

SUSTAINING THE MEDICAL HOME: HOW PROMETHEUS PAYMENT® CAN REVITALIZE PRIMARY CARE



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EXECUTIVE SUMMARY

SUSTAINING THE MEDICAL HOME:

How PROMETHEUS Payment[®] Can Revitalize Primary Care

As U.S. policymakers debate various approaches to reform the nation's ailing health care system, efforts to improve quality and reduce costs have never received more attention. One potential solution that is gaining support is to restructure primary care practices to incorporate essential principles of the "patient-centered medical home" clinical delivery model. Some early evidence shows that aggressive clinical care coordination, intense communication with patients, concentrated adherence to evidence-based measures and attention to avoiding hospitalization results in better-quality care being delivered at a lower overall cost. The PROMETHEUS Payment model is designed to encourage these better care patterns and can support the creation and sustainability of medical homes.

By avoiding the pitfalls of current and past incentive models, payment can be reformed, and primary care practices can return to the solid and central place they deserve in a better American health care system. At the core is recognition that existing fee-for-service (FFS) and capitation-based payment systems encourage *volume-driven* health care rather than *value-driven* health care. Providers are rewarded for "doing things" (either too many or not enough), rather than delivering quality services that are proven to keep people healthy, reduce errors and help avoid unnecessary care.

In analyzing a large body of national claims data, the PROMETHEUS Payment developers found that a significant percentage of total cost of care spent today on six chronic diseases is attributable to "Potentially Avoidable Complications" (PACs). On average, close to half of total costs for these conditions are attributable to PACs, and they present a powerful mechanism to sustainably fund the patient-centered medical home model of care delivery.

The PROMETHEUS Payment model presents a blueprint for physician payments based on packaging a comprehensive "episode" of medical care that covers all patient services related to a condition. The model uses an "Evidence-informed Case Rate[®]" (ECR), which creates a patient-specific, severity-adjusted prospective budget for a patient with a chronic condition. Each patient is assessed a budget based on his or her condition and its relative severity. These budgets can be added up across a specific patient population and represents a global budget for the physicians caring for these patients—irrespective of whether the physicians are incorporated in a "system."

Patients access care as they do now; physicians who care for the patients get paid under their current negotiated fee schedules; and all claims get accumulated against the prospective budget for each patient. At the end of the year, the actuals are compared to budgets, and any excess is the upside opportunity for the physicians. This report details how episode of care payment can be operationalized today, without any major disruption to payer or provider operations, or forced integration into "accountable care organizations," and yield significantly improved margins for physicians that deliver coordinated, patient-centered care.

The current national health reform dialogue provides an opportunity to correct the deficiencies in health care value and usher in meaningful changes in the way we pay for care. The PROMETHEUS Payment model may serve as a viable example to effectively power the medical home concept, resulting in better patient outcomes and greater affordability of care.

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Introduction

Health care services currently consume 17 percent of the U.S.

Gross Domestic Product. Observers expect that share to reach more than 20 percent of GDP within a decade. And yet, in a sector of the economy that, in dollar terms, is doubling every 10 years, primary care physicians are in financial crisis. Seven years ago, many of the specialties that deliver primary care services sounded the alarm.ⁱ Employers, health plans and policymakers are now ready to take action, realizing that (1) the total number of physicians practicing in internal medicine, family practice and general practice has fallen dramatically in recent years and is predicted to continue to fall over the next decade;ⁱⁱ and (2) the fee-for-service (FFS) payment system blindly rewards both volume of services (not quality or results), and procedures over cognition. The willingness to confront the primary care crisis has also been accelerated by several factors:

- The ongoing distortions in Medicare’s Resource-Based Relative Value Scale (RBRVS) scale that compresses fees for cognitive services (what good patient management care is all about) in favor of procedural care and technological inputs;
- Increasing evidence of mediocre quality of care combined with escalating costs;
- The inexorable increase in chronic illness that demands far greater care coordination;
- The realization that the 15-minute primary care visit spawned by the FFS payment system cannot provide high-quality preventive, chronic and acute care.

As Congress prepares to address health reform, we offer a partial blueprint for a payment approach that, we believe, could guide, promote and support the sound, sustainable restructuring of primary care. It is focused around the principles of the “medical home” as a clinical care delivery model, based on over 40 years of theoretical work, and many years of analytical research and practical experimentation.

Criticism of FFS is hardly new. In the 1960s, Dr. Jerry Solon was one of the first to express that paying for care by unit of service and creating accountability for costs at that level was irrational for many reasons. First, paying for the unit of service had no relationship to the way physicians and other clinicians think about and carry out patient treatment. Instead, he suggested that using a comprehensive episode of medical care

as a unit of measurement of costs would better reflect the actual practice of medicine.ⁱⁱⁱ Since then, others have expanded on this concept. Most recently the National Quality Forum issued a Measurement Framework for Evaluating Patient-Focused Episodes of Care.^{iv} In addition, the Geisinger Health System has, through its ProvenCare program, implemented a model in which physicians and hospitals are paid a global fee for all patient services related to a condition or a procedure. Geisinger also offers a limited “warranty” to payers, insulating them from the cost of mistakes or other care defects.

In 2006, the PROMETHEUS Payment[®] model was launched to develop and implement an episode of care payment effort with the goal of replacing much of FFS payment. It developed and analyzed a new type of episode—an “Evidence-informed Case Rate[®]” (ECR)—that can be used for chronic conditions, procedures and acute events, in all provider delivery settings. In analyzing large national claims data, PROMETHEUS developers found that a significant percentage of the total costs of care spent today on six chronic diseases was attributable to Potentially Avoidable Complications (PACs). On average, 40 percent of total costs for these conditions are attributable to potentially avoidable complications, and 15 to 30 percent of total costs for acute events and procedures are also attributable to PACs. Extrapolating to the nation across all procedures, acute events and chronic conditions, over \$500 billion of the \$2.4 trillion spent on health care services in the U.S. are potentially avoidable costs, although the extent to which these costs can be reduced in the short- medium- and long-term is as yet undetermined. This finding does not mean that the PROMETHEUS Payment[®] design expects that all complications *will* be avoided, nor does it deny payment for necessary care where complications occur. Rather, the analysis offers very clear data regarding where providers can focus their attention in changing care delivery, with the expectation that those changes can prevent some of these defects and thereby save money while simultaneously improving quality.

These PAC findings confirm the effects of fragmentation, lack of care coordination, quality deficiencies and, to an extent, the demise of primary care. However, they also point to a potentially powerful mechanism to sustainably fund what has become known as the Patient-Centered Medical Homes model of care delivery: by harnessing the dollars spent on potentially avoidable complications as powerful incentives to manage patients more effectively. In essence, existing money can be distributed as new money to physicians without increasing the total dollars the system is spending. Consider a payment mechanism in which physicians, hospitals, home health care

agencies and other clinicians would keep a significant portion of that \$500 billion, provided they reduced that amount over time.

For us, a Patient-Centered Medical Home is any practice in which the care of the patient is delivered well, in accordance with evidence and best practices, is coordinated with other clinicians and caregivers and fundamentally meets the needs of the patients. There is a fair amount of research that indicates that reengineered practices which incorporate the essential principles of the Medical Home—aggressive clinical coordination of care, intense communication with patients, concentrated adherence to evidence and attention to avoiding hospitalizations—do, in fact, deliver better quality at a lower overall cost than non-reengineered practices.^v To promote desired reengineering like a Medical Home, though, requires a payment approach that establishes incentives that depend on and reward good results.

Unfortunately, none of the current payment methods alone, neither FFS nor capitation, will promote or sustain Medical Homes. We argue that simply developing a new, promising delivery system and hoping it eventually matches a payment method that will sustain it—is backward. Form should follow rather than lead the incentive structure.

We argue that simply developing a new, promising delivery system and hoping it eventually matches a payment method that will sustain it—is backward. Form should follow rather than lead the incentive structure.

In this report, we explore the financing model for these clinical practices, point out some important lessons learned from the past and illustrate in practical terms how to reform payments and return primary care to the solid place it deserves in a better American health care system. We show how a hybrid approach that includes some FFS, some thin capitation and a significant share of payment oriented around ECRs would promote and sustain the Medical Home structure, provided that the Medical Home can, in fact, improve care and reduce defects.

Section 1: Avoiding the Mistakes of the Past

One of the fundamental flaws in past and existing payment models within an insurance-based health care payment system has been the misallocation of risk between insurers, providers and consumers. With the advent of traditional managed care, theorists came to the correct conclusion that FFS leaves physicians in a riskless environment where they are shielded from the economic consequences of their decisions and indeed benefit from increasing costs to others. But the same theorists jumped to the wrong assumption for distributing the risk (discussed below). Because of that incorrect assumption, they formulated a concept of risk that alienated both consumers and physicians. Consumers were given limited choice in closed provider panels and through gatekeeping, while physicians found no clinical logic and the wrong risk in capitation. Given that lesson from managed care, when considering potential sustainable funding for Medical Homes, ideally one would find a reimbursement mechanism that delegates risk appropriately, while at the same time preserving patient choice.

Today, we find three major ways to pay for care. The table below lists them with their attendant incentives, organizational effects and effects on consumerism. They are:

1. Fee for Service
2. Capitation
3. Global Fees, Case Rates, for Episodes of Medical Care

Payment Mode	Core Incentive	Organizational Effect	Consumer Shopping Effect
Fee-for-Service	Increase volume	Favors fragmentation	Can only shop for individual services
Capitation	Decrease volume	Favors consolidation	Can only shop for "systems"
Episode	Decrease volume w/in episode, increase volume of episodes	Favors some consolidation... at the disease/procedure level	Can shop for "care packages" – relevant price transparency

In exploring the specific effects of each payment method, it is important to understand that the nature and apportionment of risk in each is different. How different types of risk are distributed amongst the three main stakeholders—patients, providers, payers—has profound implications on their incentives and actions.¹ As the recent financial crisis has shown, misunderstanding risk and how to adequately price and manage it can wreak havoc. This insight about apportionment of risk should guide policymakers in their deliberations of payment reform and help mitigate the negative effects of any proposed incentive scheme.

¹ For an in-depth discussion of risk, please see Appendix A – Discussion of Risk Bifurcation in Health Care, by Douglas Emery

Because many of the chronic conditions addressed in the ECRs are being addressed by others as well, finding measures to score physicians on those conditions was not so difficult.

The predictability of risk manifests itself through variation in the price of services and goods. The less predictable risk is, the greater the variation in prices, because those who have to bear that risk will demand adequate compensation. As study after study has shown, there is tremendous variation in the total price of care, not simply from region to region, but within regions throughout the country.^{vi} However, that variation is neither one-dimensional nor homogenous.^{viii}

Prior research reveals that it is possible to identify three types of risk that drive this underlying variation^{viii}: the risk that any patient at any point in time will develop an illness, have an accident or generally require medical services; the risk that physicians, hospitals and other health care services providers will make the wrong decisions and follow the wrong treatment pathways in managing patients; and the risk that patients will make the wrong decisions in seeking care or

deciding upon which treatment pathway to follow. While there are clearly some inter-dependencies between these three types of risks, we believe that the function of each stakeholder in the health care system suggests the following pattern for an appropriate distribution of risks:

Type of Risk	Payer	Patient	Provider
Risk that a medical event will occur	80%	10%	10%
Risk related to choices made by patients	10%	80%	10%
Risk related to choices made by providers	10%	10%	80%

While creating such an ideal balance is likely to take time and many experiments, it is important for payment reform proponents to understand how their models will impact the distribution of risks in the table above, and it is just as important to understand how current provider, payer and patients incentives impact the distribution.

The patient’s portion of the risks will depend largely on their benefit design. For example, patients with high co-insurance will carry a significant portion of the risks that a medical event will occur, the risks related to the choices made by providers, and their own choices. Several experiments have shown that the choice of services is highly dependent on the price paid for the service—higher price leads to lower consumption.^{ix} The risk created by patient choice is also manifest in what the Dartmouth University researchers have termed “preference-sensitive care.”^x

There are many provider actions that create variation in total cost of care and create incremental risk. We know from many studies that there are significant defects in the

production of care services.^{xi} These defects range from the seemingly benign—the failure of providing a recommended preventive screening—to the headline-grabbing tragedy—the graft of an incompatible blood-typed organ in a transplant patient. Other research has shown that demand for a specific treatment can be induced by the physician’s preference for a certain pathway, even when that pathway is not consistent with the patient’s needs.^{xii} A well-designed payment model should shift the majority of these risks to providers.

Finally, to a certain extent, the likelihood of a costly medical event can be influenced by the actions (or inactions) of payers and purchasers. For example, the lack of patient education and activation might lead to more plan members becoming ill or acquiring a chronic disease. Similarly, creating barriers to accessing preventive care services or medication for the management of a chronic illness can greatly increase the severity of an episode of medical care. Importantly, and more simply, the risk that a medical event will occur is a core function of insurance, and the reason why consumers are willing to pay premiums. As such, it is the core risk that should be borne by payers and should not be shifted to the delivery system. A well-designed payment model should shift this risk to payers.

There are many factors in today’s health care marketplace that significantly increase these three risks, and therefore inflate the total price of care. One such example is in the incentives created by the benefit design of most health insurance programs (not least the Medicare program). For the most part, they continue to make the consumer almost completely insensitive to the actual price of care services, and distorts their choices.

Similarly, FFS places the cost of all health care utilization into the hands of the payer and distorts technical risk. And the combination of FFS and non-value-based benefit design is the reason why costs of care have continued to outpace inflation. Conversely, capitation places the cost of the variation caused by both probability and technical risks in the hands of providers. In addition, capitation creates an inherent conflict between providers and patients because traditional capitation requires providers to control for both probability and technical risk, while blocking the expression of choice by patients.^{xiii}

No matter how well intended, the effort to capitate providers radically lowers the total choice sets for consumers. We argue that to the extent that Medical Home funding is based on capitation, simply relabeling those narrowed sets of consumer choice as Medical Homes won’t help at all. Consumers will ultimately rebel. If past is prologue, attempts to channel patients towards optimal care pathways that do not permit their choice utilities to be taken into account will likely fail.

The patient has an important role in helping to hold the delivery system accountable for variation in costs. Unfortunately, the efforts to maximize the patient role will require more than simply using incentives to “steer” patients to reengineered Medical Homes.

Health care is the perfect example of what economists refer to as a co-produced good. Providers have only so much power to manage patients towards better care. If Medical Homes are to be sustainable, patient compliance must also be included in the incentive mix. This is especially true with regard to chronic conditions. Although we will not address benefits redesign in this paper, we do point out that understanding the reality of choice-utility risk is indispensable to making the system better.^{xiv} At some point, Congress must come to grips with the reality that Medicare benefits must be redesigned to turn beneficiaries into active partners in their care, not simply demanders of any service at any price.

Section 2: Hybrid Payment and Reconstituting Primary Care

Economists have learned that, generally, organizations rapidly respond to fiscal stimuli and incentives. Organizations will often quickly form to deliver the goods and services that are valued by those who are willing to purchase them. The U.S. health care delivery system has acted in a similar fashion, consolidating when the primary incentive has been global capitation, and fragmenting when it has been FFS. If we want primary care to be patient-centered and focused on delivering high-value, effective and efficient care, then those paying for care must do so in ways that stimulate that value. And, as history has shown, the payment design will refashion the delivery system to maximize incentives within that payment method.

In the initial development of the PROMETHEUS Payment[®] model, our design team gathered input from large and small provider organizations on the critical elements necessary for a payment system that stimulates high-value care. Some of the themes that emerged are: encourage high-quality treatment of all patients irrespective of health status; avoid major, immediate economic disruption; and promote professionalism. These needs are also highly consistent with needs expressed by health plans and employers, although these stakeholders add two important needs: moderate the overall medical cost trend and minimize operational disruption. We believe that for a payment reform effort to succeed, it must find a way to meet the needs of both providers and payers, and it must also be respectful of the needs of consumers. Research on consumer attitudes towards health care has consistently shown that apart from wanting access to care at the lowest cost possible, the most important consumer need is the freedom to choose the physicians who they want to manage their care.^{xv}

Our review of the literature^{xvi}, along with the input from expert provider, employer and plan representatives, leads us to hypothesize that a hybrid payment approach that includes some residual FFS payments as well as bundled, episode-based payments, and what we call “thin” capitation to support reengineering work, is probably necessary. This approach would have the highest likelihood of both successfully driving high-value, and

being implemented. Such a hybrid approach should create an environment in which (1) providers are shielded as much as possible from probability risk, but are held accountable for technical risk; (2) consumers are free to choose the physicians they need for their care; and (3) providers, payers and patients are sensitive to the overall cost of care.

Part One: Visit-Based FFS

Primary care physicians offer a variety of services focused on routine prevention, non-emergent and non-chronic sick care. We argue that these kinds of services can and should be paid for on an FFS basis. Maintaining individual charges for these services will continue to allow for price and delivery system competition, which should result in greater value for the consumer, and can also lead to differential co-pays at the point of care (which further sensitizes consumers to the actual cost of services). While some have argued that these services could be bundled in an actuarially based per member, per month fee, that form of capitation inherently forces a lock-in of patients to a practice (which is undesirable for consumers), and prevents unit price transparency and competition for the delivery of those services (which is inconsistent with value creation). The services that are best suited for FFS are either services with very low technical risk (e.g., treating the flu), or underused (e.g., immunizations), or used to treat conditions for which we can't avoid complications (e.g., Parkinson's disease). Noting that there continues to be a gap in the quantity of preventive services that should be delivered with what is currently delivered (despite the inducement for volume offered by FFS) a portion of these FFS payments should be tightly linked to quality scores. These scores should reflect not simply the adherence to recommended preventive care guidelines, but also ease of access to routine care services by patients – for example, the availability of after-hours care for a child's earache in order to avoid unnecessary visits to the emergency department.

Retaining this sort of FFS in primary care would also allow for a smoother glide path towards revitalizing it, and would assure physicians and their business managers that the motion towards a reengineered practice will not require overnight transformation. It would allow time for primary care practices to identify areas that require critical change, latitude for execution including the inevitable mistakes and some space for accommodating change. Furthermore, the FFS claims billing and payment systems can continue to be used to funnel information on the volume and type of services practices provide, both of which are essential to understand both technical risk and overall cost of care.

Part Two: PROMETHEUS Payment[®] ECR[®]s²

Beyond each of the services that are paid for discretely and separately, much of the care in ambulatory settings, and especially care that includes internal medicine, family and general practices, can be bundled into episodes. Well-designed episodes would include all the services informed by best practices, expert opinion and clinical guidelines to treat the patient optimally. In 2007 and 2008, PROMETHEUS Payment[®] Inc. developed

² For a description of the methodology used to create an Evidence-informed Case Rate (ECR), see Appendix B – Chronic Care ECRs, by Dr. Amita Rastogi

a series of ECR[®]s for chronic conditions: (1) diabetes, (2) coronary artery disease, (3) hypertension, (4) asthma, (5) heart failure and (6) chronic obstructive pulmonary disease. In the PROMETHEUS Payment[®] model, the negative consequences of technical risk are defined as “potentially avoidable complications”, or PACs. Examples of PACs in patients admitted to a hospital for an acute myocardial infarction might include medication error and phlebitis. For patients with chronic conditions, PACs include hospitalizations related to the condition. Typical care is care that is recommended by expert opinion or guidelines.

To create ECRs, PROMETHEUS Payment[®] Inc. assembled working groups to develop criteria for building ECRs in several clinical areas, including cancer care, chronic care, interventional cardiology and orthopedic care. The result of this effort was published in a report.^{xvii} These groups modeled ECRs for episodes of care that include both inpatient and outpatient services.^{xviii}

While some providers are concerned that PACs cannot be avoided, each provider—whether a single internist, a hospital or an integrated health system—is not expected to act alone.

Here’s how ECRs work.^{xix} To care for a patient diagnosed with a specific condition, a risk-adjusted global budget is established. This budget covers all services recommended by well-accepted clinical guidelines or expert opinions.^{xx} It includes all of the care required for treatment delivered by physicians, hospitals, laboratories, imaging centers, pharmacies, rehabilitation centers and other providers. For chronic conditions, the time window of the services is the same as the plan member’s benefit year. As a result, this type of fully priced episode of care can give consumers a means for more effective comparative shopping.

We designed the ECRs to separate the quantity and types of services that are routine or typical and evidence-informed, from the quantity and type of services caused by PACs. The ECR includes an allowance for PACs, which is added in proportion to the severity-adjusted base price. For example, if the base ECR price for a congestive heart failure (CHF) ECR is \$5,000, the PAC allowance might be \$4,000. And if the base ECR price for a CHF ECR is \$10,000, the PAC allowance might be

\$8,000. This creates a de facto warranty, because providers in the PROMETHEUS Payment[®] system essentially warrant that they will reduce the expected PAC costs. While some providers are concerned that PACs cannot be avoided, each provider—whether a single internist, a hospital or an integrated health system—is not expected to act alone. In fact, the model places a strong emphasis on care coordination, including clinical collaboration among providers. And it does so through financial incentives. 70 percent of any provider score turns on what he or it does, but 30 percent of the scores depend on what every other provider treating the patient for the same condition does.^{xxi} Because the ECR always includes this PAC allowance, providers ultimately win or lose financially based on their actual performance in reducing the incidence of avoidable complications. Whether or not adding back half of the total PACs is reasonable or should be increased (e.g., adding back 75 percent) will be determined during the pilot implementations.

Importantly, the PROMETHEUS Payment® work shows that chronic care ECRs, while defined at the patient level (e.g., each ECR is adjusted for the patient for whom it has been triggered), can create the appearance of an overall global fee for a practice as illustrated in the table below:

	Total ECR	Typical Portion of the ECR	PAC Allowance
	A = B + C	B	C
COPD	\$60,154	\$39,701	\$20,452
Diabetes	\$387,637	\$255,840	\$131,797
CHF	\$190,208	\$125,537	\$64,671
Asthma	\$136,182	\$89,880	\$46,302
CAD	\$271,298	\$179,057	\$92,241
HTN	\$1,048,704	\$838,963	\$209,741
Overall	\$2,094,182	\$1,528,979	\$565,203

In this example, the practice’s overall chronic care patient budget is \$2,094,182 including \$565,203 as a combined allowance for PACs that could occur to any patient. The extent to which the practice can minimize technical risk will determine its profitability. However, the practice also has an opportunity to increase margins simply by more efficiently allocating internal resources—in other words, redesigning processes, redeploying personnel, using more effective communication with patients—so that the \$1,528,979 allocated to typical and evidence-informed services yields the highest return. For example, if the practice were to use group visits, or focus the physician’s attention on the patients at highest risk of hospitalizations, while having the other patients closely monitored by physician assistants and nurse practitioners, the actual cost for the practice of delivering optimal care to the patients might be significantly lower than the typical portion budgeted.

Paying primary care practices—Medical Homes—using ECRs is designed to achieve exactly this type of efficient resource allocation and accountability for technical risk.

Part Three: Per-member-per-month Fee—or an Advance Against the Future Reductions in PACs

Asking physicians in small practices to self-invest in care reengineering; based on faith that PAC rewards are coming, is a very difficult value proposition. There is a time-phased transformation gap that could leave them vulnerable to financial risk with no real assurance that payers will make good on realized PAC gains. Conversely, in a severe economic downturn, asking employers to fund capital investments in practices simply on the hope that savings will accrue is an equally difficult value proposition. Well-designed incentives should energize and catalyze provider motivation for change, while giving employers and plans the assurance that the investment will be tied to a measurable return.

Using some measures of per member per month (PMPM) payment as an allowance against the future reduction in PACs achieves the dual aim of defraying some of the practice's investment costs, while tying the fixed fee to quantifiable savings. Using the example above, a portion of the \$565,203 in PAC allowance could be paid to the primary care practice as a fixed PMPM. And during the year-end reconciliation of all ECR payments, the fixed fee paid would be reduced from any net gain owed the practice. This schema would motivate payers and providers to work collaboratively to ensure that those gains are realized. Ultimately, as the transformation of the practice takes hold, the PMPM would disappear.

Ideally, the size of the PMPM fee should be based on an analysis of current practice cash flows, liabilities versus assets, fixed versus variable costs, amortized investments needed to realize the transformation, and workflow disruption and transformation costs.

Section 3: Analysis and Implications

While the medical literature has ample evidence of care defects, there is little information attaching a dollar value to those defects. And yet, it is the ability to quantify and monetize defects that will be critical if we are ever going to reduce them. There are two central questions to be answered in analyzing the potential effects of a new payment mix in Medical Homes: what are the levels at which the Medical Home might be financially *and* organizationally sustainable?

Some health care services researchers have argued that only large medical groups or integrated systems are organizationally adept enough to manage patients and become accountable for results.^{xxii} Others have recently proposed that only organizations with a minimum number of Medicare beneficiaries (around 5,000) could be held accountable for the management of those patients.^{xxiii} And yet economists have long argued that form is far less important than function in delivering value, and that incentives will shape organizations.

In our analyses of ECRs, we have focused on the functional approach, trying to understand how incentives can be created in a way that would encourage continuous reductions in care defects, and how those incentives could drive physicians to organize themselves to deliver better results in the management of patients. What we have found is that a practice with as few as 150 patients with chronic illnesses could, at the very least, break even if the practice was compensated for those patients according to the ECR formula.

To arrive at this conclusion, we ran the chronic care ECRs through several large claims databases. One database was national in scope and had over 4 million commercially insured plan members. Three others were from existing or nascent PROMETHEUS

Payment[®] pilot sites, and yet another was from a large employer. The results have been striking in their consistency. Despite the geographic diversity of the populations studied, the proportion of potentially avoidable complications as a percentage of total costs averages 40 percent for the six chronic care conditions studied.

There are, however, significant variations in that proportion from condition to condition, and there are also significant variations in the total average annual cost of care from condition to condition and between regions. However, the stability of the overall average proportion of PACs as a percentage of total costs provides us with the financial mechanism that we need to construct the right incentives for primary care practices. Indeed, the analysis suggests we have developed a sustainable way to encourage practices to become and stay Medical Homes.

The table below summarizes the findings from the national database. It shows the extent to which resources are consumed today in potentially avoidable costs, mostly coming from the lack of optimal management of patients. If anything, the table illustrates the critical importance of reforming the delivery of care and the significant potential that it has to control total costs of care. That is because the reduction in PACs both enhances patient outcomes and reduces costs.

Chronic Care ECR Summary Costs

	CHF	CAD	Diabetes	Hypertension	COPD	Asthma	Total
# Unique Patients	48,878	283,503	218,541	1,287,521	97,051	148,597	2,084,091
Total Costs	\$1,332,774,251	\$1,976,867,847	\$1,327,961,414	\$5,148,045,540	\$323,850,300	\$265,542,677	\$10,375,042,030
Total Typical ^a	\$409,503,974	\$1,554,887,036	\$515,155,654	\$3,447,047,314	\$205,372,583	\$186,812,031	\$6,318,778,592
Typical stays ^c		\$121,387,679					\$121,387,679
Typical Professional ^d	\$199,648,710	\$687,316,269	\$107,958,209	\$1,092,100,766	\$82,441,046	\$55,297,065	\$2,224,762,066
Typical Pharmacy ^e	\$209,855,264	\$746,183,088	\$407,197,445	\$2,355,967,599	\$122,931,536	\$131,789,770	\$3,973,924,702
Total PAC ^b	\$923,270,277	\$421,980,811	\$812,805,760	\$1,700,998,226	\$105,450,034	\$78,730,646	\$4,043,235,754
PAC stays ^c	\$810,313,802	\$137,605,423	\$333,447,513	\$954,045,079	\$65,919,822	\$31,511,481	\$2,332,843,120
PAC Professional ^d	\$86,376,772	\$252,800,887	\$154,162,385	\$624,850,878	\$26,180,770	\$34,521,219	\$1,178,892,911
PAC Pharmacy ^e	\$26,579,703	\$31,574,501	\$325,195,862	\$122,102,269	\$13,349,443	\$12,697,946	\$531,499,724
% Dollars in Typical ^a	30.73%	78.65%	38.79%	66.96%	63.42%	70.35%	60.90%
% Dollars in PAC ^b	69.27%	21.35%	61.21%	33.04%	32.56%	29.65%	38.97%

SOURCE: Authors' analysis of the ECR models from data published by PROMETHEUS Payment on www.PROMETHEUSpayment.org

^aTypical services are services that are defined by PROMETHEUS Payment as being relevant and appropriate in the treatment of patients with the studied condition

^bPAC services are services that are considered by PROMETHEUS Payment as related to a potentially avoidable complication

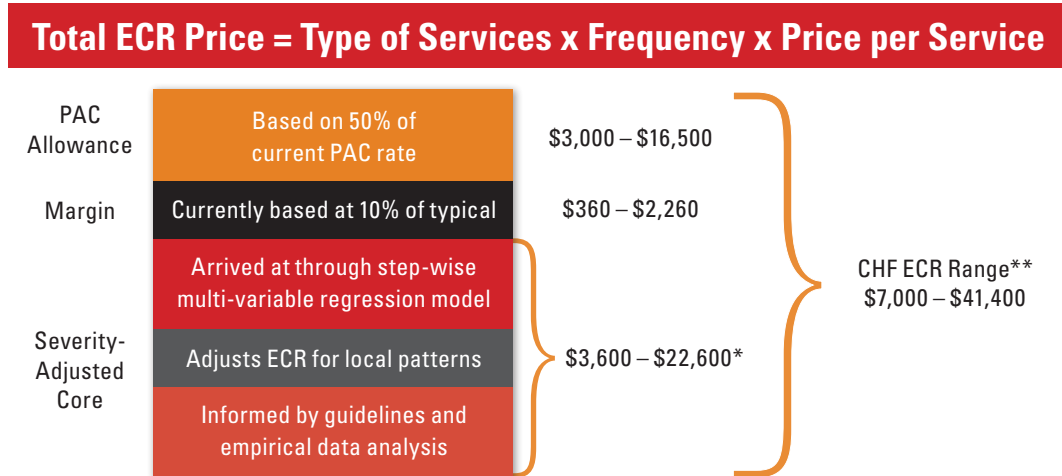
^cStay costs only include the facility costs

^dProfessional services include services that are related to the stay as well as services not associated to a stay

^ePharmacy costs are all costs reported in the database and related to the purchase of prescription drugs through pharmacies

CHF is Congestive Heart Failure, CAD is Coronary Artery Disease, COPD is Chronic Obstructive Pulmonary Disease

The keys to the construction of ECRs are (1) right-sizing the core bundle of services that are needed to manage patients (as informed by expert opinion and guidelines); (2) severity-adjusting at the patient level so that patients with more comorbidities get a greater core bundle (e.g., more physician visits and lab tests); (3) adding a severity-adjusted allowance for PACs. The following illustration shows the range of ECR prices that can emerge from the analysis of CHF patients.



* \$2,300 was added to the base set of claims-based/observed services to create a right-sized evidence-informed set of services.

** The upper range can be greater than the amount stated depending on the severity of the patient.

Importantly, the process of creating a core set of evidence-informed services in the ECR caused us to price a base set of services at \$3,600. Our observations in the national database we initially used to create the ECRs indicated that the average core services paid for CHF averaged \$1,300, or \$2,300 in fewer services than what the evidence suggests should be delivered. This identified underuse, in and of itself, creates the opportunity for higher payments for physicians.

These numbers, however, mean little by themselves. In order for payment based on ECRs to be more favorable to a primary care practice than the current system, it should yield higher margins, not simply an appropriate allocation of services to care for the patient. These margins would compensate the practice for its investment in reengineering care processes, and create a far more attractive financial environment for physicians to practice general internal medicine and family practice.

In analyzing the national database, we estimated the average total typical cost for a year of CHF care at \$4,100 per patient. The illustration of the CHF ECR above indicates that the base payment for a CHF patient would be \$7,000. The average would, in fact, be about \$12,000 (the actual amounts would depend on the actual severity of the CHF patients), or three times the current average.

There is, however, a catch. Included within the \$12,000 is an allowance for potentially avoidable complications—the warranty we discussed previously. It is within this essential warranty that the potential reward—and the risk—of the PROMETHEUS Payment® model lies. If the practice can deliver good results, manage patients optimally and reduce avoidable complications, it can reap a sizable reward. If, on the other hand, it fails to improve its results, it can suffer a loss. So what is this risk of loss likely to be?

To answer that question, we constructed a series of simulations³ that included building a risk profile of patients that mimicked the 4 million members in the national database and a randomization of those factors in a physician’s patient panel; creating tables that contain the distributions of PACs by observed frequency and associated costs, and a randomization of those PACs by patients in a physician’s panel. We also made certain assumptions relative to the ability of a physician to reduce PACs, and the investments—both fixed and variable—necessary to reengineer care. Finally, we modeled a distribution of patients within a practice that was consistent with the distribution of chronic conditions within the national database.

All these variables can be changed in the simulation model so that, ultimately, it can be used in any region and with any practice to more specifically analyze the impact of moving to an ECR payment mechanism. In the example below, we use a core patient panel of 1,500 patients, slightly over 50 percent of whom have chronic conditions:

	Patient Counts
COPD	40
Diabetes	80
CHF	16
Asthma	112
CAD	112
HTN	496
Overall	856

³ For a description of the simulation model, please see Appendix C – Chronic Care ECR Estimator, by Guy D’Andrea and colleagues at Discern Consulting.

Using the simulator, we then determined how much the practice would receive, both with ECRs and separately with FFS. The difference, labeled “bonus opportunity,” includes both the allowance for right-sizing the core evidence-informed services for each ECR and the allowance for PACs. The table below summarizes the numbers:

	Average ECR Price	Average FFS Payments	Per Patient “Bonus” Opportunity	Total “Bonus” Opportunity	Total ECR Payments
COPD	\$1,504	\$550	\$954	\$38,143	\$60,154
Diabetes	\$4,845	\$2,016	\$2,829	\$226,321	\$387,637
CHF	\$11,888	\$5,117	\$6,771	\$108,340	\$190,208
Asthma	\$1,216	\$817	\$399	\$22,364	\$136,182
CAD	\$2,422	\$1,257	\$1,166	\$130,538	\$271,298
HTN	\$2,114	\$1,462	\$652	\$323,604	\$1,048,704
Overall	\$3,303	\$1,606		\$849,309	\$2,094,182

The next step in the simulation is to determine both a fixed (e.g., new staff) and variable investment (e.g., care coordination) the practice would have to make in the very first year of the implementation in order to improve care. While these assumptions can be changed at will, we used the best available information to estimate these costs.^{xxiv} We also estimated the potential impact these investments would have on the practice’s ability to reduce PACs. From those estimates, we created some fairly conservative projections of the practice’s ability to reduce PACs in the short-term in the 16 - 17 percent range, although the existing literature does show that, on average, PACs for these chronic conditions can be reduced by about 36 percent. The table below summarizes the assumptions and their implications for the practice:

	Fixed Investment to Avoid PACs	Variable (per patient) Investment to Avoid PACs	Total Variable Investment to Avoid PACs	PAC Avoidance Effort	Predicted PAC Rate	PACs Incurred
COPD	\$50,000	\$100	\$4,000	19%	37%	\$21,941
Diabetes		\$200	\$16,000	16%	53%	\$176,837
CHF		\$1,000	\$16,000	22%	51%	\$97,389
Asthma		\$50	\$2,800	22%	26%	\$4,619
CAD		\$100	\$11,200	18%	23%	\$36,742
HTN		\$50	\$24,800	17%	27%	\$71,094
Overall		\$50,000		\$74,800		

Bringing all these assumptions together completes the picture of the net benefit that could accrue to the practice and is summarized below:

	Total "Bonus" Opportunity	Fixed Investment to Avoid PACs	Variable Investment to Avoid PACs	PACs Incurred	Net (Compared to FFS)
	A	B	C	D	E = A - B - C - D
COPD	\$38,143	\$50,000	\$4,000	\$21,941	\$12,201
Diabetes	\$226,321		\$16,000	\$176,837	\$33,485
CHF	\$108,340		\$16,000	\$97,389	(\$5,049)
Asthma	\$22,364		\$2,800	\$4,619	\$14,944
CAD	\$130,538		\$11,200	\$36,742	\$82,596
HTN	\$323,604		\$24,800	\$71,094	\$227,710
Overall	\$849,309	\$50,000	\$74,800	\$408,621	\$315,888

As such, even after an investment of close to \$125,000, the practice still stands to achieve a significant net benefit from the more effective management of its patients—here a net benefit of \$316,000 compared to FFS. And while this net benefit will increase or decrease based on the actual cost and frequency of PACs, it is clear that the benefits that accrue to the practice are closely—and mathematically—tied to the benefits that would also accrue to payers and to the patients. And while this might sound utopian, it can be a reality.

What is a minimum number of patients necessary to cover the fixed costs of practice transformation? That number appears to be around 150, significantly less than the 5,000 advanced by some health care services researchers^{xxv}, and a number that should be within reach of most primary care practices across the country.

Another concern about this approach would be that severity-adjustment cannot be done adequately when you only have two patients with CHF. That concern is valid if the severity adjustments were formulated on the basis of those patients, but they're not. The severity adjustments are performed on large cohorts of patients of a plan within a certain region and representative of the severity of that patient population. Then the actual ECR price for patients managed by any given physician is based on the profile of those patients.

If one combines normal FFS payments for all the services not covered by ECRs and ECR-based compensation for the six chronic conditions, most practices should be able to finance the development of their Medical Home. Given the enactment of the HITECH portion of

Payers manage probability risk by pricing premiums, and, ultimately, providers manage technical risk by pricing ECRs.

the American Recovery and Reinvestment Act, most primary care physicians should qualify for close to \$50,000 in incentives from Medicare to purchase an EMR. However, many small practices might lack the human resources needed to improve care for patients and, importantly in a PROMETHEUS® model, start reducing PACs. It is to that end that we are also proposing a PMPM that would be based on an anticipated reduction of PACs. This monthly allowance would be negotiated between the payer and the practice and understood to be an advance payment of the net benefit calculated above. So in the example above, the payer could create a \$10 PMPM—which comes out to \$60,000 a year—which would come in reduction of the net benefit that accrues to the practice at the end of the year. The payer would be taking a

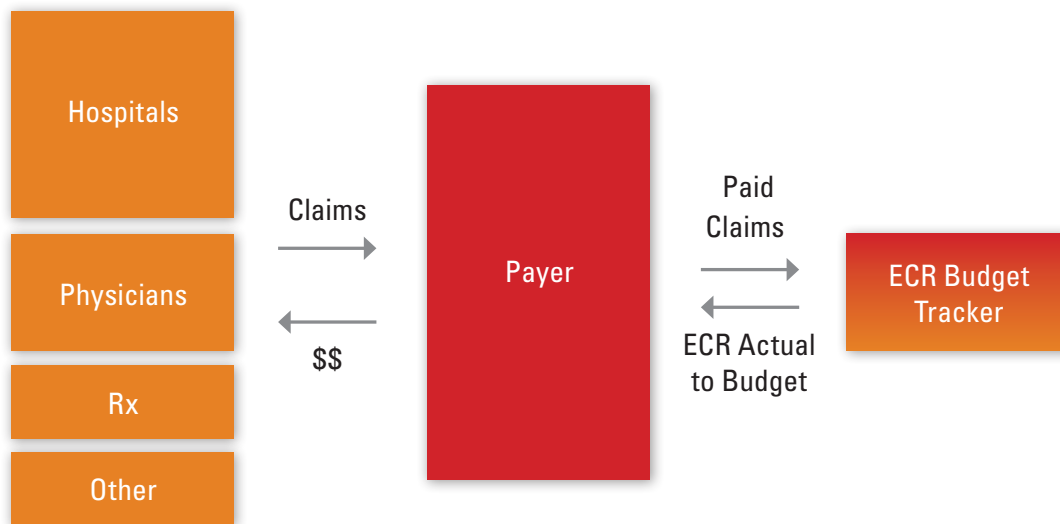
risk that the practice is unable to even minimally reduce PACs, but that payer could also mitigate that risk by actively collaborating with the practice to (a) accelerate the transformation, and (b) help improve care. In fact, in this hybrid model, payers and providers share a common interest in reducing PACs and improving the quality of care delivered to patients.

This model shows that probability and technical risk can be separated and “packaged” in a rational way that is manageable by the parties holding that risk. Payers manage probability risk by pricing premiums, and, ultimately, providers manage technical risk by pricing ECRs. However, between the FFS world we live in today and a future state in which physicians and hospitals can price their own ECRs and offer them to payers and patients, we need to find an operational mechanism that maintains the incentives while still being simple to manage. It is that mechanism we discuss in the next section.

Section 4: Operationalizing the Model

Simplicity and effectiveness in launching a new payment model is critical. First, health plans will not wholesale change their claims, contracting and benefit systems without the solid proof that the benefit of doing so will exceed its likely cost. Second, physicians and hospitals are as wedded to the current FFS claims systems as plans. All existing billing systems in physician offices are based on standard claims codes, and changing those processes will not only be disruptive, but could also lead to many unintended consequences. Further, as discussed in the first section, it is important in this evolution of a new payment model to maintain the flow of data that can help account for where and on what claims dollars are spent.

So how can we maintain the desired effect of an ECR-based compensation while continuing payment on FFS schedules? We have found we can do this by prospectively budgeting the ECRs, paying all claims FFS, and then doing a retrospective reconciliation. The illustration below shows how the claims and dollars would flow in a simplified process:



Picking up the example and tables in the prior section, the \$2 million total across the 850 ECRs for the practice is prospectively budgeted based on data from the payer for the prior year. Then, during the course of the year, as claims are routinely filed by providers and paid by plans, they are then funneled to the ECR Budget Tracker. The Tracker then accumulates all the claims relevant to any patient-specific ECR. Any claim hitting an ECR would either fall into the Typical bucket or the PAC bucket, depending on the ECR algorithms. At the end of the year, all the dollars in each bucket, in each ECR and across ECRs are summed up and reconciled.

Let's assume that for the ECRs listed in the prior section, the actual dollars spent on typical care are as expected, but PACs are slightly higher than expected. Overall, there is still a net benefit as shown in the following table:

	Total ECR	Typical Claims Incurred	PACs Incurred	Net Benefit
	A	B	C	D = A - B - C
COPD	\$60,154	\$35,731	\$21,941	\$2,481
Diabetes	\$387,637	\$255,840	\$176,837	(\$45,040)
CHF	\$190,208	\$125,537	\$97,389	(\$32,718)
Asthma	\$136,182	\$89,880	\$4,619	\$41,682
CAD	\$271,298	\$179,057	\$36,742	\$55,500
HTN	\$1,048,704	\$838,963	\$71,094	\$138,647
Overall	\$2,094,182	\$1,525,008	\$408,621	\$160,552

So now comes the question that seems to baffle academics and practitioners alike: How do you divvy up the spoils if there isn't an integrated system or a formal group? What happens when the delivery system is fragmented, and patients are seen by different independent physicians? How can this possibly work if the patients aren't force-attributed to a specific practice or some sort of accountable entity?

The answer is simple—it works like it works today. In the FFS world, patients are not forced into an attribution, there are no gatekeepers and no complex financial arrangements among physicians practicing independently. The practical reality is that in an environment in which ECRs are *budgeted* prospectively (not paid prospectively) and reconciled retrospectively, the main issue is how to divvy up the net benefit to the extent there is one. We see two reasonable answers:

- a. The physicians who commonly manage the patients together agree on a formula to split the upside, to the extent there is one. This is another potential aspect of collaboration. From the prior year's claims data, we have an understanding of which physicians cared for each patient, and can thus create a "one to many" attribution—essentially all the physicians touching the patient are jointly responsible for the outcome. The question of who "manages" the patient is moot and should not matter that much. After all, during the course of the year, a patient might need to be managed variously by, for example, the internist and the cardiologist. The incentives should not, in any way, create a conflict in providers deciding what is best for the patient. When compensation is ECR-based, physicians will always do better when they collaborate—integrating their clinical management of shared patients—which is not synonymous with formally integrating their actual practices. The formula that they agree on can be simply communicated to the plan.
- b. The physicians who commonly manage the patients do not formally agree on a method to split the net benefit. In that instance, we recommend that the split be done as a function of the proportion of encounters observed in the typical portion of the dollars spent. The table below illustrates how that calculation would be done for the patients in our example:

	% of Total E&M claims	Share of Bonus
Dr. Machado – Internist	40%	\$64,221
Dr. Rastogi – Cardiologist	30%	\$48,166
Dr. Emery – Pulmonologist	15%	\$24,083
Dr. Brown – Nephrologist	15%	\$24,083

Whether option (a) or option (b) is in place—and physicians should choose their approach—the actual disbursement of funds would be similar to the table above. For any particular cohort of patients, the distribution of these dollars can change. And for any of the physicians listed above, their net benefit across all the ECRs they are co-managing would have a very different view. For example, in addition to the \$64,221 listed above, the internist might get some additional net benefit from a cohort of patients for which he is mainly a consultant and not the principal physician (as could be the case for the patients in our current example). Similarly, the pulmonologist is likely to be the principal clinician for some COPD patients and would therefore receive the majority of the net benefit for those patients.

Ultimately, this approach will reward the physicians who collaborate with each other to actively reduce PACs for any patients they manage. If they don't explicitly collaborate, then the likelihood of reducing PACs will be much smaller, and they will not optimize either their own self-interest or the interests of the payers and the patients—all of which are aligned here. Furthermore, using the names in our prior example, if Dr. Rastogi systematically fails to communicate with Dr. Machado and, as a consequence, Dr. Machado's CAD and CHF patients are incurring PACs at a high rate, then Dr. Machado has strong incentives to start referring his patients to a cardiologist who will want to actively co-manage patients.

In that light, there is no clear incremental benefit to be gained by prematurely forcing or even, necessarily, either (1) promoting some sort of defined organizational or financial integration, or in (2) limiting participation in the payment model to integrated medical systems. As we've shown, here, forcing the shape of the delivery system ahead of the development of an incentive structure that rewards care coordination and high value is not necessary. In fact it could even have unintended, unfortunate side effects. For instance, if we force integration, physicians might waste valuable time attempting to organize into complicated entities instead of focusing on rapidly improving care for patients. As we've advocated elsewhere in this document, we should not let the shape of the delivery system dictate the terms of a payment model, but rather let the payment model shape the delivery system.

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Section 5: Disclaimers

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This is not meant to be a position or white paper, but a potential guide for payers and providers to use for both payment and clinical practice transformation through the use of ECRs. However, this guide is about potential and therefore is untested, so it comes with some disclaimers.

First and foremost, we don't know if this hybrid payment approach will promote and sustain reengineered primary care. Designing new payment models in a highly complex system like health care is daunting at best, and no one can seriously pretend that a proposed formula is "The Formula."

Second, as in all new product or service designs, the most important part of the process is to minimize the potential failures and process breakdowns. We believe we have paid close attention to where this model will perform well. For example, we believe that continuing to leverage the current FFS system will avoid piling significant operational risks on payers and providers alike, and will provide us all with the time to closely analyze the impact of the new incentives. However, we might find that the behavior change might not be as profound as it would be if the financial risk were significantly higher—which it would be if we moved right away to prepaid episodes.

Third, our work suggests that some primary care practices might find it easier to improve care for patients with some of the six chronic conditions we've studied than for patients with others. For example, practices might find it much easier to improve hypertension care than diabetes care. Practices might, then, have an incentive to participate in some ECRs rather than others. To that end, we have recommended that practices not be allowed to select ECRs, rather, they must accept any ECR that applies to their patients.

Fourth, we are making a broad assumption that small practices will find the technical resources to help them reengineer. We believe that those resources are important. We also recognize that the development of those improvement resources is a significant challenge and not currently widely available. We do believe that payment models like PROMETHEUS Payment® ECRs highlight and intensify the urgent need for those kinds of improvement resources.

Designing new payment models in a highly complex system like health care is daunting at best, and no one can seriously pretend that a proposed formula is "The Formula."

Beyond these limitations, it is important to note that we have not addressed here how quality is measured in this payment model. There is, however, a companion report published by PROMETHEUS Payment®, Inc. (*"What's the Score?"*^{xxvi}) that explains how the comprehensive scorecard based on the practice's medical record data will be constructed and used to manage the net benefit distributed to the practice. Ultimately, data from medical records should be used not simply for constructing the quality scorecard, but also to help better inform the severity adjustments of any ECR.

It is also important to note again that payers need to address plan member benefit design as a core complement to a payment model that includes ECRs. Benefit packages that complement value-based payment models will help mitigate the negative effects of choice-utility in the current benefit design environment. Patient compliance is critical in any payment environment where providers assume technical risk. Policy-makers need to understand that failure to address this patient role will lead to continued conflicts between payers and providers relative to which portions of PACs can be reasonably reduced without full patient engagement.

Section 6: Conclusion

We have a unique opportunity in the current national health reform discussion—along with the emerging consensus that any successful reform must correct the health care value equation. Further, many also understand that to correct the current value dysfunction, it will be necessary to launch meaningful changes in the way we pay for care.

For primary care, this is an emergency. The clinical promise of the Medical Home will be unachievable if the financial model supporting it does not drive toward both improved results for patients and dollars saved in the overall system. We believe the use of ECRs and PACs in the hybrid payment model we have described is uniquely positioned to sustain the Medical Home, revitalize primary care, create a business case for it and save money as well.

The PROMETHEUS Payment[®] pilot work supported by the Robert Wood Johnson Foundation is yielding evidence that may help payers learn how to package risk and create payment incentives that, in turn, could yield positive results for all stakeholders. Perhaps by using some of the basic payment principles outlined here, health care can indeed function like other industries where proper incentives, resources and information, promote rigorous and ongoing reduction in defects that actually does increase the value for all. For primary care, we think this is imperative.

ⁱ See The Future Of Family Medicine, at <http://www.aafp.org/online/en/home/membership/initiatives/futurefamilymed.html>

ⁱⁱ How Is a Shortage of Primary Care Physicians Affecting the Quality and Cost of Medical Care? Philadelphia: American College of Physicians; 2008: White Paper. http://www.acponline.org/advocacy/where_we_stand/policy/primary_shortage.pdf, accessed February 9 2009

ⁱⁱⁱ Solon, JA, et al., Delineating Episodes of Medical Care, *American Journal of Public Health* 57(3) 1967:401-408

^{iv} See <http://www.qualityforum.org/projects/ongoing/episodes/index.asp>

^v Rosenthal, MB, de Brantes, F, *AJMC* 10/2008

^{vi} ES Fisher, DE Wennberg, et al, "The implications of regional variations in Medicare spending" *Annals of Internal Medicine*, 2003

^{vii} Emery, DW, Forging a New Paradigm, *Managed Healthcare*, November, 1999:20-26.

^{viii} Emery DW, et al, The Political Economy of Capitated Managed Care, *American Journal of Managed Care* 1997; 3:397-416.

^{ix} The RAND Health Insurance Experiment. See http://www.rand.org/pubs/research_briefs/RB9174/index1.html

^x The Dartmouth Atlas of Health Care, Preference-sensitive Care. See http://www.dartmouthatlas.org/topics/preference_sensitive.pdf

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^{xv} JH Hibbard, "Engaging health care consumers to improve the quality of care" – *Medical Care*, 2003

^{xvi} Allan H. Goroll, M.D., Robert A. Berenson, M.D, Stephen C. Schoenbaum, M.D., M.P.H. et al. "Fundamental Reform of Payment for Adult Primary Care: Comprehensive Payment for Comprehensive Care" The Commonwealth Fund, 2007. See <http://www.commonwealthfund.org/Content/Publications/In-the-Literature/2007/Mar/Fundamental-Reform-of-Payment-for-Adult-Primary-Care-Comprehensive-Payment-for-Comprehensive-Care.aspx>

^{xvii} de Brantes, Camillus J, "Evidence-Informed Case Rates: A New Health Care Payment Model".

^{xviii} Rastogi A, Jordan H, et al, "ECRs: Modeling inpatient and outpatient Evidence-informed Case Rates", in review.

^{xix} For a full description of how ECRs are constructed, see Gosfield, "Making PROMETHEUS Payment[®] Rates Real: Ya' Gotta' Start Somewhere" *(June 2008) <http://prometheuspayers.org/publications/pdf/MakingItReal-Final.pdf>

^{xx} Ibid.

^{xxi} For a full description of the way scores affect payment, see Gosfield and de Brantes, "PROMETHEUS Payment[®]: What's the Score?"

^{xxii} ES Fisher, et al. "Creating Accountable Care Organizations: The Extended Hospital Medical Staff", *Health Affairs* 2007, See <http://content.healthaffairs.org/cgi/content/abstract/26/1/w44>

^{xxiii} ES Fisher, M McClellan, et al. "Fostering Accountable Health Care: Moving Forward In Medicare", *Health Affairs* 2009, See <http://content.healthaffairs.org/cgi/content/full/28/2/w219>

^{xxiv} See Reports and Evaluation of the AAFP National Demonstration Project at <http://www.transformed.com/index.cfm>

^{xxv} Ibid

^{xxvi} Ibid