supply, new technology, growth of intermediaries, and value of the PCP role.

3.1.2 Payments from Patients

PCPs generally have their contracted arrangements with insurers/large employers. However, PCPs must also collect the patient pay (deductible or copay) from the patient. PCPs may collect 15% - 25% of their total revenue directly from patients. This revenue has administrative costs for billing and processing. Additionally, a portion of this revenue may not be collected resulting in bad debt. Historically, PCPs have experienced bad debt ranging from 3% - 9% of total gross revenue[19]. As enrollment in high deductible plans increases, PCP bad debt will increase from this historic figure.

3.1.3 Business model impact on PCP compensation

The PCP works under various business models (employed, solo practice, large groups, clinic, or others) each with very different impacts on revenue and net physician income. Some physicians are paid by salary and bonus. Others are paid fee for service (i.e. claims and perhaps bonuses). The business model also determines internal expenses, and net income. A solo practice physician typically has much different expenses than a salaried PCP.

[19] https://www.medicaleconomics.com/view/practices-dealing-bad-debt-patients-struggle-medical-bills-study-shows

Most provider organizations use a different mindset than insurers to pay physicians with an ongoing connection to them. It is essentially similar to the "compensation" approach used by non-health industries for expensive, but valuable staff. The compensation includes bonuses, training, workload support, and other benefits. Within this different mindset are various methodologies used to pay physicians by the provider organizations. Some continue to use a wide mix of payment methods including fee-for-service, salaries, and capitation. Other provider organizations still primarily use fee-for-service payment system with a periodic contract revision. While other provider organizations have developed long-standing salaried or capitated programs within their own communities.

3.1.4 Developing a Value Based Payment Model

Provider payment is a complicated business decision with many factors, so there is no single way to approach this.

It is essential to distinguish between base and incentive compensation.

Base compensation is a major strategic and business decision that has ongoing impacts on the PCP and sponsoring organization over multiple years. This is a significant business decision that needs to be made with a broad understanding of the implications, as it will play a significant role in the projected financial results of any program.

It can be useful to start with several major long-term strategic decisions.

1. What is the target increase in PCP total payments over the coming years? How much of this increase is linked to expected change in panel size?
2. Should increases come in base compensation or alternative payments such as bonuses?
3. How should total compensation vary for low and high performers? New programs often move toward alternative payment methods.
4. What are the financial opportunities to avoid wasted services? What initiatives need PCP support to accomplish? How do these initiatives impact PCP workloads, operating expenses, net income, and other business factors? Can the program organizer develop ways to offset expenses and manage workload (such as funding or training staff)?
5. What structure should be used for base compensation (fee-for-service, salary, or capitation)?

In addition to base compensation, many primary care programs provide incentive payments or performance bonuses. While the magnitude of incentive payments is a strategic decision, the details and criteria in any one year are a one-time tactic, not a major strategic decision. Each year, incentive compensation is modified to match any new goals. In one year, a bonus may incent quality initiatives to encourage PCPs to spend time, attend training sessions, and develop approaches to bring performance up to best practices. Once this is achieved and maintained, other initiatives are used in later years.

As an example, for an insurer, large employer, or state considering the basic PCMH program, there is often a set fee per member per month for the program in exchange for the PCP accepting certain responsibilities and implied initiatives. This fee is an expense to the buyer that offsets any claims savings to create the net savings.

Incentive payments provide additional money to providers already adhering to evidence-based guidelines and provide incentives to those providers that are less compliant with evidence-based guidelines. Providers can be motivated by competition in these types of arrangements, especially when they see their peers hitting targets that they have failed to meet. Targets should be set at a challenging yet achievable level.

The vast majority of primary care innovative models have financial bonuses that are paid if certain quality metrics are achieved. In some cases, no bonus is paid if the quality metrics are not met. In other cases, the bonus is paid based on a proportional adjustment. Assume a PCP has the following performance measurement agreement:

Incentive Payment Example

Measure	Description	Target	Actual	Target Met?
Well Child Visits	The percentage of members who turned 15 months old during the measurement year and who had six or more well-child visits with a PCP during their first 15 months of life.	80%	85%	Yes
Generic Utilization Rate	Minimum generic prescribing of 85 percent (for all members with a prescription drug benefit).	85%	90%	Yes
Avoidance of Antibiotic Treatment in Adults with Acute Bronchitis	The percentage of adults 18-64 years of age with a diagnosis of acute bronchitis who were not dispensed an antibiotic prescription.	30%	25%	No
Colorectal Cancer Screening	The percentage of adults 50-75 years of age who had appropriate screening for colorectal cancer	60%	70%	Yes
Low Back Pain	The percentage of members with a primary diagnosis of low back pain who did not have an imaging study (plain X-ray, MRI, CT scan) within 28 days of diagnosis.	80%	70%	No

The above program could result in many different bonuses ranging from $0 Per Member Per Month (PMPM) to $2 PMPM as it is customized for each specialty. Pediatrician might focus on well child and generic pharmacy. A PCP with many Medicare patients might focus on generic utilization, cancer, and low back pain.

In the above example, the PCP met three of the five goals, so would get a bonus less than $2 PMPM but it would vary based on the program specifications. The following are a few examples of what the bonus could be depending on the specifications:

Example 1: Must meet target before any payment. No bonus paid.

Example 2: Proportional adjustment. If three goals were met, $1.50 is paid.

Example 3: Each goals may be weighted differently (from $0.30 to $.70).

Additional information on measurement of providers is found in Appendix C.

These programs have the potential for a significant impact on physician net income and system performance. Given the PCP's central role at the intersection of a member's health care needs, emerging payment methodologies often increase PCPs income. This can be an explicit or implicit goal depending on the structure of the proposed reimbursement.

3.2 PCP SELECTION

The program developer can set qualification standards for PCPs. Qualification standards may include collaboration skills, local reputation, associations with hospitals and specialists, measurable quality, and historical financial results. When using quality and historical financial results, it is important to assess the credibility of the data underlying

these metrics. Geographic location and patients served may also be considered in order to satisfy network adequacy requirements.

PCPs are highly trained and experienced professionals who have chosen to become PCPs to support people. Primary care is also a very challenging profession that treats many illnesses and a wide variety of patients. Each PCP may have different strengths and different visions of their role. Their role also varies by population (the role of a Medicaid physician in a clinic is very different from a Medicare PCP in private practice). Some PCPs may be more comfortable addressing smoking and weight than other PCPs. Some PCPs are strong managers while others prefer to spend time on patients rather than management. Some PCPs work with many low-income patients while other PCPs do not treat many low-income patients. Whether a PCP lives in a rural or urban region can also influence their expertise. Their business and personal goals and capabilities change over time.

Some programs have formal working relationships with PCPs and use typical business techniques to review potential candidates. FQHCs hire PCPs as staff. Hospitals and Physician Groups screen PCPs before offering them the opportunity to join their organization.

An extensive business analysis is done if the hospital or physician group purchases an existing PCP practice.

Some programs offer higher pay for existing performance (such as Bridges to Excellence and physician profiling). They identify existing high performers. The high performing PCPs may be offered incentive pay, more recognition, more members, or other rewards. This supports existing high performers. It also encourages improvement from others.

Other programs expand the PCP's role in exchange for higher pay. PCMH programs use a variety of techniques to confirm that PCPs implement their initiatives. One common technique in public sector PCMH programs is on-site operational audit of the PCP and their staff, but many other methods are used especially in private sector programs.

3.3 PCP ADMINISTRATIVE COST AND PHYSICIAN SUPPORT SYSTEMS

Members' visible interaction with their PCP is primarily through an office visit. Yet, PCPs often spend many working hours on administrative duties that do not involve face-to-face contact with patients. Inherently, these administrative duties are built into the reimbursement for the office visit. Administrative duties include tasks such as billing in fee-for-service environment, clinical documentation, pre-authorization, and calling in prescription refills. On average, family physicians spend 2 hours on preauthorization, 8.4 hours on other patient care tasks and 3.9 hours on other non-patient care tasks per week.[20]PCPs must also read journals and perform continuing education activities.

Administrative expense as a percentage of revenue is highest in solo practices. Many salaried providers have support from their employer and often bear little or no expenses personally. Group practices dilute the administrative expenses to an extent. Economies of scale evolve as the organization grows and larger data sets are available, lower level staff can perform certain tasks, and reporting is enhanced. Some of this can be done through Management Services Organizations (MSOs). MSOs provide practice management and administrative support services to providers. MSOs take on responsibility for many of the management functions and allow PCPs to focus on the clinical aspects of care.

[20] https://www.aafp.org/fpm/2017/0100/p26.html

The additional tasks required in a primary care model will require some administrative support and internal expense. The program developer will have to decide which to manage internally and which to delegate to other parts of the system, allies, or external vendor.

Any analysis will need to consider the support and management system for PCPs related to administrative cost. This can have a major impact. For instance, a weak support system with minimal economies of scale typically leads to financial loss, as high expenses exceed the minimal improvement in health cost while also requiring a high level of PCP effort. A strong support system can potentially achieve the full potential of improvement in clinical or financial performance. The system needs to deliver information to the PCP on a timely basis, flag potential high-risk patients, may suggest treatment pathways, and offer ongoing training. One approach to assess support systems is available in the paper "Lessons from Higher Performing Networks" which lays out 12 elements that distinguish higher performing health programs[21] or the more recent report "Value-based care for physician groups" mentioned earlier. These papers address all physicians, not just PCPs, but most of these approaches apply to primary care physicians.

The impact of the support system is modeled implicitly in the analytic system in this paper. For each initiative, the financial analyst can assess the proposed support for that initiative. Will the PCP or staff get needed information on a timely basis? Is information easy to digest? Is there training? How will the support system be maintained and updated? Will the program organizer fund a part time staff position to work on time-consuming initiatives?

Analysis of administrative costs can be done at multiple levels, depending on the business situation, number of initiatives, and amount of people involved. Various parts of the industry and each different program can have different definitions of administrative costs. This can be hard to track when reviewing programs or reading articles.

For the PCP who is deciding whether to join the program, each responsibility requires work. For example, tasks such as more time with the patient, additional staff time with the patient, more management time for the PCP to train, monitor, and manage the staff, more office space, after-hours coverage with a transfer of patient information, and external fees for certification all require some additional cost to the PCP.

There has been an attempt to develop collective material to educate and support primary care doctors. Early work started with https://www.pcpcc.org/ and their TransforMED program and now is done by many other major public and private sector organizations.

3.3.1 Administrative expense considerations

Administrative expenses are estimated to be 25% to 31% of United States healthcare expenditures.[22] The average cost of billing and insurance-related activities is estimated to be $20.49 per primary care visit.[23] The following outlines parameters that need to be understood when estimating the increased administrative expenses for the provider; each will create a unique combination of paid and unpaid administrative services.

Role of primary care physician. Some tasks need a PCP while others can use other professional staff or general staff. Various alternatives have very different impact on the physician workload and expenses. Some physicians want deeper contact with patients while others prefer to focus on their clinical and diagnostic role and use other staff for

[21] https://www.pbgh.org/storage/documents/commentary/HiPerfNetworkBrief_ExecSummary.pdf

[22] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5839285/

[23] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5839285/

follow-up and support. For example, some Medicaid programs report successful patient support on compliance, chronic care, and healthier behavior using cultural, native language support from non-clinicians ("people like me").

Technology. There are new support systems that do not require a face-to-face office visit or improve delivery of care within the health system. These are being developed and tested for certain conditions and members. Some patients prefer face-to-face contact during an office visit while others prefer alternative communication methods. Text reminders, health apps and AI are emerging to supplement the PCP in patient reminders. Reports indicate that COVID has driven a much more rapid use of technology.

Business model. The impact of administrative expense on the physician depend on the business model they use. Some models start with lower workloads and administrative overhead, so economies of scale are already available. Salaried physicians at a clinic or hospital still need staff and other support, but, the internal expenses may not come from their income. Physicians belonging to an IPA can see economies of scale or have defined hand-offs to other staff.

Direct funding of expenses. Buyers can pay some of these costs directly. For example, some buyers, such as a few insurers, hire and pay for additional on-site nurses to come to the PCP's office and work with patients.

Other resources. There may be other fee community resources that can cover certain administrative or care delivery tasks. For example, there may be group classes for some conditions offered by hospitals or local volunteer organizations for patients who prefer these options.

Resources for insured patients. There may be support programs already in place. This is often a complicated analysis and decision. Carrier's expense may be funded by their buyers already. The added value of the PCP-based programs needs to be evaluated. The carrier may have evaluated various support material.

Initiatives. There are many different innovative PCP programs each with a different set of initiatives. Some are new and require new administrative support. Others are refinements of existing work and require initial training, but little ongoing changes in workload or overhead (such as the decision to refer to a pre-selected lab for basic work). New data collection efforts are evaluated to balance reporting requirements and added administrative burden on the PCPs and their staff. Some efforts, such as certain data reconciliation processes can result in a significant administrative burden that must be weighed against the potential benefit.

These tasks are in addition to typical PCP duties such as office visits. Additionally, there is a limit on how many new tasks can be implemented at the same time so an organization may choose to implement certain tasks first and add additional tasks at a later date.

Appendix D provides a list of the most common initiatives used in primary care models.

Payment. The fee-for-service payment system strongly encourages an office visit and discourages other types of support. Nurses, team-based care, electronic contact, pharmacy re-fills by phone, or other tasks are not typically paid. Many of the new PCP programs produce different administrative expenses under different payment systems. This is described in detail in the Reimbursement section.

These various factors change the net income for physicians and the net savings of the buyer.

An in-depth example is available in September 2017 Health Affairs article, "High Levels Of Capitation Payments Needed To Shift Primary Care Toward Proactive Team And Nonvisit Care"[24]. It provides an analysis on revenue and administrative expenses from the perspective of the provider and raises questions about healthcare delivery and payment structures.

3.4 PERFORMANCE METRICS

Each program developer will need to implement a way to measure metrics. These metrics provide feedback for physicians and can form the basis for a bonus. There is likely overlap across programs, but the details of the program may lead to increased emphasis on certain metrics. Metrics can include items such as immunization rates, preventive care screenings, and controlling high blood pressure.

The approach and level of collaboration on performance metrics varies widely. Some programs have tightly defined metrics. Others may customize. Some use readily available data. This is challenging for PCPs, especially those in small practices without an intermediary or program organizer, as they need to find a balance between accountability and administrative burden.

Quality of care assessment of individual PCPs typically starts with the same set of formal metrics used for the overall program. Additional measurement can be done of specific opportunities to provide evidence-based care or ambulatory sensitive care. Results during a given time period are aggregated and compared to a benchmark or overall targets. For example, many HEDIS metrics are applicable to primary care performance in commercial programs.

Some of these metrics can be connected to individual performance of an individual practitioner. For example, a basic PCMH program, BTE, and individual performance measurement are based on measurement of individual performance. Individual physician measurement can be challenging. For example, BTE uses audit style review of practice records to evaluate physician performance.

Section 4: Initiatives

Throughout this paper, we use the term initiatives to categorize new tasks, processes, and procedures that primary care programs may implement in order to improve outcomes and/or financial results. Each initiative focuses on a specific desired result (such as reduction in emergency room visits) and the associated actions to be implemented. As discussed earlier, PCPs have an important and difficult role in the health system, many patients, various illnesses, and numerous tasks each day. Primary care programs are being developed that focus on how to support them, revise how they are paid, offer new roles, and replacing less important tasks with new responsibilities, in order to leverage their time. At the same time, PCPs are considering new business models, from innovative programs to salaried employment with provider organizations. Some of these business models act as intermediaries to support, organize, and manage primary care physicians.

One practical way to assess these changes and project the impact is through understanding how the job of the PCP is changing through specific new initiatives and modification of the PCP workload. It is also useful to build upon the experience of programs that have more experience and longer working relationships with PCPs, such as clinics,

[24] https://www.healthaffairs.org/doi/full/10.1377/hlthaff.2017.0367

physician groups, and hospitals. These programs explicitly make decisions about whether new initiatives at the PCP office should be done by the primary care physician, the staff of the PCP, or support staff outside of the office. The PCP does some initiatives; but others can be effectively done by other staff (either at the PCP office or at a central location). While this may be more efficient, it makes it harder to evaluate the contribution of the PCP to the overall results.

Certain types of initiatives are frequently documented in the descriptive material for the program. These initiatives are widely discussed and are implemented in many primary care programs. Most programs' descriptions have:

- Extensive discussion of what the patient will experience during an office visit
- Initiatives focused on better care and support for chronic members (given widespread agreement that are important)[25].
- A set of formal quality metrics selected from a nationally defined set of options.

However, other useful initiatives are less visible and less frequently documented. For example, there are numerous references related to the use of step therapy and reviewing medications for patients using multiple prescriptions, however monitoring patients to determine when medication can be reduced or eliminated has gotten less attention. Similarly, there isn't a lot of focus on medical cost savings and outcomes but less focus on evaluating expenses through review of time studies.

Some important changes are visible to members during a visit, but essential work also happens behind-the-scenes and needs to be evaluated. This is particularly true for initiatives related to internal costs and management of the local health system. Avoiding wasted services and payments is essential to more effective and affordable programs. Action is needed to avoid wasted services, find reasonable fees for comparable services, reduce the internal expenses for the physician and overall health system, or help the PCP manage workloads. The stronger programs also work on many illnesses, not just the six traditional chronic illnesses. Some examples are discussed later in the section, such as encouragement of pharmacy compliance for most illnesses.

The types of initiatives implemented vary widely by program. Some PCP programs focus on the actions that happen at the physician's office or support the patient on ongoing illnesses. Other programs, particularly the larger business models, have built the infrastructure and support system to do a broader set of initiatives.

The discussion below focuses on the macro level. However, often, an initiative can be implemented at the micro level. For example, a pharmacy-based initiative might feature compliance. Therefore, the macro level is prescription drug compliance. However, a primary care group may work on compliance but focus only on certain conditions/illnesses. The micro level is prescription drug compliance for the specific conditions the primary care group is focusing on. This is another reason comparisons of these programs are difficult; because most descriptions are at the macro level, when in practice these initiatives may be implemented at a more micro level.

This section describes a broad scope of actions and initiatives to meet all three of the health system transformation goals, "better care, healthier members, and smarter spending (i.e. lower costs and affordable spending)".[26] It is

[25] The use of these chronic care programs is so widespread that there are often be multiple programs underway (PCPs, insurers, employers or hospitals). This may duplicate services. it also is hard to create and estimate any incremental gain. A solid new program on top of another solid program may have little added impact.

[26] https://innovation.cms.gov/about/our-mission

based on the primary care responsibilities and actions of active provider organizations or other strong program managers.

Much of the content in Section 4.1 below comes from an interview with a major physician group executive with years of experience, primarily with Medicare and commercial members. This is offered as an illustration of one approach to independent PCPs that are organized, supported, and managed by a physician group. Payment for PCPs included a mix of capitation, fee-for service, plus moderate bonuses for quality and efficiency. Therefore, the observations below need to be adjusted for different types of members, business environment, or payment systems.

The initiatives outlined below illustrate the range of actions that are possible with a strong support system and aligned payment, rather than what is common. It includes both easy and substantive actions on fees, internal provider expenses, unneeded services, over-utilization, under-utilization and channeling across the system.[27] An individual primary care physician in a small practice can do some of these by themselves, but they do not have the resources or information to take on multiple complex initiatives. This is why it is important to assess both which initiatives PCPs do and the depth of their support.

A comprehensive list of initiatives undertaken by PCP programs can be found in Appendix D.

4.1 INITIATIVES TO AVOID WASTED RESOURCES AND LOWER SPENDING

4.1.1 Emergency Department

The PCP has many actions that may reduce emergency room utilization. Telephone exchange 24/7 can assess the appropriate action. The PCP can create tools to distribute where urgent care centers are located and the phone numbers for 24/7 nurses with access to patient records and other telehealth options. For example, PCPs can create a list of those patients at high risk for a future emergency room visit. This list can be then adjusted and supplemented modified by the PCP managing the patient care based on their knowledge of the circumstances and characteristics of the patients. The PCP or their staff review the list monthly and reach out to a subset of the patients for a visit, call, or other support. PCPs reach out to these patients to get them to change their pattern; this may include connecting them to a case manager or social worker on problems like substance abuse, behavioral health, or pain management.

The emergency room initiatives will influence hospital utilization, as the chance of admission is higher regardless of severity of condition if a patient goes to an emergency room. A PCP is available, either by phone or in the emergency room, to deal with exacerbations of ongoing conditions. The PCP can offer background regarding the patient's health history to help identify if the current episode is a continuation of an existing condition, a worsening of an existing condition, or a new condition altogether.

4.1.2 Acute Hospitalization / Outpatient Facility

PCPs may also focus on reducing acute hospitalization by managing disease exacerbation, deferring crises, and directing care to a lower intensity site of care.

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[27] This summarized section 4 of Value-based Care through Physician Groups. https://www.ccactuaries.org/LinkClick.aspx?fileticket=wQKPRoemmRM%3d&portalid=0

PCPs can direct patients to go to in-network hospitals rather than out-of-network or direct patients to go where services are contracted. For patients with a specific condition, the PCP can direct the patient to the most appropriate hospital for that condition to avoid having the patient transported between facilities.

PCPs advise patients on their choice of hospital depending on their condition. The approach varies by condition. On conditions where there are many local options, the services at the local community hospital may be comparable to larger hospitals. For other conditions, the tertiary hospital has essential unique expertise and capabilities.

Some PCPs are more responsible for admissions than length of stay, particularly if the hospital is paid per admission or hospitalist does the majority of the decisions within the hospitals). In fact, if admissions decline, average length of stay may increase because avoidable admissions, with a low length of stay, are reduced. The goal can be stated as total days per 1,000 to measure the entire impact on the program. Other types of admissions that PCPs may be able to avoid are:

Inappropriate admission – admissions that could have been handled on an outpatient basis

Avoidable admission – necessary admission that could have been prevented by better ambulatory care or other support

Safety issues for children or seniors – admissions that could be prevent by addressing safety issues such as helmets for children and chemicals/medications where children can reach them.

Social factors –admissions that could have been prevented by improvement in non-medical element. An example would be a patient is admitted because of lack of adherence to medication where medication requires refrigeration and the patient has no refrigerator.

For ongoing conditions, care management programs will attempt to control the condition to avoid serious health complications that result in admissions or acute outpatient interventions. Some programs focus entirely on a few major chronic conditions or maternity, while other programs address a full spectrum of patient care.

While the focus of the PCP is likely on preventing unnecessary admissions, PCPs still do rounds in hospitals and may impact resources and the length of stay. In some programs, the management of length of stay and in-hospital services may be shared with hospitalists (paid by the hospital or by a physician group) or the hospitals take the primary responsibility for these if their payment is per admission. Hospitalists have become more prevalent in some locations. Investing in programs to manage the length of stay will depend on the line of business and/or hospital contracts. For contracts that are paid on a per admission basis, such as diagnosis-related group (DRG) or case rates, the medical cost will not vary by length of stay, unless there is a severe case that is deemed an outlier, so resources would likely be used for other initiatives, PCPs may be called on to manage post-discharge planning and supervision in order to prevent unplanned readmissions.

A longstanding PCP relationship can be effective in facilitating communication between patient, family and hospitalist.

4.1.3 Ongoing / Chronic Members

Most of the PCP programs address members with chronic conditions.

PCPs or their staff can take responsibility for helping members manage most chronic conditions. Often there are formal programs for patient engagement for diabetes, congestive heart failure, coronary heart disease, asthma, chronic obstructive pulmonary disease, rheumatoid arthritis, and chronic pain.

PCPs drive some of these initiatives. For example, if the patient's condition is good enough, the PCP support transferring the patient from acute to subacute care or other treatment options.

4.1.4 Specialty Care

PCPs can have various initiatives related to specialty care.

Some initiatives are intended to reduce the number of specialty visits by having the PCP take on more responsibility to improve health for both acute and chronic conditions. PCPs can screen for alternative treatments to be tried before a specialist referral. If a referral is needed, the PCPs will offer a treatment plan that will be reviewed and revised by the specialist so that the PCP can manage the patient until their next specialist visit.

Intermediaries can monitor the utilization of specialty care by PCP for both under and over utilization. PCPs need to use specialists where appropriate but overconfident PCPs who do not refer patient until a condition worsens should be monitored. The PCP should communicate the important, pertinent information to the specialist for an efficient process that enables the specialist to do a good job. In addition, the information the specialist provides the PCP will enable the PCP to resume appropriate care post specialist visit. Best practice is to exchange key standardized summary information rather than notes which can be difficult to follow or digest. For the most complex cases, more information may be required. This is facilitated by excellent interoperability in EHRs when providers are not within the same health system.

The PCP's choice of specialist can also have a financial impact. The PCP acquires the knowledge of which specialty to refer to, and then within that specialty needs to pick a specialist. It can be difficult to determine which specialist has higher performance on quality and cost-effective treatment. This starts with the professional judgment and professional reputation (especially for independent PCPs). Various support systems and analysis can be offered to PCPs from their working relationships with insurers, hospital systems, and/or physician groups. These relationships can provide quality scores, based on metrics such as beta-blocker therapy use for left ventricular systolic dysfunction for heart failure patients or 20/40 vision or better within 90 days following cataract surgery for eye care, for some specialists and provide results from tools such as an episode grouper that can help determine cost-effectiveness. Specialists that are willing to use contracted in-network facilities and ambulatory surgery centers may be preferred, but better outcomes are always considered in conjunction with cost.

Some intermediaries monitor whether the patient went to the specialist, as some referrals are not utilized. The primary care practice or intermediary (program manager) can check to see if the patient kept the appointment. Some PCPs stay involved and responsibility is returned to the PCP after the specialist encounter.

4.1.5 Mental Health and Behavioral Health

PCPs may play a role in mental and behavioral health issue. PCPs can use standard screening tools to identify mental health issues. For less severe conditions, PCPs can, and do, treat the patient but should refer patients not responding to treatment or whose diagnosis is specialized, complicated or severe. Once a patient is referred for treatment, the PCP may co-manage the patient in an on-going fashion as most studies have found a strong interaction between physical and mental health conditions.

An integrated physical-behavioral health team has been shown to have superior results for members dealing with behavioral health issues. This is particularly important when managing populations with a high prevalence of mental health conditions such as Medicaid. While it is well known that individuals with mental health issues have higher emergency room and hospital inpatient utilization than those without a mental health concern, a significantly higher

percentage of individuals with mental health issues report care coordination issues than those without mental health issues. Some state Medicaid agencies keep the organizational structures and data separate. In addition, there is evidence that individuals with mental health issues experience greater barriers to timely access.

For this population, simply layering behavioral healthcare over primary care services is not effective. A community health needs assessment (CHNA) and creating a comprehensive integrated mental and physical health offering will lead to better support, access, and outcomes.

4.1.5 Serious Illnesses

The PCP takes initial responsibility for screening, early identification, and guidance to treatment, options, and resources. Once the patient is diagnosed, the PCP can help the patient navigate the system, such as outlining different options for next steps in treatments or facilitating a referral to the appropriate specialist.

The PCP can take an even more active role in one or more serious illnesses. Any expanded role reflects the respects the physician's existing responsibilities and workload. For example, for cancer, the PCP can assist a patient with considering the different options for care such as making a decision regarding whether to proceed with radiology or surgery, when it is appropriate to consider chemotherapy, and a discussion of lifestyle impact for certain cancers.

Ideally, the PCP wants to resume primary responsibility for care as soon as medically appropriate post-treatment.

4.1.6 End of Life Care

End of life care is an important and difficult decision for the patient. End of life care is the patient's choice, but the PCP can offer support to facilitate a decision, provide information, make sure Advance Directives or Physician Orders for Life-Sustaining Treatments (POLSTs) are completed to record the patient's wishes, and other important counseling issues. The early counseling prior to a known problem may often be done by the PCP, particularly for older patients, so planning can begin before a specific serious condition arises.

The PCP is often not the first physician that a member sees when a very serious problem becomes apparent. As a result, counseling is often done by specialist when the diagnosis is given. The PCP may continue to support and counsel the patient and family because of the on-going relationship.

4.1.7 Pharmacy

PCPs may also implement various initiatives related to prescription drug costs. High performing PCPs are diligent about monitoring the number of prescriptions and refills. The PCP will know the formulary and keep track of the buyer's specific details that reflect coverage criteria. An example of a pharmacy-based initiative is step therapy where a patient starts at a lower intensity of treatment (usually less expensive) and steps up as needed to manage the condition. Step therapy is often implemented by a pharmacy benefit manager (PBM) but high performing physician groups often do this themselves as part of patient management activities.

PCPs also monitor when a patient can move back to a lower level or end their medication. We do note that PCPs typically are not involved in the monitoring or administration of specialty drugs.

Prescription drug compliance is another area that PCPs manage. A significant driver of medication adherence is writing 90-day mail order prescriptions. Staff members of physician groups review medication adherence reports in

order to reach out to non-adhering patients to find out why they are not compliant. Typical reasons are cost, lack of knowledge, side effects, and psychiatric issues. Depending on the cause, the case may be referred to a case manager or action could be taken by the PCP, their staff, or clinical pharmacists.

For patients on multiple drugs, PCPs will review the medications to make sure they are all necessary and there are not any interactions that could create an adverse event.

4.1.8 PCP Staff

High performing PCPs have defined and expanded roles for their staff. Elements such as how the phones are answered, how appointments are made, and how comfortable the patient is made will affect their decisions regarding seeking care and following care recommendations. A good nurse or physician assistant may be better at explaining due to less time constraints or better conversational style. Culturally and linguistically matched staff can help with understanding adherence and outcomes. Patients who do not get a prompt response from the PCP's office may end up in the emergency room.

The use of physician staff depends on the support of any intermediary and the payment arrangement. The Health Affairs article discussed earlier in this paper summarizes one way to analyze the impact of these choices on the net income of the physician[28]. See the section titled "From Physician-visit-based to team-and non-visit-based care."

4.1.9 Outpatient System Management

PCPs have a unique understanding of the local health system and often know the local outpatient system. However, their level of management varies widely. For some PCPs, their role is primarily a guide and initial referral. For example, a PCP may channel to an outpatient lab vendor known for fast and accurate results. In some programs, PCPs take an active role in monitoring the patient situation over the course of treatment. In others, the PCP may flag a weak process to handle a particular type of illness and help improve the process for future patients across the entire health system.

4.1.10 Other Initiatives

PCPs have access to patient care guidelines to inform both treatment and referral decisions. Some of the stronger intermediaries offer access to medical updates on their computers in order to stay up to date and these guidelines are readily available and easy to access. PCPs can also implement an automated referral system where guidelines define appropriate care. The PCP is familiar with those guidelines and operates accordingly, such as recommending physical therapy for back pain rather than surgery or recommending that an asthmatic patient consult an allergist. Primary care groups that are aware of and utilize guidelines will refer patients to the most appropriate group.

If supported by the payment system, PCPs will bundle services within a visit so that they can accomplish all known tasks at one time rather than requiring several visits.

Section 5: Financial Models

[28] https://www.healthaffairs.org/doi/full/10.1377/hlthaff.2017.0367

There are many reasons to analyze a PCP program, from a one-time feasibility decision to implement a specific PCP program to a customized program to build long-term strategic working relationships with primary care physicians.

Evaluation of these alternatives is an interesting mix of opportunities and challenges. Some apply to evaluating any provider-based program; others are unique to primary care.

For any program, improvements in computer systems, data sources, analytic approaches, and payment alternatives offer far better ways to measure performance. These tools can adjust for mix of illnesses using episode analysis, determine practice patterns, use clinical information alongside claims data, administer more complex payment systems, perform ongoing monitoring, link to more quality metrics on certain illnesses, compare one community to another, use cluster analysis to measure implicit networks in a community, and monitor use of specific specialists or hospitals, or treatments.

Extensive analysis requires deep data and analytic resources. Analysis needs to be customized to the population (Medicare, Medicaid, commercial, etc.), payment system and scope of the project and magnitude of dollars. It is important to note that some payment systems, such as capitated arrangements, cause the underreporting of data rendering it less useful for these types of analyses.

The changing healthcare environment is also hard to assess. More providers are willing to bring their expertise to health management. PCPs and other specialists have additional support from independent programs and dedicated websites. Leading edge provider practices and approaches to improve the health system from a few locations are being spread more broadly. Some approaches to quality are widely distributed; others, such as ways to lower spending and reduce waste are less visible and often proprietary. Some buyers are collaborating with certain providers. Physicians are more likely to affiliate with larger organizations such as hospitals, physician groups, staff models, or clinics. Provider organizations, such as hospitals and physician groups, are growing with all the advantages and disadvantages of size and power.

Currently, a wide range of capabilities and approaches exist as opposed to the past when only a few highly managed programs were in place.

There are also unique opportunities and challenges for a business assessment and analysis of primary care programs.

- PCPs have a very broad role, so there are many opportunities to improve care. However, their diverse role makes analysis difficult.
- Many PCP programs are no longer a concept that needs to be tested. These are now real-world businesses with specific initiatives, physician selection, supporting infrastructure, and payment incentives. This requires a business assessment of the current situation and proposed future initiatives.
- Independence versus alliance or consolidation is a complex choice with a major impact on expenses and net income. A small practice may decide between a high vendor charge for services and the need to personally recreate-the-wheel.
- The PCP's business model impacts behavior. A PCP in small practice has more management responsibilities than a PCP in a clinic or large group. A salaried physician does not directly see either fees or any incentive payment.
- Different programs often have the same name – yet each program offers widely varying levels of support and expects different actions and initiatives from their PCPs. Analysis of a common program that is widely-used is easier than a customized program although a customized program with more initiatives often offers higher performance and lower net spending after expenses.
- While many PCPs have similar resources use for the same illness, some PCPs have much higher resource use without demonstrating value.

There are many approaches to evaluate and manage the financial impact of any particular program. This section outlines two levels of evaluation and then a sample analysis of a specific initiative. It starts with an overview various components that can be applied – particularly for an extensive program with many members, PCPs, and a large potential impact. However, since this extensive approach is not possible for most projects, the section also outlines a more practical approach that can be applied on work with a more moderate scope and fewer resources.

Components

Many different components can be used for larger projects – or built over time. They can be used separately or in combination for the largest projects. For example, a deep analysis of a particular initiative or an extensive episode analysis of existing performance by individual PCPs may be used by a buyer to develop a primary care subnetwork. The business capabilities of the program designer or major intermediary can be assessed (through interviews or an on-site review). A quarterly analysis may be done by a provider organization to pay upside bonuses to their physicians or to flag potential outliers.

Key components include:

- Identify current and proposed initiatives
    - Analysis of the current financial situation, such as identification of potential cost drivers
    - Business assessment of goals and capabilities
- Resources
    - Understand sources of data and analytic capabilities (such as episode analysis, specialist performance, hospital case-mix adjusted fee comparisons, claim-based metrics, etc.)
    - Understand the business environment (for example, the current PCP business model – how many PCPs are paid FFS, salaries, capitation, bonuses, etc.)
    - Understand the magnitude of impact on workload and expenses of PCPs and their staff.
    - Work across disciplines such as a team with both clinical and financial expertise
- Staff Model and Skills
    - Management team, executive responsible for lower spending and reducing waste, capabilities, ongoing PCP support, monitoring, and feedback
    - Financial expertise
    - Selective collaboration with allies
    - Economies of scale
- Program structure
    - Physician selection criteria
    - How initiatives are prioritized
    - Payment arrangements for PCPs (quality metrics, Incentive payments, comparison of incentives to new PCP operating expenses, revenue and estimated net income)
    - Identification and/or stratification of members. Some initiatives apply to any patients; others are applied when a particular illness is first identified. Other initiatives may be targeted to future at-risk patients identified through a combination of claim, clinical, and physician input.
- Evaluation
    - Develop an ongoing tracking system for the initiative. This may include claims analysis, but, it is often more operational in real time. For example, review of PCP referral patterns, track ongoing clinical markers for a specific illness, or patient progress on smoking. This can be an extensive review including on-site audits of operations and/or financial management.
    - Adjust the evaluation approach to the population and related payment system (Medicare, Medicaid, commercial/exchange)
    - Assess existing performance for individual physicians and/or larger group.
    - Determine the incremental improvement over the current state.

Typical projects

Most projects have a much smaller scope, so a more targeted approach can be used. The approach can be designed to key topics while addressing the challenges for evaluating PCP programs. One possible way to do an effective evaluation is to focus on the specific PCP-level initiatives considering the support offered by the program manager or intermediary.

One possible approach is:

- Inventory initiatives that are planned and underway.
- Conduct or review analysis to set priorities, such as: identify cost drivers, flag clinical challenges, analyze existing variation in performance by PCP, etc. Priorities should reflect clinical, operational and financial criteria.
- Assessment of initiative support
    - Tailor initiatives to the population and payment system
    - Identify the right members
    - Determine support for each major initiative from the program manager or other intermediary, such as operational support or data on supplier fees or performance.
    - Evaluate the ongoing tracking system.
- Determine if certain initiatives are discouraged by the payment system (and if so, what change is being made)
- Quantify the potential impact of key initiatives, those with the most impact or are unique. Project the clinical and/or financial impact on buyers and providers. Compare claim impact to buyer on revenue, administrative expense, and/or net income impact to PCPs.

The potential impact may be adjusted for the level of support and economies of scale. For example, an initiative with low support may have a negative financial impact if a weak implementation plan may create expenses with minimal impact on claims.

Financial Analysis

The following is a framework of things to consider when doing a financial analysis of initiatives:

a. Identify areas where it is possible for a PCP to make an impact.
b. What specific tasks/initiatives can be done to improve performance?
c. What analytic tools are available?
d. What data is available?
e. If limited data is available, what assumptions are required?
f. Are data sources available for assumptions?
g. Sensitivity test the assumptions
h. Compare the estimated savings with the benchmark
i. Given multiple initiatives, check to see if any savings overlap

This framework needs to be customized to the client, available financial information, and analytic systems. For example, for large clients, an "episode" analysis may be available that takes separates total costs by condition. This type of analysis may also track primary care as a separate category. While these systems are still being refined and must be used cautiously, these types of analyses offer more actionable information to the PCP such as:

- Primary care costs as a percentage of costs by illness

- Overall emergency costs have been consistently high over a period of time for certain conditions.
- A certain drug is not only expensive per dose, it is expensive when looking at the annual cost for a typical patient.
- PCP use of an expensive diagnostic test varies widely (e.g. from 20% to 70%)

However, in most cases, this level of client specific financial analysis is not available, so industry sources need to be used. Sample case studies are outlined in the examples below.

Case Study #1: Measuring PCP's impact on Ambulatory Care Sensitive Conditions

Our first case study examines the expected financial impact for a hypothetical PCP organization who is considering implementing initiatives aimed at reducing ambulatory care sensitive (ACS) conditions.

A primary care practice will likely implement initiatives to target some, of the ACS conditions. For example, the results for a group of physicians can be compared to the typical results above. This can help set priorities, prior results can indicate potential areas of improvement. If, for example, young adult asthma looks high, this is a flag for potential problems. These high hospital admissions may also indicate other clinical consequences of asthma include increased illness complications and diminished quality of life.

There are many ways to take action. The first step may simply be notice to pediatricians (or staff) of high numbers pediatricians, along with a reminder of good practices such as the list above. Or, a range of potential actions specific actions such as:

- Education on self-management for young adults with asthma
- Assessment of patient's current level of self-management education at every visit
- Written asthma action plan
- Counseling with a particular PCP or support staff
- Adherence to treatment –scripts filled. Emphasis on
- Controller medication rather than rescue medications
- Set up system to check for find emergency then reach out to patients and family Assess asthma control
- Identification and intervention (when possible) of triggers such as smoking, environmental factors, or occupational factors
- Reach out to encourage flu vaccination
- Periodic lung function assessment

The analysis below is based on Milliman's 2018 Contributor Heath Cost Guidelines Source Dataset (CHSD) for a large commercial population in the state of New York. New York was selected because it is moderately managed and has utilization patterns similar to the United States. This data represents a large commercial population.

We identified ACS conditions, using the 2019 version of the Agency for Healthcare Research and Quality (AHRQ) Prevention Quality Indicators (PQIs). The AHRQ defines PQIs[29] as a set of measures that can be used with hospital discharge data to identify quality of care for "ambulatory care sensitive conditions".

For an organization who plans to implement a program designed to reduce ACS admissions, current experience can be benchmarked against well-managed experience to identify the magnitude, if any, of the opportunity for

[29] https://www.qualityindicators.ahrq.gov/modules/pqi_overview.aspx

improvement. Not all ACS admissions can be avoided even in the effective provider organizations. Benchmarking may also identify which set of conditions have a larger quality and cost impact.

To determine how this population compares to a well-managed benchmark, we summarized the total admissions and avoidable admissions by Medicare-Severity Diagnosis-Related Group (MS-DRG) for this population. We compared it to Milliman's Commercial well-managed benchmarks. For each MS-DRG, if the population's total admissions were greater than the well-managed benchmark, we calculated avoidable admissions as the minimum of the difference between the population and benchmark admissions or the avoidable ACS admissions. The admissions and savings were aggregated by PQIs in order to understand which conditions have the most potential for savings.

The table below shows the potential inpatient savings of moving our hypothetical organization to a well-managed program. Based on this table, it is possible to reduce ACS admissions per 1,000 by 1.22.

POTENTIAL SAVINGS BY REDUCTIONS IN ACS ADMISSIONS

Prevention Quality Indicator Description	Avoidable ACS Admits per 1,000	Average Allowed per Admit	Total Savings per 1,000
Diabetes Short-Term Complications	0.044	$17,400	$770
Diabetes Long-Term Complications	0.138	$42,200	$5,840
Chronic Obstructive Pulmonary Disease (COPD) or Asthma in Older Adults	0.215	$15,500	$3,350
Hypertension	0.140	$19,600	$2,750
Heart Failure	0.343	$25,800	$8,830
Community-Acquired Pneumonia	0.190	$16,300	$3,100
Urinary Tract Infection	0.086	$12,900	$1,110
Uncontrolled Diabetes	0.019	$22,200	$420
Asthma in Younger Adults	0.015	$12,300	$180
Lower-Extremity Amputation Among Patients with Diabetes	0.029	$53,300	$1,530
Total	**1.220**	**$22,900**	**$27,880**
Total Admits per 1,000	**53.508**		

See Appendices E and F for more information on ACS conditions and an example of ACS admission potential savings for a hypothetical organization.

Case Study #2: Measuring Impact on Emergency Room Visits

Our second case study examines the expected financial impact for our hypothetical PCP organization who is considering implementing initiatives aimed at reducing avoidable emergency room utilization. We used the same data as above as representative of our hypothetical organization for this example.

As a first step, an initial assessment at the macro level is performed to see the potential aggregate savings. This can help used to set priorities and compare the potential health and financial impact to other initiatives that are being considered. As discussed above, any organization focus on certain initiatives.

An analysis of potentially avoidable emergency room visits is performed using the publicly available New York University Emergency Department Algorithm.[30] The analysis shows total emergency room spending of $15.84 PMPM with $1.83 PMPM associated with potentially avoidable emergency room visits. The analysis also shows historical emergency room visits per 1,000 of 146.2 with potentially avoidable emergency room visits per 1,000 of 24.0. Therefore, the potentially avoidable emergency room services are 11.6% of emergency room spend and 16.4% of emergency room visits.

The following table shows the potentially avoidable PMPM cost and utilization by avoidable diagnosis group.

Avoidable Diagnosis Group	Total Expenditure	Avoidable Expenditure	Total Utilization	Avoidable Utilization
Abdominal Pain	$0.15	$0.02	1.2	0.3
Allergic Reaction	$0.07	$0.05	1.0	0.8
Asthma	$0.00	$0.00	-	-
Back Pain	$0.33	$0.15	3.5	2.0
Complications of Pregnancy	$0.17	$0.06	1.5	0.6
COPD	$0.00	$0.00	0.0	0.0
Disorders of teeth and jaw	$0.00	$0.00	-	-
Ear Infections	$0.07	$0.06	1.0	0.9
Eye Inflammation/Infection	$0.03	$0.03	0.5	0.5
Fatigue	$0.05	$0.01	0.4	0.1
Flu	$0.27	$0.14	2.7	1.6
GI Disorders	$0.71	$0.17	6.2	2.0
Headache	$0.32	$0.07	2.6	0.8
Hypertension	$0.10	$0.03	1.0	0.4
Joint Pain	$0.14	$0.09	1.6	1.1
Lower Respiratory Tract Condition	$0.18	$0.09	2.0	1.1
Other	$0.56	$0.22	5.6	2.8
Other (swelling)	$0.02	$0.01	0.3	0.1
Other (yeast infection)	$0.02	$0.01	0.2	0.2
Other Pain	$0.17	$0.08	1.8	1.1
Rx Refill	$0.00	$0.00	0.1	0.1
Skin Disorders	$0.08	$0.06	1.0	0.8
Skin Infection	$0.01	$0.01	0.2	0.2
SMI	$0.07	$0.02	0.8	0.4
Sprains and strains	$0.09	$0.05	1.1	0.7
SUD	$0.00	$0.00	-	-
Upper Respiratory Tract Condition	$0.46	$0.30	5.8	4.3
Urinary tract infections	$0.25	$0.08	2.4	1.1
Not Potentially Avoidable	$11.50	$0.00	101.5	-
Total	**$15.84**	**$1.83**	**146.2**	**24.0**

If the desired outcome is to reduce emergency room utilization, an operational plan is implemented at a micro level. This includes selecting initiatives to support the goal of reducing potentially avoidable emergency room visits.

[30] https://wagner.nyu.edu/faculty/billings/nyued-background

There are many different ways this can be done. For example, an analysis separates all members that utilized the emergency room, from patients with more than four emergency room visits in a year and patients who had four or fewer emergency room visits in a year. The analysis shows that, for patients with at least one emergency room visit:

1. 12.2% of emergency room spending is potentially avoidable for patients with more than four emergency room visits.
2. 11.5% of emergency room spending is potentially avoidable for patients with fewer than four emergency room visits.
3. 89% of total emergency room spending is associated with patients with fewer than four emergency visits.

Analysis can also be done of the conditions associated with emergency room visits.

One action might be targeting less flu-related emergency room visits. The table shows that approximately 50% of emergency room spending is avoidable for this condition which equates to $0.14 PMPM.

If 50% of the flu-related emergency room visits are replaced by an office visit and the other 50% are replaced by a telehealth visit, the cost is $0.01 PMPM. The net savings is $0.13 PMPM.

Another possible action is targeting avoidable emergency room visits for back pain. The table shows that approximately 50% of emergency room spending is avoidable for this condition which equates to $0.15 PMPM.

If the back pain related emergency room visits are replaced by office visits or physical therapy, the cost is $0.02 PMPM. The net savings is $0.13 PMPM.

Therefore, the potential savings for these two initiatives is $0.26 PMPM.

The actions could include:

1. Encourage the flu vaccine
2. Additional personal follow-up with at-risk patients
3. Patient education on flu symptoms and when to seek treatment
4. Patient education on telehealth options
5. Referral to physical therapy after televisit for back pain

Phone triage and patient education on after hours options or urgent care centers may also help with this initiative if they are implemented as part of a broader strategy.

Implementation would increase the administrative expenses. Some of the patient education and phone triage can be performed during office visits where the incremental cost would be minimal. In some cases, a 24/7 nurse triage hotline is available for other initiatives as well, so the incremental cost would relatively low. However, when reviewing the financial savings, it is important to understand the potential savings of $0.26 is prior to any additional administration cost.

Section 6: Additional Issues

6.1 ATTRIBUTION

In programs where the members are required to choose a PCP, attribution is a simple process. However, in many programs, the member is not required to choose a PCP and must be attributed to the PCP (or physician group) for measurement and payment. In order to determine payment, members are attributed to PCPs based on algorithms that use claims data to determine which PCP was used for the most office visits as well as the most recent use.

Attribution can be complicated for those members who have multiple office visits to PCPs and specialists. Attribution can be done prospectively or retrospectively, each with certain advantages and disadvantages.

For more information on patient attribution, please see "Patient Attribution: The Basis for All Value-Based Care" at https://www.soa.org/globalassets/assets/files/resources/research-report/2018/patient-attribution.pdf

6.2 RURAL

Rural areas have additional considerations. Members may not have access to specialist within a reasonable proximity. This means the PCP may be responsible for providing care beyond that in other areas. Telemedicine may be a partial solution to travelling long distances for specialist care.

Section 7: Conclusion

The concept of whole-patient coordinated care is consistent across patient centered medical homes but there is variability in the design details. There are many factors that influence the optimal design of a PCMH including the size of the practice, resources, location, and population served.

Traditionally, actuaries have assisted the insurance industry but as the risk shifts toward providers we must pivot our expertise to healthcare providers. As experts in the healthcare industry, actuaries are uniquely positioned to assist in the payment model development, initiative selection and evaluation of results of patient centered medical homes.

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Appendix A – Additional Descriptive Material for Models

Appendix A provides additional descriptive material for each model. The following excerpts are largely directly from websites from the official association.

PATIENT CENTERED MEDICAL HOME (PCMH)[31]

ORIGINAL, FORMAL DEFINITION

The medical home model holds promise as a way to improve health care in America by transforming how primary care is organized and delivered. Building on the work of a large and growing community, the Agency for Healthcare Research and Quality (AHRQ) defines a medical home not simply as a place but as a model of the organization of primary care that delivers the core functions of primary health care.

The medical home encompasses five functions and attributes:

1. Comprehensive Care

The primary care medical home is accountable for meeting most of each patient's physical and mental health care needs, including prevention and wellness, acute care, and chronic care. Providing comprehensive care requires a team of care providers. This team might include physicians, advanced practice nurses, physician assistants, nurses, pharmacists, nutritionists, social workers, educators, and care coordinators. Although some medical home practices may bring together large and diverse teams of care providers to meet the needs of their patients, many others, including smaller practices, will build virtual teams linking themselves and their patients to providers and services in their communities.

2. Patient-Centered

The primary care medical home provides health care that is relationship-based with an orientation toward the whole person. Partnering with patients and their families requires understanding and respecting each patient's unique needs, culture, values, and preferences. The medical home practice actively supports patients in learning to manage and organize their own care at the level the patient chooses. Recognizing that patients and families are core members of the care team, medical home practices ensure that they are fully informed partners in establishing care plans.

3. Coordinated Care

The primary care medical home coordinates care across all elements of the broader health care system, including specialty care, hospitals, home health care, and community services and supports. Such coordination is particularly critical during transitions between sites of care, such as when patients are being discharged from the hospital. Medical home practices also excel at building clear and open communication among patients and families, the medical home, and members of the broader care team.

[31] https://pcmh.ahrq.gov/page/defining-pcmh

4. Accessible Services

The primary care medical home delivers accessible services with shorter waiting times for urgent needs, enhanced in-person hours, around-the-clock telephone or electronic access to a member of the care team, and alternative methods of communication such as email and telephone care. The medical home practice is responsive to patients' preferences regarding access.

5. Quality and Safety

The primary care medical home demonstrates a commitment to quality and quality improvement by ongoing engagement in activities such as using evidence-based medicine and clinical decision-support tools to guide shared decision making with patients and families, engaging in performance measurement and improvement, measuring and responding to patient experiences and patient satisfaction, and practicing population health management. Sharing robust quality and safety data and improvement activities publicly is also an important marker of a system-level commitment to quality.

OTHER VERSIONS OF PATIENT CENTERED MEDICAL HOMES

While the definition above is the original formal definition of PCMH programs, many other programs have built on top of the original definitions. Part of this customization reflects the needs of different populations, payment systems, and role of primary care physicians in Medicaid, Medicare, and commercial programs. Since they expand on the principles of PCMH, articles they are often classified as Patient Centered Medical Homes.

A historic overview of some of other programs is available from the Patient-Centered Primary Care Collaborative (PCPCC) website. Although the material on the website is not current, it offers some real-world examples of how the basic principles have been modified over the years.

The Aetna Patient Centered Medical Home provides National Committee for Quality Assurance (NCQA) recognized PCMHs that are not involved in other incentive programs with a quarterly care coordination payment. For more information, go to the website below.

For https://www.pcpcc.org/initiative/aetna-patient-centered-medical-home-program

The Anthem Enhanced Personal Health Care program works with both accountable care organizations (ACOs) and PCMHs to shift the focus from a fee for service-based model to a value base model. There are shared savings bonus payments paid out if cost and quality targets are met. In some cases, care coordination payments are also made. For more information, go to the website below.

https://www.pcpcc.org/initiative/anthem-enhanced-personal-health-care

UnitedHealthcare operates 13 PCMHs for the commercial population in 10 states. They made investments in health information technology for timely data sharing. Some of the PCMHs recognized savings and improved quality of care. For more information, go to the website below.

https://www.pcpcc.org/initiative/unitedhealthcare-pcmh-program

Blue Cross Blue Shield of Michigan has established the Physician Group Incentive Program (PGIP) which are a set of clinical and quality-based initiative aimed at reducing cost and improving population health. One of the programs under PGIP is a PCMH. They reward providers with incentives when they actively engage with the initiatives and provide fee uplifts to high quality, cost efficient physicians. For more information, go to the website below.

https://www.bcbsm.com/providers/value-partnerships/physician-group-incentive-prog/models-of-care/patient-centered-medical-home-initiatives.html

BRIDGES TO EXCELLENCE[32]

Bridges to Excellence programs measure the quality of care delivered in provider practices. The emphasis is on managing patients with chronic conditions, who are most at risk of incurring potentially avoidable complications. The Recognitions cover all significant chronic conditions to promote comprehensive care delivery and strong relationships between patients and their care teams. Physicians, nurse practitioners and physician assistants who meet defined performance benchmarks are widely recognized on a number of insurer websites as well as private sector transparency tools.

Currently, recognition programs exist for asthma care, cardiac care, COPD care, depression care, diabetes care, heart failure care, hypertension care, inflammatory bowel disease (IBD) care, and maternity care.

The programs are intended to identify who deliver high quality care for a specific condition. The measures reflect physician behavior that:

- Delivers high quality care from outset of patient contact.
- Understands and considers prior treatment history to help avoid inappropriate treatment.
- Makes efforts to reduce the risk of preventable illness.

The programs comprise a set of measures, based on clinical evidence, that promote a model of care, which includes:

- Patient education
- Shared decision making
- Comprehensive patient assessment and reassessment

Clinicians and medical practices voluntarily submit medical record data documenting their patient care. There are three performance thresholds that provide star ratings to physicians, based on their performance to their peers. There are defined care measures, performance criteria, and scoring for each condition. Minimum patient thresholds are required for credibility purposes.

A study published in the American Journal of Managed Care, concluded that "Physicians recognized as high quality by Bridges to Excellence performed better than their peers on claims-based quality measures and, in some cases, on resource use measures."[33] For more details on the study, please click the link below.
https://www.ajmc.com/journals/issue/2008/2008-10-vol14-n10/oct08-3648p670-677

FEDERALLY QUALIFIED HEALTH CENTERS - FQHC[34]

Federally Qualified Health Centers are community-based health care providers that receive funds from the Health Resources and Services Administration (HRSA) Health Center Program to provide primary care services in

[32] http://www.bridgestoexcellence.org/
[33] https://www.ajmc.com/view/oct08-3648p670-677
[34] https://www.hrsa.gov/opa/eligibility-and-registration/health-centers/fqhc/index.html

underserved areas. They must meet a stringent set of requirements, including providing care on a sliding fee scale based on ability to pay and operating under a governing board that includes patients.

Federally Qualified Health Centers may be Community Health Centers, Migrant Health Centers, Health Care for the Homeless, and Health Centers for Residents of Public Housing.

The defining legislation for Federally Qualified Health Centers (under the Consolidated Health Center Program) is Section 1905(l)(2)(B) of the Social Security Act.

Health centers are community-based and patient-directed organizations that deliver comprehensive, culturally competent, high-quality primary health care services. Health centers also often integrate access to pharmacy, mental health, substance use disorder, and oral health services in areas where economic, geographic, or cultural barriers limit access to affordable health care services. Health centers deliver care to the Nation's most vulnerable individuals and families, including people experiencing homelessness, agricultural workers, residents of public housing, and the Nation's veterans.

The health centers are designed:

- Deliver high quality, culturally competent, comprehensive primary care, as well as supportive services such as health education, translation, and transportation that promote access to health care.
- Provide services regardless of patients' ability to pay and charge for services on a sliding fee scale.
- Operate under the direction of patient-majority governing boards of autonomous community-based organizations. These include public and private non-profit organizations and tribal and faith-based organizations.
- Develop systems of patient-centered and integrated care that respond to the unique needs of diverse medically underserved areas and populations.
- Meet requirements regarding administrative, clinical, and financial operations.

Health centers overcome geographic, cultural, linguistic, and other barriers to care by delivering coordinated and comprehensive primary and preventive services. This care reduces health disparities by emphasizing care management of patients with multiple health care needs and the use of key quality improvement practices, including health information technology.

Most health centers receive Health Center Program federal grant funding to improve the health of underserved and vulnerable populations. Some health centers receive funding to focus on special populations including individuals and families experiencing homelessness, migratory and seasonal agricultural workers, and residents of public housing. The majority of health center operating funds come from Medicaid, Medicare, private insurance, patient fees, and other resources. Some health centers that meet all Health Center Program requirements do not receive Federal award funding. These are called Health Center Program look-alikes.

Health centers leverage a variety of other related programs. Health centers that receive federal grant funding may gain access to medical malpractice coverage under Federal Tort Claims Act (FTCA), and some receive federal loan guarantees for capital improvements.

All health centers, including look-alikes, gain access to:

- Federally Qualified Health Center Prospective Payment System reimbursement for services to Medicare and Medicaid beneficiaries;
- 340B Drug Pricing Program discounts for pharmaceutical products;

- Free vaccines for uninsured and underinsured children through the Vaccines for Children Program; and,
- Assistance in the recruitment and retention of primary care providers through the National Health Service Corps.

Appendix B – Differences by Line of Business

Approaches to PCP models must be customized to Medicare, Medicaid, commercial, Exchange, or self-funded programs due to many differences between the populations, payment system, and legal requirements. The following discusses some of the primary attributes by line of business and provides some highlights of these populations.

MEDICARE – FEE FOR SERVICE

Under Medicare fee for service, any programs are created and administered by the Centers for Medicare and Medicaid (CMS). Two new programs are primary care focused. The first option, the Primary Care First, is aimed at small and solo primary care practices.

Under Primary Care First, practices will receive a flat payment per beneficiary, allowing clinicians to focus more on care than on revenue cycle management. Practices will be able to receive bonuses of up to 50% or penalties of up to 10%, based on performance, as an incentive to reduce costs and improve quality. Performance will be assessed and paid quarterly.

There also will be an option for enhanced payment for caring for patients with chronic illnesses.

A second option, the Direct Contracting model, is aimed at larger practices– those that serve at least 5,000 Medicare beneficiaries. Options under the Direct Contracting model are designed for organizations ready to take on full financial risk and that have experience managing large populations with accountable care organizations or that are working with Medicare Advantage plans.

The Direct Contracting model will start with two options. The Professional population-based payment (PBP) model offers a lower risk-sharing arrangement (50% savings/losses), while the Global PBP offers a 100% savings/losses risk-sharing arrangement.

One item to remember is that in traditional Medicare, the government contracts directly with providers to take risk and responsibility. This forces the provider organizations to invest in a wide variety of tools essential for managing population health: analytics infrastructure to assess risk profiles of patients; prevention and wellness programs; care coordination and care management teams to support chronically ill and complex patients; care transition programs; and integration of services delivered in home, community, and health care settings. For members in Medicare Advantage plans, the managed care organization often bears the cost of many of these tools.

MEDICARE ADVANTAGE

Enrollment in Medicare Advantage (MA) — the private plan alternative to traditional Medicare – continues to grow. In 2019, 34 percent of Medicare beneficiaries were in MA plans, up from 22 percent in 2008[35].

[35] https://www.kff.org/medicare/fact-sheet/medicare-advantage/

A recent study showed that Medicare patients with higher primary care visits had lower overall costs, avoiding costly inpatient visits and complications from lack of prescription drugs compliance[36]. Therefore, a primary care focused model offers potential to improve health and reduce costs.

Most Medicare beneficiaries take multiple prescriptions. PCPs serving these patients will have responsibility for checking for compliance and potential adverse effects between prescriptions.

COMMERCIAL / SELF-FUNDED / EXCHANGE

Commercial, self-funded and exchange markets have more flexibility in model development due to less regulatory oversight. Therefore, it is more difficult to generalize.

These populations consist of many healthy members who see their PCP infrequently, which can be a challenge with regard to developing a relationship of trust between the PCP and patient.

PCPs serving this population are often responsible for patients who have a chronic condition. The PCP has a large role in helping the patient manage their condition to avoid adverse health outcomes.

Additionally, primary care models for this population will focus on pre-natal care to avoid pregnancy complications and premature births.

The concierge model is primarily commercial members, although some Medicare patients may also join a concierge model. The concierge model developed as members sought convenience with an ability to pay out of pocket.

MEDICAID

As the nation's safety net, Medicaid has historically provided coverage to several distinct highly vulnerable populations, including approximately 50% of American children and pregnant women, elderly and disabled individuals with low incomes, and those who need assistance with long term services and supports such as nursing home care. In addition, most of those served by Medicaid face barriers, often multiple barriers, to accessing and managing their own care, including transportation, education, language, or provider availability. And finally, they may also be struggling to manage other key life needs, commonly referred to as social determinants of health (SDOH), such as finding stable housing or child care, feeding themselves and their families, and finding protection from violence in the community.

Federal Medicaid regulations recognize the importance of access to care and continuity of care. For example, for low income populations, true access requires minimizing or eliminating copays for key maintenance drugs and other services and making sure to provide access to non-emergency medical transportation, both of which are required under federal Medicaid guidelines. Given the poverty, and potential educational or language barriers of participants, it is especially important for a trusted PCP to take the time to explain care, and to facilitate referrals to other providers. Performing this critical coordination effectively can be challenged by relatively low Medicaid reimbursement as well as issues such missed appointments[37]. Medicaid has always recognized the vital role of the PCP; it also needs to improve support for these practitioners and recognition and sharing of best practices.

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[36] https://www.ajmc.com/journals/issue/2018/2018-vol24-n9/hightouch-care-leads-to-better-outcomes-and-lower-costs-in-a-senior-population?p=4

[37] Medicaid populations face additional barriers to accessing cares, such as fewer transportation or child care options, and less flexibility in their work schedules. Without proper management, Medicaid no-shows can be a problem. Practices need to invest in better communication, ask about preferred

From a historical perspective, Medicaid's customization of the PCP role to reflect its unique beneficiaries began with the predecessors of FQHCs, which were known as Neighborhood Health Centers, and began at the inception of the Medicaid program, as part of President Johnson's War on Poverty[38]. These centers were designed to provide comprehensive patient-centered health care, including physical health care, behavioral health care, and dental care to Medicaid, the uninsured, and the underserved. They also provide enabling services such as case management, language services, transportation needed to get to medical appointments, and referrals to supports that will help participants find stable housing, address food insecurity, or other SDOHs. A majority of the governing board is required to be composed of health center patients, supporting community empowerment[39]. FQHCs are also required to have ongoing quality assurance programs, and using data from the first decades of the program, during which FQHCs were available in some counties but not others, researchers were able to credit the availability of comprehensive primary care in the centers with an astounding 2% (absolute) decrease in mortality for those age 50 or above in the disadvantaged populations they served[40]. PCPs are encouraged to coordinate care with "warm hand-offs" to colleagues with special expertise in, for example, behavioral health or dentistry. This is facilitated by co-location and joint ownership. In 2019, FQHCs served approximately 29 million individuals[41].

Medicaid managed care has been described as the predominant delivery system for Medicaid in most states[42]. As of July 2017, 55.6 million members were enrolled in comprehensive managed care, approximately 69.3% of all Medicaid members[43]. Low-income children and families are the population most likely to be enrolled in mandatory managed care, and most MCOs have made it a core competency to excel on key preventive services relevant to their populations, such as child annual preventive visits, childhood immunizations, and prenatal care for pregnant women. Another area for Medicaid focus is on behavioral health conditions and substance abuse, which are of higher prevalence. New York State (NYS) PCMH requires the practices to screen for alcohol and substance abuse disorders. They also require the PCMH to have a procedure for information exchange between the PCMH and behavioral health professionals[44]. Traditional Medicaid managed care organizations (MCOs) are generally at financial risk for spending through a capitation agreement and have some level of contingent payments based on performance. In recent years, MCOs have been joined by Medicaid ACOs, PCMHs, and other managed care entities. These entities often have the resources and sophistication to provide significant structural support to PCPs to help with managing care, and payment to PCPs is increasingly becoming partially contingent on process and outcome improvements. Most Medicaid primary care models offer additional income for the provider through risk-sharing, bonuses, and enhanced payments. It would be unusual for a Medicare program to include downside risk, although these are beginning to emerge. Federal pilot programs can serve as an additional resource, either through 1115 demonstration authority or special initiatives. Currently, the Center for Health strategies (CHCS) is running pilot programs in several states, with the aim to advance primary care in managed care through addressing social determinants of health, integrating behavioral health into primary care, using technology to improve access, and enhancing team-based primary care approaches[45].

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appointment times, coordinate with public transportation, and confirm appointments in order to reflect late changes to inflexible work schedules. https://jacksonllp.com/medicaid-patientcompliance/

[38] https://hsrc.himmelfarb.gwu.edu/cgi/viewcontent.cgi?referer=https://scholar.google.com/&httpsredir=1&article=1136&context=sphhs_centers_nhpf

[39] https://www.fqhc.org/what-is-an-fqhc

[40] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4436657/

[41] http://www.nachc.org/wp-content/uploads/2019/09/Americas-Health-Centers-Updated-Sept-2019.pdf

[42] https://www.kff.org/medicaid/report/medicaid-moving-ahead-in-uncertain-times-results-from-a-50-state-medicaid-budget-survey-for-state-fiscal-years-2017-and-2018/

[43] https://www.medicaid.gov/medicaid/managed-care/downloads/enrollment/2017-medicaid-managed-care-enrollment-report.pdf

[44] https://www.health.ny.gov/technology/innovation_plan_initiative/docs/pcmh_brochure.pdf

[45] https://www.chcs.org/driving-primary-care-innovation-through-medicaid-managed-care-state-approaches/

Appendix C – Efficiency and Quality Profiling for Individual PCPs

As data becomes more robust and available, efforts to analyze and report on physician-level measures of quality and efficiency have increased.

Given the major impact primary care physicians can have on improving the health system and reducing unneeded and wasted services, PCPs need to have actionable information and feedback to realize their potential. In addition, if there are aligned financial incentives, PCPs may become more personally engaged in change and improvement.

Profiling requires a program developer with business and analytic skills. The analytic results can be combined with the clinical suggestions of the PCPs. For these programs, initial work starts with information and analysis about the existing situation. Variation in practice patterns, resource use and costs for one or more illnesses can be reviewed. Better existing performers can be identified, and their suggestions shared with their colleagues. Fee differences can be identified and explained. Key cost drivers can be investigated to develop initiatives and action plans.

The involvement of individual PCPs in this activity varies widely. Some PCPs can be an active part of this process. Other PCPs, such as those with high workloads or little interest in process or analysis, just expect final suggestions and training material.

Profiling requires a measurement system. The industry has developed different ways to measure the performance of physicians.

Measurement varies between program developers and needs to be customized to the data sources and analytic systems that are available. It also reflects each particular buyer. The Federal Medicare program is different from a state Medicaid program and differs from private insurers' programs. Results can be measured for a specific illness or specific initiative. For example, if an initiative is intended to improve generic compliance for certain conditions, these results can be measured. Similarly, an initiative to refer basic lab work to a single vendor is measurable.

Efficiency can also be based on overall results can be measured and adjusted using type of service[46], case-mix, demographic risk, standard fees, and/or illness adjustments. Results are allocated to attributed PCPs (or PCPs selected by the member at enrollment in programs like Medicare Advantage and commercial HMOs).

The results for each PCP can be compared to targets, benchmarks, other PCPs, prior results, etc...

Profiling can also be used to create incentives for individual PCPS.

After the new program is started, results can be measured, and some PCP programs offer feedback and incentive bonuses to PCPS. This is done by many different types of program developers including state governments, physician groups, hospitals, and insurers. PCPs can be compared to peers based on quality and/or efficiency. This offers the PCP specific information and financial support.

Some program developers use this analysis for upside bonuses, shared savings, or enhanced fees to reward primary care physicians who have solid or excellent performance. These bonuses offer additional funding for a PCP.[47]

Feedback on performance that can create continuous improvement. This is given to physicians on their resource use, quality, and the financial implications.

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[46] For example, if a provider group is responsible for only for outpatient risk, overall outpatient costs can be used.

[47] Penalties are rarely used: difficult to administer, the number of PCPs is limited, and are often hard to find, for two reasons. PCP physicians face many business challenges, as discussed earlier.

Support for participating in specific initiatives (as discussed later in this report).

Steerage to these PCPs. In some states and federal programs insurers develop alternative networks of individual physicians based on measurable quality and efficiency performance metrics and options offered to buyers. PCPs are one of the major types of physicians evaluated.

Bonuses for older members or more complex cases.

Appendix D – List of Initiatives

- Care Coordination
    - Develop a network of community resources to better serve patients
    - Develop an integrated care team with PCP and specialists, including a pharmacist, to coordinate care for complex conditions
    - Hire additional nurses for care coordination
    - Develop a chronic condition patient registry
    - Establish nurse care managers for chronic conditions
    - Coordinate with specialists to get patient treatment plans and monitor adherence and results until another specialist visit needed
    - Use nurses and physician assistants to screen patient questions
    - Nurses and physician assistants responsible for acute/chronic care issues
    - Use nurses and health coaches to provide patients with education and skills training
    - Contact patients to schedule preventive and chronic care visits
- Behavioral Health
    - Screen, diagnose, and treat (when appropriate) mental health conditions during PCP visit
- Network Management
    - Direct patients to in-network facilities and services, including emergency department users
    - Direct patients to less costly sites of care (inpatient to outpatient; outpatient to site with negotiated contract, etc.)
    - Establish a referral network of cost-effective specialists, taking into account cost and quality
    - Use specialists willing to use in-network hospitals and ambulatory surgery centers
    - Perform X-rays internally and contract w/ outside radiologist to interpret films
    - PCP administrative staff follow-up with referred physician to make sure referred patients followed through with the referral
    - Automated referral system
    - Direct to in-network lab for basic tests
    - Avoid referrals to providers with high fees if no clear added value
- Inpatient Care
    - PCP or staff coordinate with hospital during and/or after patient's inpatient stay
    - PCP able to accept patient upon discharge on a timely basis
    - PCP support transfer from acute to subacute
- Emergency Care
    - Provide case managers a list of emergency room patient use to redirect back to PCP in the future
    - PCP or staff outreach to emergency room frequent flyers, patients who have 3 or more ER visits in 6 months
    - Use case manager/social worker to change pattern of emergency room use of frequent flyers
- Clinical Best Practices
    - Benchmark clinical quality data to identify performance gaps
    - Follow best practices to reduce variation in technique and cost of care
    - Train staff to support use of patient decision aids
    - Provide physicians feedback on chronic conditions
    - Educate patients on chronic conditions
    - Remind patients to use preventative measures
    - Follow up with patients at home about their chronic conditions and treatment regimens
    - Address safety issues for seniors/children

    - Identify social factors that could cause conditions to deteriorate and direct patients to the required resources
- Pharmacy
    - Add pharmacists to care teams and coordinate with them when prescribing medications
    - Use electronic prescriptions
    - Provide generic medications to patients in office at cost
    - PCPs provide appropriate volume/refills for prescriptions
    - Prescribe drugs on patient formulary to increase adherence
    - Use step therapy
    - Write 90-day mail order scripts
    - Review prescription adherence to outreach to patients that aren't adhering to find out why
    - Review medications for patients with multiple medications
    - End medication when appropriate or reduce level
- Patient Education
    - Promote patient awareness of other sites of care
    - Educate patients on what is emergency care versus urgent care
    - Educate patients on where urgent care is located
    - Direct patient to hospital with strong capabilities for their condition to avoid further transport
    - Provide patient education and access to services to manage exacerbations of chronic problems
    - Council end of life decisions
- Patient Experience
    - Provide patient transportation to and from appointments
    - Establish 24/7 phone number for nurse with access to patient records
    - Provide same-day scheduling
    - Perform email and telephone visits
    - Offer tobacco cessation programs
    - Survey patients to evaluate patient experience and satisfaction
    - Improve non-clinical patient experience, such as reduced hold times, waiting room time and ease of scheduling how appointments are made, so patients don't avoid care
    - Employ a bilingual staff
- Health Information Technology
    - Grant providers outside of practice access to electronic health records
    - Utilize electronic medical records to analyze quality measures
    - Allow patients online access to their electronic health records
- Reimbursement
    - Shift from fee for service payment model to value-based reimbursement or capitation
    - Pay all staff based on outcomes-based metrics
    - Provide bonuses for meeting quality benchmarks, utilization benchmarks, and patient satisfaction
    - Shared savings or bonuses for meeting benchmarks
- Cancer Management
    - Screen patients for cancer at PCP visit
    - PCP help patient navigate cancer treatment (i.e. local oncologist instead of hospital)
    - PCP provide options for cancer treatment; discussion of lifestyle for certain cancers
    - PCP resume care as soon as reasonable post-cancer treatment
- Insurance Status
    - Develop managed care programs for the uninsured population
    - Centralize enrollment so that administrative staff can determine eligibility of patients in public programs
    - Implement initiatives and process improvements across all patients regardless of insured status
    - Establish a financial assistance program for uninsured patients

Appendix E – Background on ACS Admissions

Ambulatory care sensitive (ACS) conditions are conditions "for which good outpatient care can potentially prevent the need for hospitalization, or for which early intervention can prevent complications or more severe disease"[1]. Ambulatory care sensitive admissions are often used as a quality measure of ambulatory-care delivery. The majority of ACS admissions are associated with chronic conditions so high ACS admission rates may flag less than optimal primary and preventative care. Of course, some outside factors can also influence ACS admission rates, such as socio-economic conditions or patient adherence.

The Agency for Healthcare Research and Quality (AHRQ) defines Prevention Quality Indicators (PQIs)[48] as a set of measures that can be used with hospital discharge data to identify quality of care for "ambulatory care sensitive conditions". The AHRQ provides definitions and hospital claims data coding logic for 10 ACS conditions noted in the table below:

Prevention Quality Indicator Description
Diabetes Short-Term Complications
Diabetes Long-Term Complications
Chronic Obstructive Pulmonary Disease (COPD) or Asthma in Older Adults
Hypertension
Heart Failure
Community-Acquired Pneumonia
Urinary Tract Infection
Uncontrolled Diabetes
Asthma in Younger Adults
Lower-Extremity Amputation Among Patients with Diabetes

The analysis below is based on Milliman's 2018 Contributor Heath Cost Guidelines Source Dataset (CHSD) for a large commercial population in the state of New York. New York was selected because it is moderately managed and has utilization patterns similar to the United States. This data represents a large commercial population. Using the 2019 version of the AHRQ PQI, we find that ACS admissions make up 5.7% of all adult admissions and 4.2% of allowed claims.

ACS Admissions as a Percentage of Total Admissions

	Admits per 1,000	Allowed PMPM
ACS Admissions	3.0	$5.09
Total Admissions	53.5	$122.46
ACS Admissions % of Total	**5.7%**	**4.2%**

The table below shows the portion of total ACS admissions that each ACS condition contributes using the AHRQ PQI categorization. The table includes male and female and is sorted by the ACS conditions which have the most admissions. Heart failure is the largest contributor at 24.6%, followed by COPD at 17.2%.

[48] https://www.qualityindicators.ahrq.gov/modules/pqi_overview.aspx

Total ACS Admissions by Prevention Quality Indicator (PQI)

Prevention Quality Indicator Description	Admits per 1,000	Allowed per Admit	Admits as a % of PQI
Heart Failure	0.75	$22,100	24.6%
Chronic Obstructive Pulmonary Disease (COPD) or Asthma in Older Adults	0.52	$15,615	17.2%
Community-Acquired Pneumonia	0.51	$16,661	16.9%
Diabetes Long-Term Complications	0.35	$36,458	11.4%
Urinary Tract Infection	0.28	$12,399	9.3%
Diabetes Short-Term Complications	0.25	$15,661	8.3%
Hypertension	0.20	$18,685	6.5%
Uncontrolled Diabetes	0.10	$15,666	3.3%
Lower-Extremity Amputation Among Patients with Diabetes	0.08	$58,323	2.6%
Asthma in Younger Adults	0.05	$14,172	1.7%
Total PQI*	**3.05**	**$20,047**	**100.0%**

*Some admits can be contained in two PQI categories and are only counted once in the total; the total admits are less than the sum of the categories.

Other analytics may be performed to identify which type of members are contributing to the high ACS admissions, such as male/female or adult/child.

The chart below shows that the ACS admission rate is higher for men than women. The ACS admission rate as a percent of total admissions is also higher for men than women. Most of the difference is due to women having a greater number of admissions overall because of maternity care.

Male/Female Comparison of ACS Admissions

Prevention Quality Indicator Description	Male Admits per 1,000	Female Admits per 1,000
Diabetes Short-Term Complications	0.26	0.25
Diabetes Long-Term Complications	0.51	0.19
Chronic Obstructive Pulmonary Disease (COPD) or Asthma in Older Adults	0.44	0.61
Hypertension	0.22	0.18
Heart Failure	0.94	0.56
Community-Acquired Pneumonia	0.53	0.50
Urinary Tract Infection	0.19	0.37
Uncontrolled Diabetes	0.12	0.08
Asthma in Younger Adults	0.03	0.07
Lower-Extremity Amputation Among Patients with Diabetes	0.14	0.02
Total PQI	**3.28**	**2.82**
Total Admissions	43.00	63.77
PQI as a % of total Admissions	**7.6%**	**4.4%**

While it is useful to use the AHRQ PQIs, organizations may also find it useful to understand how ACS admissions are distributed across Diagnosis-Related Groups (DRGs). Because most health plans and providers analyze their

inpatient stays using Medicare-severity DRGs (MS-DRGs), we show how MS-DRG analysis can be combined with ACS admission analytics to identify potential opportunities for improvement for the PCP.

We applied AHRQ coding logic to the same dataset and identified Medicare-severity DRGs (MS-DRGs) for which all or a portion of each MS-DRG meet AHRQ coding criteria.

The top 10 MS-DRGs make up nearly two-thirds of the ACS admissions and provide guidance on the conditions which can be targeted in the initiative. MS-DRGs are coded at hospital discharge and reflect treatments provided and severity of conditions throughout the course of the inpatient admission; therefore, ACS admissions could appear across a wide range of MS-DRGs. However, most MS-DRGs associated with an ACS condition fall within a narrow subset associated with the underlying condition.

A snapshot of top ten major DRGs is below.

ACS Admissions for Top 10 MS-DRGs

MS-DRG	Description	Admits / 1,000	% of Total ACS Admissions
291	Heart Failure & Shock w (Major Complication or Comorbidity (MCC)	0.42	13.68%
194	Simple Pneumonia & Pleurisy w Complication or Comorbidity (CC)	0.24	7.84%
638	Diabetes w CC	0.23	7.66%
690	Kidney & Urinary Tract Infections w/o MCC	0.23	7.63%
190	Chronic Obstructive Pulmonary Disease w MCC	0.21	6.77%
292	Heart Failure & Shock w CC	0.13	4.35%
193	Simple Pneumonia & Pleurisy w MCC	0.13	4.20%
305	Hypertension w/o MCC	0.13	4.16%
195	Simple Pneumonia & Pleurisy w/o CC/MCC	0.12	3.85%
639	Diabetes w/o CC/MCC	0.11	3.71%
Total Top 10 MS-DRGs		**1.95**	**63.84%**

Appendix F – Example of ACS Savings in a Hypothetical Organization

If our organization has 5,000 attributed members, the expected annual ACS admissions would be (3.05 admits per 1,000 x 5) 15.3. Achieving well-managed ACS admissions could reduce ACS admissions to (15.3 - 1.22 admits per 1,000 x 5) 9.2, or a deduction of 6.1 admissions. Using the average allowed per avoidable ACS admission of $22,900, would result in approximately $140,000 savings (6.1 admits x $22,900).

Or, the organization might choose to focus on reducing avoidable heart failure admissions since it is nearly a third ($8,830 per 1,000 / $27,880 per 1,000), or $44,200 ($8,830 savings per 1,000 x 5), of the potential inpatient savings. Total savings are lower since savings will be offset by the cost to add office visits and increase utilization of prescription drugs.

Nearly all of the avoidable admissions had the following clinical classifications:

- Congestive heart failure; nonhypertensive
- Hypertension with complications and secondary hypertension

Using the 2018 CHSD data described above, we identified all of the members in the population that had a claim with an ICD-10 diagnosis code associated with these two clinical classification categories. Of the members with a preventable ACS admission, 52% had a PCP visit in 2018 prior to their first inpatient admission. Of members with a preventable ACS admission April 2018 – December 2018, 62% had a PCP visit in 2018 prior to the preventable admission. On average, members had 1 PCP visit in the 60 days following the avoidable admission. Of heart failure patients without an inpatient admission, over 75% had a visit to the primary care physician.

For initial modeling, more active outreach to heart failure patients might create added internal costs and an additional PCP visit for 75% of enrollees focusing on those with little PCP contact, there would be an additional 5.0 visits per 1,000 members. Assuming the 2018 average allowed cost of $102, this would result in an increased cost of $2,550. The net savings is $41,600 or $0.69 PMPM.

Depending on the needs of the patient, the PCP may need to alter dosage or add medications to the regimen. They may also diagnose the patient with additional comorbidities. If we assume each additional PCP visit results in one additional prescription drug, the average cost of a 90-day supply would need to be less than $416 per script in order to recognize savings. The savings will depend on the therapeutic class and drug type (generic or brand) prescribed.

This offers the planning team some initial magnitudes for the potential impact. Numbers can be refined in discussions with the physicians as they make practical decisions on possible actions.

Additionally, there were increased costs for administrative tasks associated with these initiatives. Please see Section 3.3 for a discussion of administrative expenses.

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