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A REVIEW OF VALUE-BASED COMPENSATION AND ITS POTENTIAL TO IMPACT HEALTHCARE SPEND

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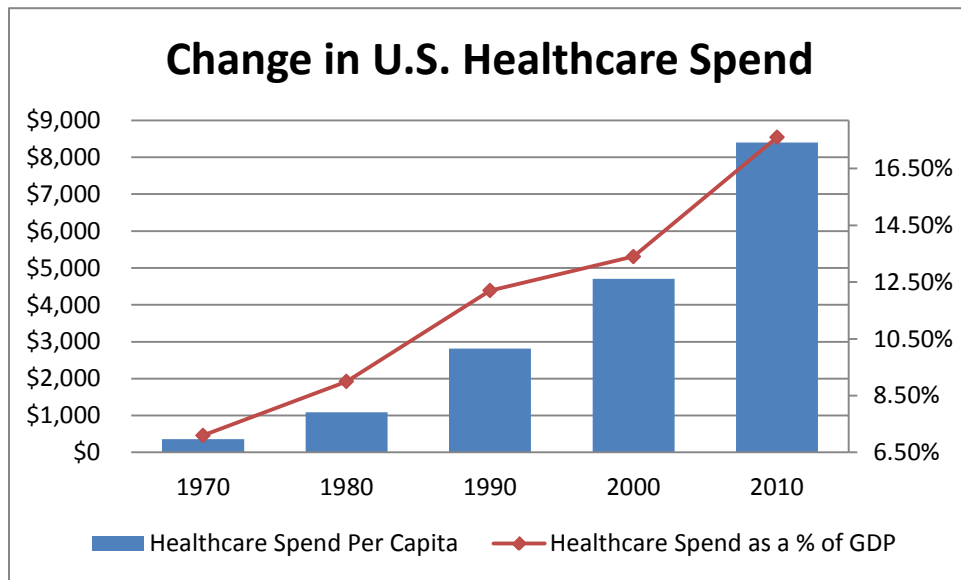
Abstract

The trend in U.S. healthcare expenditures has become an important area of focus in recent years for employers and legislators, as its annual outpacing of GDP is placing significant strain on the economy. In order to begin bending the healthcare cost curve, Accountable Care Act (ACA) legislation was passed in 2010 as an attempt to drive greater efficiencies in healthcare through the use of new payment and compensation models. However, those in the healthcare industry that are directly impacted by this legislation are struggling to determine whether the incentive models outlined in the ACA will create the motivation and performance changes that the legislation intends. This paper further discusses the ACA incentive models and how they correlate to learnings from studies on the effect of incentives on motivation and performance, and outcomes from previous healthcare incentive-based demonstration projects.

Background

The cost of healthcare in the United States has significantly outpaced the increase in U.S. GDP. It has also outpaced the increase in healthcare expenditures for other countries. With U.S. healthcare costs reaching roughly 17.6% of GDP in 2010, more than 50% greater than the next highest developed nation, there are concerns that the cost of healthcare has hampered the nation's ability to move past its recent recession. Yet even with its high cost of healthcare, the U.S. population lags behind many of those countries in a number of health related categories. The continued increase in healthcare expenditures has driven greater focus on the industry, its effect on the economy, the ever increasing national debt and the ability of U.S. companies to compete with those based in other countries. This increased focus on healthcare has translated to new demands from regulators and employers for healthcare providers to better manage their patients and deliver greater value.

The preeminent example of the increased pressure being placed on providers has been the passing of the Accountable Care Act (ACA) in 2010. A major component of this legislation leverages new incentive models to focus healthcare providers on improving the value of the care they deliver. Payment models like pay for performance, shared savings, capitation and bundled payment look to realign providers' incentives with those of the consumer, by transitioning providers away from fee-for-service payment. These new payment models attempt to drive incentive alignment by rewarding the Triple Aim of improving patient health and experience while lowering cost.



In response to the changing healthcare environment, Accountable Care Organizations (ACOs) are forming across the country. These organizations are taking initial steps towards becoming integrated delivery systems and adopting these new payment models. However, while these payment models are investigating these initial changes, it is proving difficult for providers to both understand and control the impacts of these changes as they converge with consumer and market dynamics.

While the payments and structure driven by the ACA may make sense under standard economic theories, their ability to change the way providers operate may be less effective than many believe. Moving providers to practice models that conflict with current care delivery practices will clearly have obstacles to overcome, but are the approaches being used to drive these changes appropriate ones? Many leaders of provider organizations are asking this question and are finding it difficult to determine the timing and approach that will serve them best for driving the financial, cultural and operational changes their organizations need for future success.

An Evidence Based Approach to Healthcare Incentives

As the practice of medicine has evolved over the last century, it has made significant breakthroughs in the treatment of disease. Much of this discovery has come through the use of the scientific method, allowing experimental evidence to shape the way we think about the world. Often results have initially confounded us, forcing us to reexamine our paradigms and views of the world. The evolution of these breakthroughs over time has resulted in a much different approach to the practice of medicine than what people 100 years ago could have ever imagined.

However, this disciplined, evidence-based approach has not been applied as consistently to the business side of healthcare. Many of healthcare's payment and business models have been established with limited evidence or based on outdated theories. In fact, recent advances in the area of behavioral economics suggest that many of the current incentives found in healthcare could detract from providers' abilities to achieve the results we intend.

As we continue to see changes in the healthcare system have limited impact in reducing the cost of care and improving the health of the U.S. population, it is worth taking a more disciplined approach in evaluating and driving these changes. Until we focus on the root causes of the deficiencies in the U.S. healthcare system, there may continue to be negative financial and health related implications. Therefore this paper will examine the available evidence and theories for various incentive models, their influence on motivation and performance and how previous healthcare demonstration results align to these theories.

Incentives and Motivation

Difficulties in Motivating Provider Organizations

The payment models within the ACA and similar models developed for the commercial market have similar weaknesses for motivating provider organizations to manage population health and lower cost. First, they are built around patient attribution or assignment through primary care, which limits the interest hospital organizations have in the model because they would have limited members driving revenues under these new payment models without acquiring primary care providers. This has led to significant consolidation in early adopter markets, and skepticism by many hospital systems that adopting such models could benefit them.

Second, the Medicare model makes the assumption that providers can enter that program without making similar changes on their commercial contracts. In fact, many providers have already done this. However, by not transitioning the majority of its contracts to risk-based methodologies at the same time, conflicting motivations are created within the organization that can reduce its revenues and margins, and makes it much more difficult to develop strategic goals and initiatives.

Finally, the imperfect information or lack of information currently available makes it difficult to estimate the impacts of switching payment models. This is important because these organizations are trying to determine how they can become value maximizers. While stakeholders and beneficiaries may vary across organizations that range from publicly traded companies to charitable non-profits, the ultimate goal for each and every organization is to drive the most value possible. Value may be defined

as profits and dividends for a public company or lives sheltered and meals served for a charitable organization, but regardless of whom that organization serves, its focus is on delivering the greatest value it can.

By making it difficult for healthcare organizations to understand the alignment of the strategies created by the ACA and how they are impacted by the payer and consumer dynamics, it is making it very difficult for these organizations to ensure they are successfully accomplishing this mission. Those evaluating whether or not to adopt these new payment models must consider a multitude of internal and external factors in determining the correct timing, because beginning the move to accountable care at the wrong time can have a significant impact under the following scenarios:

- **Organization does not take on enough risk when it is ready to manage care:** The organization loses margin as it strips out utilization, but does not have enough revenue tied to risk-based incentives, resulting in lost revenue while maintaining a similar cost structure.
- **Organization takes on too much risk when it is not ready to manage care:** The organization does not reduce utilization, leading to lower revenues because it must pay penalties back to the payers for not hitting its benchmarks.
- **Organization does not take risk when the market is ready to reward it:** The organization does not move to risk-based contracts or focus on reducing utilization when the market is dictating that it should, resulting in lost market share because payers and employers design tiered or narrow network products that drive services to competitors.
- **Organization takes on risk before the market is ready to reward it:** The organization takes on risk-based contracts that drive it to reduce utilization. However, the additional revenue captured through the risk-based payments is not enough to offset the loss of fee-for-service revenues driven by lower utilization. The only way to make up this gap is through increased market share, but payers and employers do not develop tiered or narrow network products that drive patients to the provider, so the net result is a loss of revenues.

Things become even more difficult when this mission of maximizing value is translated into driving the motivations of the employees that work for these organizations. Since a company is an artificial construct designed around creating this value maximization, it theoretically should not lose motivation for fulfilling its defined purpose. However, the individuals working within those organizations are much more complex, and less rational. Individuals are not the perfect utility maximizers that introductory economics classes would like us to think they are.

Economic Man is a Flawed Individual

Unlike the organizations they operate in, individuals tend to not follow the same basic economic constructs that apply to their organizations. Instead, the tenets of correlating higher payment to better performance through models like fee-for-service may not drive the results they intend. While many

hypothesized that more care would lead to better outcomes and overall health for the population, the results have not actually correlated to this theory. In fact recent studies have shown that the effect incentives have on individuals is more complicated than the basic 'Economic Man' construct of, "If I pay people more, they will work harder and produce better results."

There are circumstances where paying more does produce better results, and much of our notion of this stems from the use of incentive models in the early 20th century, where a worker's job was more fundamental and task oriented. However, the notion of getting more by paying more begins to break down as jobs become more complex and ambiguous. It turns out that not only can various jobs be fundamentally different themselves, but the way you need to incentivize them can be fundamentally different as well.

Paying someone more to do a rudimentary task will typically create extra motivation and result in better performance. However as tasks become more complex and ambiguous, those incentive models that worked for simple tasks lose their effectiveness and can even negatively impact a person's motivation. The same incentive program used to motivate an assembly line worker may be less effective or even negatively impactful for a physician who is making complex diagnoses and juggling a multitude of tasks. Such models may be contributing to the issues we've seen to date, pushing physicians working harder and provide more services, while hampering their ability to move patients towards better health. For years we have known that money is not the only thing that motivates people. Maslow's hierarchy of needs was written in 1943 and suggests that once an individual has attained an income level where they can comfortably address their basic physiological needs; other needs then become a greater priority for them. At this point, they become more motivated by self-determination and mastery than they are by incremental dollars. It is this interplay between extrinsic and intrinsic motivations and their affect on performance that we will review further.

Extrinsic vs. Intrinsic Rewards and Their Effects on Motivation

Herzberg's Two-Factor Theory states that at a minimum, you must pay someone a rate that meets their lower level needs and that they consider fair, while providing a feeling of job security. However once these criteria are met, people become much more responsive to factors that support their intrinsic motivational needs such as recognition and achievement (Herzberg, 1968).

In fact beyond supporting those basic needs, many studies have shown incentives to elicit negative motivational responses by "crowding out" the inherent intrinsic motivation a person has to perform well on a task. Monetary rewards can be perceived by an individual as an external controlling intervention,

and therefore, can detach the individual from internal motivations he or she may have had before the reward was introduced. A recent Health Affairs blog (Woodhandler and Ariely, 2012) discusses a number of experimental examples that have shown financial incentives to often “crowd out” intrinsic motivation. For instance, college students will spontaneously play with interesting puzzles when not compensated, but lose interest when paid to do so. When incentives are defined to be contingent on a particular performance output, they serve to strengthen external motivation and tend to “crowd out” work morale. An evaluation of this motivation crowding theory (Frey, 2008) has stated that there are three psychological processes to account for the ‘hidden cost of rewards’ where the introduction of rewards can negatively impact intrinsic motivation by reducing:

- **Control:** When an individual perceives an external intervention that reduces control over his or her own actions or self-determination, their focus shifts from intrinsic to extrinsic factors. The result is behavior that is more rational and less intrinsically motivated.
- **Acknowledgement:** If an outside intervention undermines or does not acknowledge an individual’s intrinsic motivation, the person affected feels that his or her competence is not appreciated and results in reduced effort.
- **Demonstration:** If an individual is not given the chance to demonstrate that his or her actions were intrinsically motivated by others, their intrinsic motivation is then reduced. (e.g. when a host is paid by a guest for cooking a meal, the host can no longer demonstrate that she values the guest’s company, which in turn diminishes her inner motivation)

When designing incentives it is important that incentives complement or enhance intrinsic motivation a person already has, rather than crowd it out. An external intervention may “crowd in” or enhance intrinsic motivation if the individuals concerned perceive it as supportive or informative in a positive way. When this occurs, the person’s self-esteem is fostered and they feel that their self-determination is encouraged which, in turn, raises intrinsic motivation. An early study (Deci, 1971) on the effects of rewards on intrinsic motivation indicate that (a) when money was used as an external reward, intrinsic motivation tended to decrease; whereas (b) when verbal reinforcement and positive feedback were used, intrinsic motivation tended to increase. A later meta-analysis (Deci, Koestner and Ryan, 1999) of the effect rewards have on intrinsic motivation also showed that rewards may have both positive and negative effects on motivation, with some aspects of rewards being perceived as controlling and thus decreasing intrinsic motivation. However, when incentives were seen as providing evidence of competence, this served to increase intrinsic motivation. This implies that behavior can be positively influenced by external influencers and extrinsic rewards, however if the reward is seen as controlling, the long-term effect on intrinsic motivation (thus long-term behavior change) can be negatively impacted.

Problems with Health Care System Design in Supporting Motivations

The potential for crowding out intrinsic motivation through the use of incentives is a particularly important consideration for an industry like medicine, where there is a higher likelihood for intrinsic motivation to be initially present. While the intrinsic motivation of helping and caring for people may have not been the primary driver for all physicians to enter medicine, it is likely to have played a strong roll for a number of those selecting the profession. Therefore creating incentive systems that conflict with or detract from this intrinsic motivation could potentially have stronger negative implications in healthcare than might be experienced in other industries.

While there are a limited number of studies evaluating these effects on healthcare professionals, we may be able to gain insights from studies done in another profession with similar intrinsic motivation, namely teaching. One such study was done on a pay for performance pilot conducted for teachers in Denver, which was used to help drive improvements in student achievement. While the study concluded that the pilot did help drive improvements in students' scores, it determined that the new skills gained by teachers and organizations' focus and support for teachers that brought about improvement:

Thus improvement came about primarily for three reasons: individual teachers learned new skills; schools focused more clearly on teaching and learning; and the pilot led to substantial improvement in the district's curriculum alignment, school support, and assessment. None of these have any direct relationship to teacher motivation. Thus even though pay for performance was the vehicle for these three changes, the steps that appear to have brought about improvement did not require incentive pay. CTAC concluded that the pilot was "a catalyst for changing the district so that it could become more focused on student achievement in a more coordinated and consolidated way. (Gratz, 2005)

Another study performed in Nashville from 2005 and 2009, evaluated the effect of teacher incentives on the performance of 5th through 8th grade students on standardized math testing (Springer, et al. 2010). This study showed no statistical difference in performance for the students of teachers in the Treatment group or the Control group in any of the grades except for 5th grade. One hypothesis proposed by the study for the greater effect on 5th graders, was that math teachers for that grade taught their students a greater number of subjects than those in the other grades. While this could be a potential factor for the difference, another reason for the lower performance may be the increasing complexity and ambiguity of the math problems at higher grade levels. Teaching higher level math may require different teaching methods, and in turn, different types of incentives to encourage not only stronger motivation, but stronger performance as well.

Incentives and Their Affect on Performance

While the design of incentives can have a significant impact on a person's motivation to complete a task, they can also impact that person's ability to perform that task in different ways. This component of incentives is generally less considered by those designing incentive programs, as it is a bit counterintuitive that something that increases someone's motivation could also hurt their performance. However, under certain conditions, increasing incentives can in fact have an adverse affect on how a person performs.

A number of studies in recent years have evaluated the effects of incentives on performance, with many of the results contradicting our general perception of higher incentives correlating to better performance for individuals. In a set of three experiments conducted by MIT professors and funded by the Federal Reserve Bank of Boston (Ariely, Gneezy, Lowenstein and Mazar 2005), they found that in eight of the nine tasks examined across the three experiments, that higher incentives led to worse performance. Other studies have shown that incentives do tend to improve performance on manual clearly defined processes. However as problems become more ambiguous and complex, this relationship begins to transition to a negative correlation between incentives and performance.

The effectiveness of different reinforcers may change for complex tasks given the increased demands on behavioral and cognitive facilities of the task performer. For example, the theory we propose suggests that different reinforcers impact different aspects of the motivational process: money fosters effort, feedback clarifies the work role, and social recognition predicts the occurrence of future desirable outcomes. This reasoning may explain the somewhat weak effects of feedback in our study, for low complexity tasks may call for more effort as opposed to feedback. On the other hand, as the task complexity increases, the role clarity provided by feedback may gain in importance (Wood, 1986). Thus, as a specific avenue for future research, we suggest that in behavioral management the effects of feedback on task performance may increase for more complex tasks. (Stajkovic and Luthans, 2003)

A review of 74 experiments on varying performance-based financial incentives (Camerer and Hogarth, 1999) found that higher incentives usually had no effect on mean performance, although higher payment did reduce performance variance. For those experiments where higher incentives did improve performance, it was typically for tasks that responded to better effort. In a few experiments they found that incentives negatively affected performance, all of which were judgment or decision tasks. In one striking example, incentivized subjects tended to abandon a standard predictive formula for estimating the correlation of grades to student honors, which led these participants to get fewer correct. While their abandonment of the formula could be perceived as increased effort, their extra effort hurt performance rather than improving it. In two other studies using 'insight' problems, subjects were asked to solve problems that required unorthodox thinking to find the correct answer. Those that

were highly-incentivized were significantly slower in finding that answer, meaning that the increased effort the incentives created may have also reduced a subject's ability to think creatively.

A review of 131 experiments that analyzed the impact of incentives on performance in relation to the complexity of the task and the type of incentive scheme (Bonner, Hastie, Sprinkle and Young, 2000), found that around 50% of experiments saw higher incentives correlate to improved performance. However, as the gap between task complexity and skill increased the likelihood of financial incentives positively impacting task performance decreased. Problem-solving, reasoning, and game-playing tasks were labeled in the study as the most complex due to the amount of information processing and ambiguity involved, and were found to produce the lowest frequency of positive incentive effects on task performance. In addition, none of the various incentive schemes tested were shown to correlate well to performance improvement on experiment tasks.

Across these various studies evaluating the effect of incentives on performance, there was a recurring theme of incentives having a positive effect on straight forward tasks and a diminishing or negative effect as tasks become more complex and ambiguous. This is important to consider because one the most important roles of a physician is the diagnosis of patient problems that are complex and ambiguous.

However, there are aspects of health care that are straight forward; where best practice standards have been defined and can be put in place. It would appear that incenting the management of those processes should be done in a different manner than complex care management and diagnosis. In fact, it may be better to create incentives for nurses and other staff that reward them for establishing and maintaining these standard processes and measurements, while using a different compensation model for physicians. Today's physician compensation models often tie dollars to straight forward process and quality measures, and may limit their motivation and ability to find answers to the more complex and ambiguous questions and symptoms patients present them. With this in mind, the next section will look at the various healthcare incentive models that have been used in recent years and evaluate whether the results seen in these demonstrations align to the experimental results discussed above.

Using Incentive Models to Drive Results in Healthcare

We should not expect to fix the system by shifting the risk and responsibility for efficient care management from health insurers to providers through Accountable Care Organizations (—ACOs). A shift of payment methodology by itself is not the panacea to controlling costs. Moreover, the information we reviewed shows that the shift to global payments without other fundamental changes may not only fail to control cost, but may exacerbate market

dysfunction and market inequities by establishing widely different per member per month rates based on historic pricing disparities.

- Martha Coakley, Massachusetts Attorney General (Report for Annual Public Hearing, 2011)

Examining CMS Sponsored Healthcare Incentive Demonstration

Generally speaking, the studies conducted by the Center for Medicare and Medicaid Services (CMS) to date have shown limited success in driving a change in cost and utilization. (Ryan, Blunstein and Casalino, 2012) The only study that demonstrated a reduction in cost was bundled payment, and that reduction could be directly traced to a cut in reimbursement rates negotiated by CMS with study participants in lieu of increased market share on those services. The bundle payment study failed to demonstrate a decrease in the amount of services provided to patients. Table 1 provides an overview of four studies CMS has sponsored in recent years.

Table 1: Results From CMS Demonstrations of Value-Based Payment (Nelson, 2012)				
Demonstration	Participating Organizations	Incentive Offered	Effects on Medicare Spending	Effect on Quality of Care
Physician Group Practice	10 Physician group practices	Group practices received bonuses if they reduced total Medicare spending on their patients. The bonuses depended partly on the number of quality of care targets met.	Little or no effect on expenditures	Small improvement in processes of care
Premier Hospital Quality Incentive Demonstration	278 Hospitals	Receive bonus for meeting quality-of-care targets	No effect on expenditures	Small improvement in processes of care
Home Health Pay-for-Performance	273 Home health agencies	For each region, estimated savings were distributed to home health agencies that had the highest quality scores or the greatest improvement in quality scores	Little or no effect on expenditures in the first year	Little or no effect on patient outcomes in first year
Bundled Payments: Medicare Participating Heart Bypass Center	7 Hospitals and physicians who treated heart bypass patients	Hospitals and physicians received bundled payments for heart bypass surgeries	10 percent decline in spending on bypass surgery	Little or no effect on patient outcomes

Physician Group Practice Demonstration

The Physician Group Practice (PGP) Demonstration did not drive significant savings in CMS health care expenditures. The fact that it shared up to 80% of the savings generated with its participants was a contributing factor to CMS not observing a significant amount of savings. However, the primary driver of the lack of Medicare savings was a lack of savings generated relative to organizations’ benchmarks (in

the first two years, net savings to the Medicare Trust Funds were \$2,260,000 which accounted for savings compared to benchmarks of \$26,907,000 and resulted in performance payments to four PGP participants totaling \$21,163,000; Medicare also observed losses relative to benchmarks of \$3,484,000 at two other PGP sites). More of a concern is the fact that the majority of the savings that were generated relative to benchmarks have been attributed to changes in population risk score, which increases the cost of care benchmarks used to calculate the demonstrated savings:

The increase in risk scores over those of comparison populations appears to be a characteristic of the PGPs earning and not earning performance payments. While the higher growth rates in risk scores may not explain the financial performance differences between the two PGP groups, it obviously affects performance payments. Without higher risk scores, only one PGP would have earned a performance payment. (Sebelius, 2009)

If the increases in population risk score were driven by changes in coding practices, which is a logical assumption since CMS consciously created safeguards minimizing the impact of improved coding on risk scores in the Pioneer ACO and Medicare Shared Savings Programs (MSSP), this would then signal that the PGP Demo drove minimal changes in care utilization.

This could indicate that participating in a payment model design like the PGP Demonstration may not drive organizations to create efficiencies in their care practices that could support future reductions in medical spend. Instead it appears that organizations may be more likely to succeed in maximizing their income under the parameters of a shared savings through coding improvement programs rather than accomplishing the intended goal of reducing unwarranted utilization. Because it is much less expensive for organizations to change their coding practices than it is for them to change their care delivery processes, it is not surprising that CMS saw the majority of movement created by participants in their risk score rather than the cost of care for their attributed patients. While better coding helps organizations better identify the needs of its population, it did not have the direct effect on health care spend that the program was intending to drive. The PGP Demonstration was used as a template for the design of the Medicare Shared Savings and Pioneer ACO Programs outlined in the ACA.

Premier Hospital Quality Incentive Demonstration (HQID) and the England Reproduction

One striking example of two studies that may allow us to isolate a component of health care reform that can drive successful change in cost and quality is the CMS sponsored Premier Hospital Quality Incentive Demonstration (HQID) and the recreation of the demonstration in England. The U.S. version of the demonstration showed no effect on expenditures and only limited effect on quality improvement, while the English version was deemed a success.

Table 2: Comparison of the Premier HQID and England Reproduction Studies

	Premier HQID	England Reproduction
Sponsor	CMS	Premier
Participant Selection	<p>255 participants (roughly 5% of hospitals) that were already participants in Premier’s benchmarking database and agreed to participate in HQID study</p> <ul style="list-style-type: none"> Primarily large non-profits or academic medical centers Not region specific, but large representation in the south 	<p>Limited to select regional group of hospitals</p> <ul style="list-style-type: none"> Northwest Region: All 24 hospitals in the region participated in the incentive program
Control Group	Non-participating US hospitals evaluated as a control group	Rest of hospitals in England used as a control group
Incentive Type	Tournament Style	Tournament style
Time Period	2003 through 2009	2007 through 2010
Hospital System Incentive Payments	<ul style="list-style-type: none"> \$36.5 million total in the first four years or up to 2% of revenue annually 10% of participants earned the highest bonuses 	<ul style="list-style-type: none"> \$7.5 million total in first 18 months or up to 4% of revenue in the first year 25% of participants earned the highest bonuses
Physician Incentive Payments	\$12 million in the first four years of the study distributed to 225 physicians (Average of \$53,333 per physician)	Physicians did not receive any additional compensation, all participating hospitals agreed to reinvest dollars into quality improvement efforts.
Results	<ul style="list-style-type: none"> Participants and control group showed similar improvements in quality metrics over the course of the study, with the non-study control group showing slightly more improvement than study participants Study participants did however show a faster improvement in the early years of the study but then leveled off in later years Participants demonstrated no improvement in mortality relative to control group for the conditions measured regardless of whether they were tied to incentives (Jha et al. 2012) Low Performers: Those that started as low performers did see an improvement rate that was slightly higher than those not participating 	<ul style="list-style-type: none"> Study results suggested a greater overall reduction in mortality of 1.3 percentage points in the northwest region, or a relative rate reduction of 6% which equated to a reduction of 890 deaths for those conditions with incentives (Sutton et al. 2012) The greatest reduction in mortality, both overall and relative to the control group occurred for pneumonia Improvement in mortality for measures that were not tied to incentives were lower for study participants compared to the control group
Potential Contributing Factors to Study Differences	<ul style="list-style-type: none"> Incentive Size: The size of the incentive available to participating organizations was a larger percentage of annual revenue in the England study Number of Participants: Each successful organization in the England study would have a larger impact on the averages due to the smaller number of participants whereas successes had the potential to be diluted in the Premier study Selection Process: The Premier study was a self selection process whereas the England Reproduction had all participants in a region included, eliminating any selection bias that the Premier HQID may have had Level of Collaboration: Both studies encouraged the collaboration amongst participants; however the England participants had regular interval face to face meetings to share problems and learning, particularly in relation to pneumonia for which compliance with clinical pathways was noted to be particularly challenging. This collaboration may have been a driver in pneumonia having the most significant change relative to the control group within England. Contributing factors that may have led the English participants to be more collaborative than those in the Premier: <ul style="list-style-type: none"> Proximity and Size – All England participants were located in one area and had a smaller number of 	

	<p>participants making it easier for them to meet face-to-face, as opposed to the Premier study which used webinars for their meetings which may have been driven by participants being spread over a larger geographic area.</p> <ul style="list-style-type: none"> ○ Incentive Distribution – The fact that physicians in the England study did not have individual financial benefits tied to performing better than others in their region may have encouraged them to be more collaborative compared to Premier participating physicians who had large financial gains tied to outperforming others.
Conclusions	While there were multiple differences between the Premier HQID and England Reproduction studies that make it difficult to isolate the primary driver in their different results, there was a measurable difference in the effect each study had in driving a change in mortality for the measures evaluated in the studies. Therefore we may be able to conclude that incentive programs have the potential to drive improvement, but the program design or other factors may have a significant influence on how successfully incentives drive improved results.

Premier HQID Study						English Reproduction of HQID				
Mortality Rate at 30 Days (2003-2009)						Mortality Rate at 30 Days (2007-2010)				
Condition	Incentives Tied to Outcomes	P4P Status	Starting Mortality Rate	Change per Quarter	Finishing Mortality Rate	Incentives Tied to Outcomes	P4P Status	Starting Mortality Rate	Change	Finishing Mortality Rate
All Conditions in Program	Partial	In: Premier	12.33	-0.03	11.82	Yes	In: NW Region	21.9	-1.8	20.1
		Out: Non-Premier	12.4	-0.04	11.74		Out: Rest of England	20.2	-0.9	19.3
Acute Myocardial Infarction	Yes	In: Premier	17.32	-0.1	15.67	Yes	In: NW Region	12.1	-1.4	10.7
		Out: Non-Premier	17.42	-0.09	15.85		Out: Rest of England	11.3	-1	10.4
CABG	Yes	In: Premier	3.91	0.01	4.12	N/A				
		Out: Non-Premier	3.62	-0.02	3.34					
Congestive Heart Failure	No	In: Premier	10.68	0.03	11.13	Yes	In: NW Region	18.8	-1.3	17.5
		Out: Non-Premier	10.61	0.02	10.92		Out: Rest of England	16.9	-1.1	15.8
Pneumonia	No	In: Premier	12.87	-0.07	11.71	Yes	In: NW Region	29.4	-2.4	27
		Out: Non-Premier	13.13	-0.08	11.85		Out: Rest of England	27.1	-0.7	26.3
All Other Conditions Not in the Program	N/A					No	In: NW Region	13.1	-1	12.1
							Out: Rest of England	12	-1.3	10.7

Medicare Disease Management and Care Coordination

Over six major demonstrations involving disease management and care coordination, 34 organizations participated in using nurses as care managers to support patients. Of these participants, 18 organizations had fees at risk in concert with developing care management, while the other 16 organizations did not. Of those organizations with fees at risk, evaluations by the Congressional Budget Office indicate that only 2 of these 18 programs reduced total Medicare spending noticeably. One of the programs at-risk increased total Medicare spending, while the remaining organizations had no discernible effect on total spend. In addition, the organizations that had fees at risk had similar changes in total Medicare spend to those that had no risk.

Since there was no discernible difference between those at risk and those without risk, and taking on risk was unable to drive any significant change in Medicare spend, the addition of risk did not prove to drive change in healthcare costs when tied to disease management and care coordination.

UPMC Medical Home Pilot

UPMC's patient-centered medical home program was developed at ten participating sites for an estimated cost of \$6.09 per member per month. This estimate includes the annual salary and benefits of the six practice-based care managers; the cost of the health plan staffs' effort to manage the program, collect data, and report on the results; laptop, printer, and other hardware costs; and fees associated with the sites' applications for patient-centered medical home recognition. These costs were not payment to physicians but rather the cost of supporting staff, technology and infrastructure needed to develop medical home competencies.

Between 2008 and 2009, total costs (medical and pharmacy) increased 3.0 percent for participating sites and 7.5 percent for the rest of the network. Between 2009 and 2010, total costs decreased for both groups, but the decrease for participating sites (-2.6 percent) was significantly better than that for the rest of the network (-0.1 percent).

The Alternative Quality Contract (AQC)

The Alternative Quality Contract (AQC) was established as a commercial payment model between Blue Cross Blue Shield of Massachusetts and a number of providers in the Boston market. In the first year of implementation, the AQC was associated with a 1.9 percent lower increase in total medical spending and modest quality improvements, compared to control groups. These initial savings were largely achieved through shifting referrals to less expensive providers and settings, rather than through reducing utilization—a strategy that is not likely to achieve substantial additional savings year after year.

Overall, the results identified in the (Song et al. 2012) study of the AQC showed a reduction in expenditures growth for AQC participants vs. the control group. However the majority of these savings for the 2009 cohort and 50% of the savings for the 2010 cohort were attributable to changes in referral patterns to lower cost providers. While the study determined an estimated reduction of 2.8% change in spending for participants, it also reported that the AQC drove an average change in risk score of 5%. While some of this change in risk score may be attributable to changes in the population, a portion of it may also be attributable to changes in coding practices also identified in CMS studies. Overall, this

would make it unclear whether the AQC actually drove savings or not, as the study did not show a risk adjusted and non-risk adjusted comparison to understand the effect.

Conclusions

Intended/Unintended Consequences of New Payment Models

Under the current payment models generally available for providers in the U.S. market, only a small portion of provider's revenue is at risk. When the majority of revenues tend to remain under fee-for-service methodologies, a provider is typically not going to take drastic steps towards reforming the way in which it practices.

One reason for the lack of change generally seen to date, is that making the significant changes necessary to manage population health and cost of care tend to be costly. Secondly, if an organization does make drastic changes that make it significantly more efficient, they tend to not limit those changes to only their Medicare participants, and therefore risk reducing their overall revenue while only getting a small portion of these reductions back. Potentially driven by this rationale, there have been some common trends across the studies that have been performed to date on payment.

- **Focus on coding improvement:** Can lead to better data and available information as well as creating temporary increases in revenues and/or benchmarks for risk-based payments. However, the associated increased risk scores and benchmarks can offset efficiencies gained and mask the tough decisions that will need to be made around care model design.
- **Limited reductions in total spend for established ACOs:** The positive results seen in studies were from those new to managing cost, those who have been doing it did and not see any changes
- **Greater focus on market share:** Providers, especially hospital systems, will likely need additional market share to offset losses incurred from reducing utilization
- **Provider incentives mirroring organization incentives:** organizations are often translating the rewards they receive through new payment models into similar rewards systems for individuals; however as we have discussed earlier, this may not be the best approach for driving results
- **Focus on quality measures:** Because one of the main focuses in new payment models is on performing better on specific quality metrics, these measures tend to be a significant area of focus for organizations

As we have seen in the studies on the effect of incentives on motivation and performance, and the limited impact new healthcare incentive models have consistently shown across various studies, the new trends these payment models are driving may continue to have a limited impact on healthcare expenditures.

Potential Approaches Moving Forward

Based on incentive focused research and studies, there may be additional opportunities to shape the way we reward organizations and the individuals within them to drive better results. By taking a more evidence based approach to designing these incentives, there are several areas where the current incentive structures do not appear to align to the conclusions from the research reviewed. The potential changes outlined below may create better incentive alignment and support the outcomes of reduced cost and increased population health that new payment models are intending to drive:

- **Align Payment Models to Internal and External Factors:** Since the timing of risk assumption by providers is essential to their ability to maintain financial viability, providers must determine how they can track and manage the timing of this. Additionally, payers must be willing to support providers in timing this well to limit the need for further market consolidation in the future by being willing to shift appropriate amounts of risk and providing the data providers need to understand their opportunities and ability to manage risk.
- **Use Quota-Based Incentive Programs:** Quota incentives link payment to whether or not an individual or group achieves a predetermined goal (could be based on cost or quality targets). Incentive studies have shown that individuals generally achieve better results when a goal is clearly defined, meaningful, achievable and measurable. Therefore it is not surprising that quota programs showed the best results, as they tend to create clear expectations of what the participant needs to achieve in order to earn an incentive.
- **Limit the Amount of Physician Incentives Tied to Quality Measures:** Instead, make it an emphasis for their supporting care teams. If the supporting care team has a portion of their compensation tied to the quality metrics, they can then focus on the process of ensuring those measures are captured and improved. This may limit the effect of crowding-out of physician motivations and negative impacts to their ability to perform the complex tasks inherent to their work.
- **Determine What Physicians Want:** We need to do a better job of asking them this. We are often looking to set up compensation models based on old economic theories that assume they are trying to maximize their income, but not taking into account other things that they want. Also factoring how physicians value routine, the amount of time they are able to spend with each patient, time available for research, time away from work and their opportunities to develop mastery in different aspects of their work may allow for creative, less expensive and more effective methods of driving motivational and performance improvements.
- **Minimize Issues Stemming From Loss Avoidance:** Individuals and the organizations they operate in are hard wired to avoid loss at all costs. Loss avoidance becomes difficult as we attempt to make the transition to accountable care because by definition, if we are reducing the cost of health care to the consumer, someone within the healthcare system is going to be making less revenue or income going forward. Designing a system that attempts to mitigate those losses may support a focus on improving cost and quality rather than focusing on attempting to mitigate perceived potential losses

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