
Follow the Money: Payment Reform as the Key to Health Reform

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No topic in medicine draws as much debate as the role of money in medical practice. Single-payer reform proposals call for eliminating the role of money in medicine, while the consumer-directed health plan movement is founded on the idea that people do not bear enough financial consequence for their care decisions. All acknowledge that payment reform is the key to health reform but disagree greatly on the nature of reform. I argue that the focus on payments is correct, but that we need a different direction of reform—to orient reimbursement toward health improvement, rather than just paying for services provided. Pay-for-performance systems offer the potential for great improvements in the value of medical care.

Medical care financing has an enormous effect on the services that are provided. When payment is more generous, more is done. The link between payments and services has many good features: the tech-

nological development of American medicine was a direct result of the generous reimbursement environment. But paying for services provided has adverse effects as well. Because payment has historically been very generous, too much has been done. Estimates suggest that medical spending in the United States is 20% to 30% above needed levels. When payment has been limited, in contrast, too little has been done, as with poor use of information technology and lack of attention to chronic disease. Each of these areas could use enormous investment in new resources. By compensating physicians for the quality of the services they perform, the medical system can limit the incentives for overused care and increase the incentives for prevention.

I suggest 4 directions for health-care reform consistent with this view. The first is to introduce performance-based payments for providers and health insurers serving Medicare patients using a num-

ber of available quality metrics. Second, the federal government could encourage regional collaborations focused on improving healthcare quality. Third, the federal government might pay for a significant information technology infrastructure in medicine. A national health information network would add perhaps 2% to medical spending over 5 years, but it would likely offset that cost with efficiency savings. Finally, the government could reduce the copayments individuals face for services with high value, and raise copayments on services with lower value. This would complement the incentives of performance-based payment for providers.

In all likelihood a performance-based payment system would lead to a lower level of spending but continued increases in costs over time. Performance-based payments will thus not solve the long-term financing problems of medical care, but they will improve the value of the medical system.

Financial Incentives and Medical Care Provision

The development of the medical system as a whole shows the enormous importance of money. Before the 1950s, medical care was a small part of the economy and was not increasing in cost particularly

rapidly. Adjusted for inflation, medical spending was only \$300 per person in 1929, or 3.5% of gross domestic product (GDP). These costs were manageable except for the very sick—and the problem for the very sick was as much loss of earnings as it was high medical bills. Today, the medical system spends 20 times more per person and is 4 times larger as a share of GDP.

The fuels for this remarkable transformation were technology and money—the former expanding what we could do, and the latter making it affordable. The technological end is well known: the development of diagnostics and therapeutics across the spectrum of disease. The money end is largely a story of health insurance. Health insurance was a perk offered during World War II when wages were regulated but benefits were not. Employer-provided health insurance expanded after World War II as tax policy, codified by the Internal Revenue Service (IRS), favored providing health insurance over cash wages. Medicare and Medicaid were created in 1965, expanding access to elderly and poor individuals.

When health insurance began to be popular, providers charged for services, and health insurers did what came naturally: they paid providers the fees they charged. To ensure access to services, cost sharing was low. With generous payments to physicians and hospitals, and few restraints on patient demand, big medicine was the inevitable result.¹ On the supply side, public and private research dollars created the potential to do more, at higher cost.

Technology and insurance dance

together. As the capabilities of medicine expanded, more people wanted access to the system, so health insurance coverage rose. And the more who were covered, the stronger were the financial incentives to do more. The modern healthcare system was the inevitable result. In recent years, the tendency has been to cut back on spending generosity, and once again the practice of medicine has followed the changing incentives. Medicare introduced prospective payment for hospital care in the early 1980s. Rather than paying hospitals the actual costs they incurred, Medicare paid a fixed amount reflecting the average cost of treating a patient with a particular disease. Additional tests and days in the hospital went from being well reimbursed to being cost drivers. The result was a dramatic reduction in hospital lengths of stay and less use of marginal tests and procedures.²

Physician payments tell the same story. When managed care shifted from paying physicians on the basis of what they did to a salary payment, or further still to a fixed amount per person, out of which service costs are subtracted (termed *capitation*), the time physicians spent with each patient fell and use of services declined.³ Physicians were so incensed by the conflict between managed care payment and their professional ethics that they—along with their patients—ultimately rebelled against the tight restrictions of managed care.

The magnitude of overused care is not entirely known, but some guesses are possible. Jack Wennberg and colleagues at Dartmouth have estimated that Medicare spending could be reduced by about 20% to

30% without adverse consequences if all areas practiced care at the level of the 25th percentile most expensive area.^{4,5} Looking at 30 conditions, Elizabeth McGlynn and colleagues at Rand estimated that 11% of chronic disease care was for services that were not needed.⁶

Paying more than is warranted is bad, but doing less than is appropriate can be even worse. The consequence of overuse is largely financial, though patients are sometimes harmed; the consequence of underuse is lives lost.

Low Use of Information Technology

Medical care uses information technology among the least of any industrial sector. The lack of an electronic medical record is the most obvious failing. But the problems run much deeper. Most doctors still rely on their personal experience in making clinical judgments, supplemented by a case or two from the literature and the experience of close colleagues. Sophisticated information technology is rarely used. Only 4% of hospitals have adopted computerized physician order entry systems, and only 17% are near complete adoption.⁷

The problem is financial. The hospital-based computer system to catch medication errors have an upfront cost of \$3 million to \$10 million, with ongoing costs of over \$1 million a year.⁸ Because higher-quality hospital care is not reimbursed at a higher rate, there is no revenue down the road to justify the expense. There are some potential offsets in cost savings, but these are more speculative. Some have suggested, for example, that hospitals might save on malpractice pre-

miums by adopting computer systems, but claims of such savings have not been convincing.⁹ There might also be savings in fewer duplicate tests, but again the amount is unknown.

Underinvesting in Behavioral Change

Social as well as medical factors are important in treating chronic disease. For a patient with diabetes, not only must a therapy be available, but the patient must follow the regimen as well. The patient must institute lifestyle changes, take certain drugs, and schedule and keep follow-up appointments.

For the bulk of patients, chronic disease is not adequately controlled. Thirty years after blood pressure medications were shown to be effective in preventing cardiovascular disease, only one-quarter of people with high blood pressure have their blood pressure medically controlled.^{10,11} A decade after statins became widely used, only 5% of people with high cholesterol keep their cholesterol below recommended levels.¹² And among people with diabetes, only 7% attain recommended levels of blood glucose (HbA1c), blood pressure, and cholesterol.¹³

There are many faults here. Almost everything that can go wrong does go wrong—for some patients. Some people are not adequately screened, others are not adequately prescribed, some do not take medications as recommended, and still others give up because of cost or complexity. The way to address these issues involves provider as well as patient behavior.

In fact, we know it is possible to do better. The best health plans—

The belief that profit motives lead to misallocation drives the thinking of many.

ironically the old-fashioned health maintenance organizations (HMOs) that people love to hate—achieve much better outcomes than the national average. But the cost of establishing a serious chronic disease program is high. Computer systems need to be purchased, physicians need to be trained, and new ways of care management need to be implemented. Physicians do not get paid more when their diabetic patients are better controlled. Indeed, they may suffer losses if use of well-reimbursed procedures decline. The provider group's volume may increase—more patients may choose that insurer or fewer may disenroll. But as noted above, volume responses to quality are generally limited.

The same barriers to delivering high-quality care and more face health insurers and discourage them from doing the right thing. Increased volume can be good for business, but in health care that is not always true. New patients attracted to a health plan with good diabetes care are often sicker patients than average. As a result, even well-run plans can lose money. And a health plan that invests in its providers—giving them computer systems or paying for nurses as diabetic assistants—will find that those improvements spill over into all of the physicians' patients regardless of their health plan or insurer.

The Quandary

This discussion leads to a fundamental question—what is the best way to run a medical system? The belief that profit motives lead to misallocation drives the thinking of many. Of course, single-payer systems do not get the money out of medicine. They just make it flow in a different way. At the other extreme are those who believe that consumers should be more in control, the way they are in other industries. But health care is different: decisions about care today do not affect outcomes until years later. Hypertensive patients who do not take care of their health when the disease is asymptomatic will notice no ill effects until many years down the road when they have a stroke or heart attack. In such an environment, the rewards associated with good decisions are not immediate, so behavior might not be changed.¹⁴

The Promise of Payment Reform

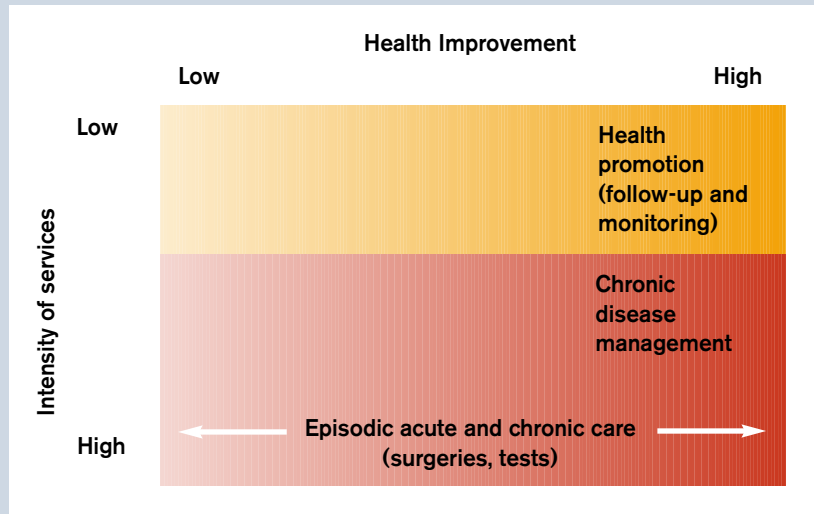
Where medical care payments go wrong is in focusing on the wrong dimension of performance. Almost all payment systems reimburse for quantity (how much is done) and intensity (how invasive it was). Doing more brings in more money, especially when it is very intensive. Quality is not an explicit component of reimbursement. Therefore, systems result in too much care (if payment is very generous) or too little care (if payment is poor), but not necessarily the right care. Considering quality as an explicit goal could help rectify this situation.

To understand this idea more fully, consider Figure 1, which differentiates medical care along two dimensions. Along the horizontal axis of

the chart is the quality of the services provided, or the impact of the care on improving patient health. For any particular patient, some services are low quality, and others are high. The vertical axis is the intensity of services provided. The least intensive services are health promotion of the type discussed above: working with patients to ensure that recommendations are followed and helping to coordinate medical care across different providers. Because many of these services do not require detailed medical training, they can be performed by a nurse or other non-physician personnel. In practice, there is no payment to anyone for doing them. Somewhat more intensive is the medical component of chronic disease management—performing blood tests, prescribing appropriate recommendations, and monitoring adverse side effects. These services require medical training but not the most intensive type. Primary care physicians spend a good deal of their time providing this type of care. These services are reimbursed reasonably well; a typical primary care physician earns perhaps \$150,000 a year—less for family practice, more for internal medicine. The most intensive care is episodic acute and chronic care, including sophisticated surgical operations and intensive tests. Specialists who provide this type of care can earn several hundred thousand dollars per year.

More intensive care is reimbursed well, and less intensive care is reimbursed less well. Nonphysician services are not reimbursed at all. Some features of this system are good. Sick patients in great need of high-tech care are well cared for. The hallmark of Ameri-

Figure 1. Typology of Medical Care by Service Intensity and Health Improvement: Incentives Under Traditional Payment Systems



can medicine is the technological wonders it offers when survival is threatened. It is perfectly consistent with the incentives.

Not surprising, however, too much is done in this reimbursement environment. This is illustrated in the bottom left of the box: care that is very intensive but is not valuable. Examples of overused care include prescription drugs that are taken even when cheaper drugs are more appropriate and surgeries that are performed even when their clinical benefit is low and nonsurgical options are readily available.

The valuable care that is not provided—the underinvestment in information technology and the monitoring and counseling of patients that do not occur—are in the upper right quadrant of the figure. The hallmark of all of these services is that they involve costs without any obvious reimbursement. Underutilization is the not-surprising result.

Estimates of total underuse are even sketchier than estimates of overuse. In their study of care received in 12 communities, Elizabeth

McGlynn and colleagues estimated that only 55% of recommended care was provided.⁶ This study did not look at care in all clinical encounters, but it is the best we have. In the short term, providing these services would cost money, though there may be cost offsets from fewer acute events down the road.

The Managed Care Debacle

For several decades, the United States has spent more per person on medical care than has any other developed country, with no better health outcomes to justify the expense. A decade ago, businesses and government got serious about eliminating that overused care, and managed care was the vehicle to do so.

At its most fundamental, managed care sought to reduce the use of unneeded care and increase the incentives for less intensive care. These goals were accomplished through command and control features such as utilization review and by paying less for high-tech care. For example, some doctors went from being paid for each service

they provided to receiving a fixed payment per patient, independent of the specific service they provided. But without a fine scalpel, it is difficult to separate healthy tissue from diseased, and managed care was not operating with a particularly sharp knife. Plus, the ideal of better access to primary and preventive care never really panned out. While patients paid little to see the doctor, the volume standards set on physicians limited the amount of time they could actually spend with each patient. The result was a system that saved money but struggled with the perception—partly deserved—that quality of care was compromised.

Performance-based Payments

The failure of both traditional payment systems and managed care shows the limits of paying for services based on quantity and intensity. In essence, both systems failed because they targeted the wrong goal. What patients care about is not the quantity of services they receive or how intensive those services are, but whether their health improves as a result of medical care. This suggests an entirely different form of payment: reimbursement for the quality of services performed.

The most important element of a performance-based payment system is the measure of performance. How much of care can be evaluated is a subject of some debate. In many circumstances, we know about processes that physicians should follow in treating patients. In some circumstances, we can measure health outcomes directly. Mortality after a surgical operation is readily observable. Quality

How much of care can be evaluated is a subject of some debate.

of life is harder to measure, but a number of scales have been developed and could be applied.¹⁵

Other dimensions of performance may be important as well. Patient experience is a key aspect of medical care. Patients can report their satisfaction with the medical care experience, the timeliness of care, and other attributes. A Consumer Assessment of Healthcare Providers and Systems (CAHPS) survey has already been developed and validated as an instrument for measuring patient experience.¹⁶ These measures of quality can be used independently or combined with costs to form a quality metric across providers. Standard economic criteria suggest paying on the basis of quality achieved per dollar spent, though difficulty in measurement suggests not weighting costs so highly, at least initially.

The issue with performance measurement is not whether there are any suitable metrics, but whether there are enough of them to span a large enough set of patients. Suppose we can observe measures of care for diabetes patients, but not for asthmatics. If we pay physicians extra for good diabetes care, physicians might take resources away from asthmatics and direct them toward diabetics. Substitution of effort reduces the benefits of performance-based payment.

How much substitution would

occur in actual payment systems is unknown. Indeed, since one can make theoretical arguments for substitution or positive spillovers, we cannot answer this question without experimentation. A reasonable step is to experiment with some—but not too much—performance-based pay.

A second difficulty involves measurement of quality when patient differences affect outcomes. Process measures such as whether the right drug was prescribed are relatively straightforward to interpret. Outcome measures such as mortality raise more difficulties. Consider rating the performance of two physicians who perform bypass surgery on the same day. If the patient of one physician survives the operation and the patient of another does not, is it always the case that the first doctor provided higher-quality care than the second? It may be that the patient of the first physician was healthier.

To some extent, averaging over time helps. For example, payment could be based on mortality rates over the entire year. Since most surgeons who do bypass surgery operate frequently, the luck of the draw would tend to average out. But one still needs to account for systematic differences in patient severity across physicians. One surgeon may have a better record than another because his or her patients were less sick to begin with, not because the surgeon had any more technical skill. To compound the measurement error, paying more to the doctor with healthier patients creates incentives to avoid very sick patients.

The way to avoid this outcome is to adjust the observed mortality rates for the severity of the patients.

The value of a pay-for-performance system is directly related to the adequacy of risk adjustment.

Rather than grade actual mortality across surgeons, instead grade actual mortality relative to the expected level given how sick the patients were, as New York and other states do in their report cards for coronary bypass surgery and angioplasty. In health care, this grading is termed *risk adjustment*. In education, perhaps a more familiar example, it is standardizing the score for the difficulty of the exam.

The value of a pay-for-performance system is directly related to the adequacy of risk adjustment. A good risk-adjustment system lends confidence in outcome-based payment; if risk adjustment is poor, paying on health outcomes is not feasible (though measures of process are still valid quality measures). There has been substantial research on risk adjustment systems in health care. Some risk-adjustment systems are being used in different settings, but these systems generally focus on predicting medical spending, not health outcomes. A new set of risk adjusters must be developed to predict mortality and other health outcomes. How well this can be done is an empirical question.

The lack of perfect measures has not hindered all experimentation with pay-for-performance systems; a number of pay-for-performance initiatives have been implemented in recent years. In most of these cases, the systems are too new to have definitive results. In the few cases that have been analyzed, though, the results provide mild encouragement that quality improvement is possible through pay for performance, although the overall incentives provided have not been particularly strong.¹⁷ Still, given our current knowledge, a

complete performance-based payment system is too large a step.

But the goal in healthcare reform is not to design the optimal system and wait for its adoption. Rather, the goal is to make incremental changes that move us in the right direction and set a path for sustained transformation.

Applying the Lessons

Focusing on the quality of medical care suggests 4 directions to health reform. The first step is to link a part of provider reimbursement to currently observable measures of quality. It is easiest to envision this reform in Medicare, because that is what the federal government controls most directly. On top of the current Medicare payment (or instead of current payments, if one wishes to be spending neutral), one might add a modest supplement related to clinical quality.

Moving to some quality-based payment for physicians is particularly important in light of projected changes in Medicare payments in the next few years. Under a system called the Sustainable Growth Rate, Medicare payments to doctors are to be lowered if the volume of services provided exceeds expected levels. In the past few years, service provision has expanded greatly. As

a result, current projections call for reductions in physician payments of at least 25% over the next few years.¹⁸ Quality can also be measured for health plans, and Medicare could reimburse health plans contracting with Medicare on the quality of their care. In the recent Medicare Modernization Act, additional funds were allocated to increase payment rates to managed care plans to encourage them to enroll Medicare beneficiaries. But these payments were made without a quality contingency. A natural step is to restructure this payment and base at least part of the funds on the quality record of the plan. The Health Plan Employer Data and Information Set (HEDIS) measures of the NCQA are the natural measure to use. The private sector accepts these ratings as a good assessment of health plan quality, and these scores are widely monitored and compared. There is no current equivalent of HEDIS ratings for plans that provide prescription drug coverage only. Developing such measures is a clear research task.

Medicare reform is only one possibility. A second strategy is to encourage regional collaborations to encourage quality. In a typical big city, there might be 3 to 5 private insurance companies and two public insurers—Medicare and Medicaid—as well as a small set of major hospitals and physician groups. Those organizations could come together around the goal of quality improvement, including quality measurement and dissemination and performance-based reimbursement.

In fact, regional actions have been far more significant than have federal actions in the past decade.

New initiatives such as the Pittsburgh Regional Healthcare Initiative and the Integrated Healthcare Association of California have joined established organizations such as the Buyers' Health Care Action Group to push for higher-quality health care.¹⁹ The focus of these organizations differs somewhat—safety in some cases (eg, Pittsburgh), payment reform in others (eg, Northern California)—but quality is always the central goal.

Regional collaboratives could be inventive in ways that Medicare cannot. By law, Medicare payments use DRGs for hospitals and resource-based relative value scales (RBRVSs) for physicians. Regional collaboratives could experiment with different models of reimbursement entirely, for example, quality-based capitation at the level of a disease episode.

A third direction for reform is to invest in information technology—electronic medical records and decision support software. As noted previously, underinvestment in information technology is one of the most conspicuous failures of the medical care system. Given the poor return on such investment currently, it is likely that investment in information technology will not become substantial without significant government subsidy.

While information technology is costly for any institution, it is not so costly that we cannot afford it in the medical system as a whole. Estimates of the cost of a national health information network, encompassing electronic medical records and in some models decision support software, range from \$115 billion to \$156 billion, or roughly 2% of medical spending

for each of 5 years.^{20,21}

Financing this amount federally is not out of the question. Medicare spending is nearly \$350 billion annually, and the federal government contributes another \$150 billion annually for Medicaid. The information technology total is about 1 year of Medicaid spending.

The Demand Side

Much of this discussion has focused on the supply side, using provider payments to improve what is done. Empirically, a lot of health care is determined by payment rules, not just patient demand. But the demand side is important as well. In addition to using quality metrics for payment, quality data should be disseminated to consumers so it can influence treatment and provider choice. Almost all health reform proposals envision increased use of quality data by consumers.

Cost sharing is important, too, but the recommendations here are far less uniform. The most common demand-side proposals are to increase patient cost sharing, the consumer-directed health plan movement. The idea is that giving consumers better financial incentives will lead to more rational decisions. Unfortunately, this does not seem to be entirely true. When patient cost sharing is increased, consumers stop taking appropriate medications, even though the long-term benefits are high.²²

Just as I have argued for supply-side incentives to focus on high-quality care, we should do the same on the demand side—setting cost sharing so that people are encouraged to do the things that improve their health. For example, physician visits for recommended

screenings could have lower copayments than other visits. Many health savings accounts carve out preventive care in this fashion, but traditional insurance does not. In a more complex arrangement, a person with angina might face a low copayment for medical management of the disease, but a higher copayment for angioplasty. As with performance-based payment generally, it is wise to move in this direction slowly. Pharmaceutical use is the clearest case where demand is strongly sensitive to price, and implementation would not be too difficult. In addition, there is likely to be ample opportunity to implement such changes.

Some Reflections

Payment reform of the type considered here would certainly improve health. The magnitude of this improvement is difficult to estimate—not all responses can be predicted, and there are interactions across interventions to consider—but the change certainly would be positive. The more important issue for adoption of these changes is what they would cost. In the short term, payment reform would cost money, largely for information technology. A plausible guess of the cost of IT is an increase in spending of perhaps 2% per year in the first few years of the program—about \$100 per person per year. Costs might rise further as people received more of the monitoring and assessment services that currently are underprovided. If one thinks of adding \$100 per person per year to cover additional physician visits, medications, and tests not already provided, the addition is another 2% of spending. The 2% increase in spending because of

increased use would be lasting, while the spending on information technology would decline.

Over time, there would be cost savings. Some of these would be from fewer complications of chronic disease, but many more would come from reductions in overused care. The literature suggests that savings of 20% to 30% are possible—perhaps \$1000 for the typical person. A relatively conservative estimate might be that half that amount, 10% to 15%, could be saved. These savings would also be lasting. All told, a very rough guess is that after a few years, payment reform would lower medical spending by about 10% relative to baseline, or perhaps \$600 per person per year. MPM

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PROVIDER ACTION

Impact to You

Our current system is based on too much care in which payments are too generous or too little care in which payments are poor. Medicare is undergoing some major changes from a payment system based on quantity (how much is done) and intensity (how invasive) to one based on rewarding quality outcomes. Practices will need to adjust to be successful in this new model of reimbursement.

What You Need to Know

The move to a quality-based reimbursement system could involve reform in the following four areas:

- (1) Introduction of performance-based payments for providers and insurers
- (2) Encouragement of regional collaborations focused on improving health-care quality
- (3) Payment for a significant investment in information technology infrastructure
- (4) Balancing of copayments to provide incentives through low copayments for preventive services and disincentives through high copayments for services that are less necessary

What You Need to Do

Practices will need to be informed and begin to make changes to adjust from payment based on volume and intensity to payment based on quality. These changes will include use of information systems, collaboration with other providers, and education of patients about the value of specific services. Delivering, demonstrating, and articulating the value of quality outcomes produced from one's practice will be vital in a pay-for-performance world.

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