Robert Wood Johnson Foundation

Counting Change

Measuring Health Care Prices, Costs, and Spending

March 2012

Health care spending in the United States continues to escalate; it is now nearly 18 percent of the gross domestic product. A number of major efforts across country are attempting to understand, measure, and ultimately slow the rate of spending growth. Many efforts also seek to publicly report information about price, cost, and spending. Yet each of these initiatives is hampered by the problem of defining and quantifying cost and spending, and many are trying to understand and measure economic variables in novel ways. As these measurement initiatives develop, those attempting this work almost immediately face a series of fundamental questions. Definitions matter in this effort. The varying perspectives of stakeholders do as well. In June 2011, the Robert Wood Johnson Foundation (RWJF) convened a meeting of leading experts in Washington, D.C., to discuss the difficulties of cost and spending measurement and reporting. Leading experts from health plans, employers, government and philanthropic organizations, and others sought to develop practical guidance for the field in measuring price, cost, and spending. Strategies discussed in that meeting inform this paper.

Picture a business traveler who needs to fly from Atlanta to New York City. She has a plethora of factors to consider when buying a ticket for a flight. These include which New York-area airport she would like to use; departure and arrival times; any loyalty or rewards programs she might have with a particular airline; and the price of the ticket. She's likely to think about each of these factors based on her own needs when buying her ticket.

Price matters to her. It's not the only variable that matters, but it is one of many relevant issues she will take into account. Yet the factors that help create that price likely do not matter to her at all. She doesn't care about the cost of jet fuel, higher landing fees, or the salaries of the pilot and crew. The airline's profit margin or quarterly return to shareholders is of little interest to her. She just wants to know what her ticket will cost her. She does recognize that the price of the ticket does not include everything she will spend—that she'll face extra charges to check a bag, for instance, and that her decision on which airport she uses will influence the time and price of her transport from the airport to her hotel. But for the most part, the price of the ticket is a known quantity that she can consider when making her decision. She can find out the price of a ticket easily—through an Internet-based travel agent or by contacting the airline directly—and the price she is quoted is the price she will pay.

Now picture the pilot. His contract is up for renewal and his labor union is negotiating a pay increase. The airline says it can't be done and cites higher and rising jet fuel costs as two reasons why. The pilot's union, unlike the business traveler, cares very much about these costs, because the union needs to take them into account in understanding what the airline can or cannot afford to pay its members.

Consumers, businesses, oversight bodies, and other stakeholders encounter these same issues in every industry. And in every industry, the costs, prices, and total spending are often easily understandable.

But not in health care. Why?

The Measurement Conundrum

The measurement of price, cost, and spending is a key ingredient in building an accountable health care system. Multiple stakeholders would benefit from a coherent measurement system. Yet measurement of these economic variables remains extraordinarily challenging.

There is, as top health economists have observed, "an almost complete lack of understanding of how much it costs to deliver patient care."[1] Little is known about how prices are derived. The answer to the basic question of what health care costs often is unknown.[2] Payers see a bill, but generally are given very little detail about how prices in that bill are determined.

The resultant health care cost and pricing black box is increasingly unacceptable to many stakeholders. Health care professionals and payers face legitimate demands from purchasers of care, policy-makers, and the general public to conduct their business more transparently.

Of course, we do have some information. In fact, considerable data on prices and spending exist today. For example, at a national level, health expenditure accounts are well established—thus allowing policy-makers to conclude with confidence that the United States spends significantly more per capita on health care than does any other nation.[3] At a more granular level, health plans all know the prices they pay for health care services.

But questions remain about the accuracy and utility of the data that are currently available to the public and purchasers of care. Overall, data on price, cost, and spending are sparse, diffuse, and poorly organized and presented. Often, data are aggregated in ways that do not facilitate choice, negotiation, or accountability. Consider:

- Consumers are increasingly asked to make health care decisions based on price. This point is especially true for patients in high-deductible health plans (but not exclusive to those patients). Therefore, these consumers are able to track out-of-pocket expenses but typically do not enter the health care marketplace armed with price information. Even in those rare instances in which they do, they lack comparative information with which to make decisions and therefore have trouble acting on price. Further, insurance can distort their incentives. Because the health plan picks up most of the bill, consumers today often have no incentive to choose based on price. Instead, they act on the out-of-pocket price (i.e., co-payment) that they face, which may not offer the incentives to consume care efficiently. In some cases, the out-of-pocket price may actually discourage use of effective care or encourage use of low-value care.
- Like suppliers in any industry, health care providers have to allocate overhead costs to specific services (e.g., a procedure, an office visit). But in the health care industry, this allocation has too often been done in a way that obscures the cost of producing the service.
- Health insurers seldom know the costs of producing care. From their perspective, the cost is the price paid for each unit of service multiplied by the frequency of services. The mix of services, and the variation in price per unit paid to different providers, makes it difficult to glean the reasonable cost of producing care for an individual plan member.
- While some insurers do profile providers based on an episode of care, the information is often based on claims and discounts, and thus may not be the best or most useful information. Other insurers don't have access to such information at all for proprietary reasons, making it more difficult for purchasers to get usable aggregate information in a local market.
- The historical ability for health plans to simply pass on the increase in total cost of care to employers has shielded plans from understanding the true costs of care and applying normal market mechanisms to control rising costs.
- Insurance has a "distorting effect" on measuring cost as well because many health care prices are determined not by what it costs to produce them, but rather by what insurers will pay. Additionally, because health care services are billed to insurers as discrete units rather than as bundles of care, they must do additional analysis or purchase specific software to assess cost of care for an episode.

- The "unit" of cost and price is usually the service, not an entire episode or a bundle of care, which encourages a fragmented view of the health care system and makes it difficult for consumers, employers, and health plans to understand the total price paid for an episode and to compare that price paid for one provider with another.

Yet while measurement of these economic variables is complex, there is great demand for such information. Measurement would be an important step toward giving multiple stakeholders the tools to make decisions, hold each other accountable, increase transparency, and behave as rational actors in an economic marketplace.

Definition of Terms

Definitions matter. It is important to be precise when discussing price, cost, and other issues related to health care spending, because without precision these issues are easily confused. Throughout this paper, the following terms are used:[4]

Allowed amount: The most amount of money that a health plan will pay for a covered good or service. The allowed amount is negotiated between the plan and the provider, reflecting any discount the plan is able to achieve for its members. The allowed amount reflects the "true price" of health care, but allowed amounts usually are considered proprietary information and rarely are released to the public.[5]

Charge: The maximum amount of money a provider would seek to be paid. This amount often is charged to patients who do not have health insurance; health plans typically negotiate the charge down to the allowable amount on behalf of their members.[6] Charges in health care tend to be arbitrary and not reflective of true cost.

Claim: A request by a provider to an individual's insurance company for the insurance company to pay for services obtained from a health care professional.[7]

Cost: The dollar value of resources used to provide care—i.e., the costs of various inputs used in the production of a health care good or service.

Discount: The difference between the charge (the maximum amount of money a provider would seek to be paid) and the price (the actual amount of money the provider is paid). Discounts are usually negotiated by insurance carriers based on their power to bring a large amount of business to a provider.

Episode (or, Episode of Care): Commonly, a defined period of illness and/or treatment that has a certain start and end date. The National Quality Forum has defined an episode of care as "a series of temporally contiguous health care services related to the treatment of a given spell of illness or provided in response to a specific request by the patient or other relevant entity."[8]

Input: The factor used to produce a health care good or service, and the spending associated with that factor (e.g., nursing wages, prescription drug prices).

Price: The amount paid for a service or product, typically determined via market mechanisms that take into account the supply of and demand for the service or product.

Resource Use: A measure or set of measures intended to broadly capture indicators of the cost and efficiency of health care provisions. Health care resource use measures reflect the amount or cost of resources used to create a specific product of the health care system. The specific product could be a visit or procedure, all services related to a health condition, all services during a period of time, or a health outcome.[9] "Relative" Resource Use (RRU) measures have been developed by the National Committee for Quality Assurance to indicate how intensively plans use physician visits, hospital stays, and other resources to care for members identified as having one of five chronic diseases: cardiovascular disease, chronic obstructive pulmonary disease, diabetes, hypertension, and asthma.[10]

Spending: The total amount of money spent on health care, including total resource use and unit prices.

Value: The health outcome per dollar of cost expended.[11] Value incorporates product and service quality into the assessment of output, and also reflects the societal or personal value of the good or service consumed.

Health care is different, and that's not OK

In virtually every industry, the participating actors (e.g., producers of goods, customers) have some information about price, cost, and spending information to help them make decisions. In most sectors of the economy, consumers can usually see the price of the services or goods they are purchasing. Producers and suppliers understand the unit costs relevant to them for the pieces they add or the items in the supply chain they are purchasing to add to the final product.

In general, consumers do not need to understand the individual unit costs for all parts of a product or service. Instead, consumers are only interested in the piece that is relevant to them. For instance, if a consumer is buying a refrigerator, he does not care about the cost of the various parts of the refrigerator, or the transport costs of those parts to a manufacturing facility or retailer. That consumer likely does care, though, about his family's total spending for kitchen appliances, so he can make sure the new refrigerator fits into the total household budget.

Similarly, airline passengers don't care how much jet fuel costs; how much each part of the plane costs; or the salaries of the pilots, flight attendants, and ground crew. Passengers care about a host of factors including safety, convenience, timeliness, efficiency, comfort, and amenities—and, ultimately, price. Usually, they care about their total spending for air travel over the course of a year, for family budgeting purposes. For their part, airlines absolutely care about fuel costs and labor costs, and understand those production costs to optimize value for the customer.

Many health care providers and others object to the drawing of a comparison between health care and other industries. They argue that health care is not a commodity and should not be treated as such.[12] They have a point. Unlike a refrigerator or an airline ticket, health care often can be a life-or-death endeavor. If one does not need it (i.e., if one is healthy), one should buy very little; and if one needs it (i.e., if one is sick), cost becomes just one factor (often not the primary factor) in the quest to obtain the best treatment possible. Further, health care can be purchased "a la carte" as a one-time transaction (e.g., a knee replacement) or as a complete package (e.g., a year of diabetes care, including HbA1c tests and eye and foot exams), and patients may need or desire some of each type of care.

Yet American health care does not operate in a vacuum free of economic pressures. Doctors, nurses, and other health professionals need to get paid for their services. Drugs and medical equipment cost money. Hospitals and clinics have bills to pay. Like other industries, health care is subject to the laws of economics.

There are striking differences between health care and other industries, though.

One difference is the importance of charity care. If a person needs health care and cannot afford to pay, he or she often still gets some care. This care often is poorly organized and coordination of that kind of care is extremely challenging, but it is care nonetheless—and has to be paid for, somehow.

A second major difference is the public–private nature of the American health care system. Approximately half of health care in the United States is paid for by a governmental body (e.g., Medicare, Medicaid, the Department of Veterans Affairs, the Department of Defense, Indian Health Service). Government-funded payers, particularly Medicare, can have an enormous influence on health care costs because they comprise so much of the market. Moreover, public financing of care and general policy interest in health care has led to a desire among many actors to find ways to hold the system accountable for spending.

A third difference is that the payment of many health care services is done by a third-party insurer, not the consumer, thus shielding the consumer from the price of those services. It is true that this dynamic has shifted in the past decade. Consumers now must bear a higher percentage of their own care, and high-deductible health plans have led some consumers to shoulder a constant and rising percentage of the cost of each service consumed. Yet high-deductible plans remain a minority, and even in instances where people use those plans, many prices are obscured from those consumers. Further, even though consumers using those high-deductible plans bear a greater burden of cost than they might under a traditional plan, they usually still only pay a small minority of these costs out-of-pocket.

These differences, however, are not sufficient to justify the absence of pricing information or the lack of understanding of costs of production by health professionals. Health care might be complex, and the clinical pathways to treat a patient sometimes ambiguous, but that does not justify the inability to track the costs associated with the delivery of a unit of service.

There is, then, a dearth of information about price, cost, and spending. In some instances, data exist but are held as proprietary; in others, cost is a fundamentally unknown variable, thanks to decades of cost shifting and perverse financial incentives. Some costs and spending can be measured, and some data are available—but systems for reporting these do not measure costs or spending in units that are meaningful to any stakeholder.

The importance of perspective

Different health care price, cost, and spending information matters to different actors. Thus, it is important to have different measures to satisfy different needs.

For instance, consumers care about out-of-pocket price. Today, that typically refers to the price of a specific service, as if this service were delivered in a vacuum. However, consumers are seldom aware of out-of-pocket prices for an entire episode of treatment. They are usually made aware of that total only after the episode has concluded, and they add up the individual out-of-pocket expenses. Even assuming identical quality (which is hardly a given), it makes little sense to choose the least expensive knee surgeon if he only operates at the most expensive hospital, for example. Consumers and patients should understand ahead of time their potential out-of-pocket expenses, and be spared information that they do not need.

Conversely, consumers arguably care about their household expense on health care (that is, the portion of insurance premium paid, Health Savings Account or Flexible Spending Account contributions, and out-of-pocket expenses). However, community-level measurement and comparisons that include the entire population—such as aggregate spending—are hardly interesting at all to those very consumers, because that information is not actionable information for them. Further, comparisons of cost and spending across communities are also not of great interest to consumers. (If spending is higher in Memphis than in Nashville, that's interesting but not useful to consumers, because most of the time consumers can't simply go to another community for care.)

But this community-level information would be of great interest to policy-makers—and, to a lesser extent, purchasers—because they can design interventions or negotiate based on these data. Policy-makers are interested in fostering accountability—in identifying what works within the system and what does not, learning lessons from success, and interceding in failing organizations in order to help turn them into successful enterprises.

What can measurement achieve?

It is a maxim in business that one can improve only that which one can measure. This point oversimplifies the challenges of cost and spending measurement but speaks to an essential truth: information enables decisions and, ultimately, empowers change.

Measurement and reporting are not foreign to health care. Measures of clinical quality are routinely collected, risk-adjusted when necessary, and publicly reported. Yet the concept faces a new set of challenges when applied to price, cost, and spending, because these issues get directly at our financial well-being. Even so, multiple audiences would benefit from cost and spending measurement. They include:

- Providers, who need better internal cost accounting mechanisms and would benefit from more transparent cost information as a means to gauge their own performance, establish bundled (or "episode") pricing, and identify efficient referrals;
- Employers and other purchasers, who could use cost and spending information to help negotiate with health plans and providers. Better spending data can help them understand how their premium dollars are spent and gauge the relationship between spending and clinical quality;
- Oversight bodies, which can use reliable price, cost, and spending information to identify fraudulent or otherwise mismanaged behavior, and also identify areas in which providers are excelling; and
- Consumers, who are increasingly being asked to make health care decisions based on price, especially depending on the design of some high-deductible health plans—and who arguably can know their respective out-of-pocket expenses but still lack comparative information with which to make decisions.

Yet significant questions remain about reporting that information. These include questions about whether the varying information can be presented in such a way that various audiences, including but not limited to consumers, can understand and use it; whether publicly available price, cost, and spending information can change behavior; and whether these data can fairly depict noteworthy exceptions in the circumstances of individual reporting entities (e.g., fair representations of differences in providers' circumstances or patient populations).[13]

Who Needs What? Types of Measurement and Audiences That Need It

Different measures indicate different things. Different audiences have different perspectives, needs, and capacities for understanding and using information. Stakeholders respond to data revealed by measures depending on what exactly those data reveal and how they are presented. In general, these measures can be used to enable:

- choice (e.g., managerial, purchaser, or consumer decisions);
- negotiation (e.g., to set provider reimbursement rates); and
- accountability (e.g., global cost budgeting; public reporting to policy-makers, public or private purchasers, oversight organizations, or entities like accountable care organizations and *Aligning Forces for Quality*).

Thus, given the range of uses for the information, multiple types of measures are needed. Some already exist; others can be developed based on existing data; and still others demand new measures as well as a new culture of collaboration, openness, and trust so that stakeholders know the data will be used for their intended purposes. Each measurement endeavor, though, has different goals and faces different challenges and conceptual difficulties.

Measurement tools for cost do exist. These tools include standardized metrics and measure trends reasonably well. They accomplish what they were designed to accomplish. They are actuarial cost models that allow reasonable estimates to predict the future, are population-based, and allow adjustments for demographics and patient risk. But these tools are limited in what they can do, in that they do not match at all with health professional or plan quality metrics, and they treat diseases and treatments as stand-alone events rather than within the context of a whole person. In short, we are still missing "person-centric" spending tools.[14]

Each measurement goal (choice, negotiation, accountability) should ideally help lead toward more efficient health care, helping fulfill one of the Institute of Medicine's six domains of quality.[15] It is important to note that efficiency does not necessarily mean lower costs, nor does it necessarily mean lower overall health care spending. In fact, more efficient use of resources may very likely lead to higher episode costs and higher spending but also, importantly, to improved quality of life—an essential goal of the health care system. This result of the drive toward efficiency could obviously have wide economic, societal, and political implications—but we cannot understand the impact of efforts to improve efficiency if we do not measure them.

Is Measurement Analogous with Reporting?

In health care quality, measurement of clinical or other data often goes hand in hand with public reporting of those data—but not always.

Many describe public reporting to be like shining a light on the often opaque world of clinical medicine. Advocates for public reporting assert that the public has a right to know as much information as possible, and that withholding that information has an infantilizing effect on the public.

However, this point is a matter of some debate. Some health care providers counter that the public is not prepared to understand certain clinical quality measures and that their public reporting would discourage providers from being truthful in data collection. Yet the collection of these data is still considered useful for internal quality improvement purposes—that is, providers can use them to track their own performance over time.

Therefore, there is an ongoing tension between the desire to measure clinical data for public reporting and the desire to use them to improve quality while not publicly reporting them. There is a similar tension between measurement and reporting of cost and spending data.

Consumers need price information—but by and large do not need cost information. In fact, cost information is likely extraneous information to them and the public release of that cost information specifically for consumers may paradoxically have unintended deleterious or frustrating consequences with respect to those consumers.[16] But other stakeholders (e.g., purchasers) do need cost information at least as much as, if not more than, price information, in order to negotiate with providers and to encourage accountability. A public release of that cost information targeted for purchasers, for instance, may be extremely useful for and well received by that audience.

Thus, cost and spending information should be measured rigorously. But the question of whether cost and spending (as opposed to price) information should be routinely publicly reported and for whom is less settled. It is much more important that consumers have access to accurate, well-presented, easily understandable price information than cost information. Public reporting and availability of price information to support decision-making is crucial. Wide public availability, however, of cost information is of secondary and limited value to consumers. Other key actors, like purchasers, could use cost information. Therefore, efforts to disseminate cost information might be more effective if targeted for purchaser, as opposed to consumer audiences. Measurement of the various price, cost, and spending information can logically lead to routine wide public reporting, but not necessarily. Further, public reporting efforts should consider carefully both the intended use of and audience for the given price, cost, or spending information.

Purchasers of Care

Health plans and employers need comparative data on price in order to negotiate on it. Because these data are not available in most instances, and because plans and employers are interested in accountability as well as negotiation, many plans and employers are interested in provider costs instead of or in addition to price. Yet many of these cost data are also unavailable to health plans and purchasers. In fact, some hospitals do a poor job of tracking their own unit costs and thus are unable to report them with any degree of accuracy. While some hospitals may have a handle on some of their costs, they usually lack systems to track them in ways that are clinically meaningful and facilitate managing for value. Many physicians and other health care professionals lack the systems to accurately identify the cost associated with an individual office visit, let alone an episode composed of multiple office visits to multiple health care professionals.

Understanding and setting unit costs in health care is so divorced from reality that attempting to rationalize cost in one area is like pushing on a balloon: the surface is depressed in one area, but the amount of air doesn't change and the balloon just expands elsewhere.

Thus, purchasers of care would benefit from the development of cost measures for purposes of negotiation. Measuring cost for the purpose of negotiation is a difficult task because, much as with price measures for choice, cost measures for negotiation can conceivably be created along discrete service lines but are difficult to create across the panoply of needs that a patient is likely to have.

Additional development and use of episode-of-care cost or spending measures beyond the current episode groupers, for instance, would be helpful to aid negotiation. Ideally, these measures should be open source, meaning that they would be widely available and used. Further, once constructed, these measures should also be transparent to all stakeholders. Importantly, though, episode-of-care measures require, at a minimum, transparency of the key, real underlying costs and allowed amounts. Unfortunately, those who currently hold the critically important data regarding underlying costs and allowed amounts—providers and health plans—have so far in most instances resisted the release of that information.

In addition to negotiation, employers and other purchasers of care also are interested in accountability measures. Accountability—the desire to hold providers responsible for the quality and efficiency of care they provide—is a prime driver behind health reform efforts. Many purchasers are participating in multiple initiatives that are seeking to hold the health care system as a whole accountable for care spending. In addition, other initiatives such as *Aligning Forces for Quality* are also explicitly and heavily encouraging purchaser participation, and would be aided by accountability measures.

Why Charges Don't Tell Us Anything*

Reports of charges—the amount of money a provider would charge absent any discounts—often are used as an interim step to publicly reporting cost information. However, charge reporting is flawed at best and at worst misleading, because it is unrelated to actual payments.

Charges are based on aggregate data for estimating costs. They also are sometimes based on the assumption that every billable health care event in a given department has the same profit margin. This assumption, though, is obviously not the case. However, because charges are comparatively easy to collect and publicly report (in part because Medicare data on charges are publicly available), charge data often are used as a proxy for cost reporting.

In reality, charges billed and reimbursements paid do not reflect cost. The cost of using a resource (e.g., a physician, piece of equipment, or area of space) is the same whether it is reimbursed poorly or highly. Cost depends on how much time and supplies are used to care for a patient, not on the reimbursement of that service. Thus, charges do not tell us anything helpful about cost.

* Adapted from Kaplan RS, Porter ME. How to solve the cost crisis in health care. Harv Bus Rev. Sept 2011; 46-64.

Policy-makers

Policy-makers such as legislators, regulatory agencies, and nongovernmental oversight bodies need tools to gauge spending because their role is to hold health care providers and purchasers accountable for their behavior.

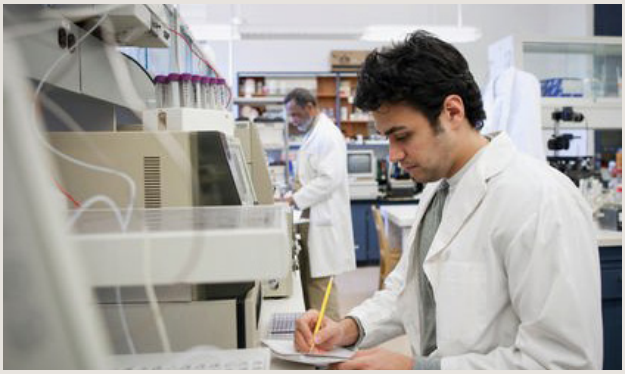
One significant initiative to establish accountability in health care spending is the development of Accountable Care Organizations, a payment and delivery reform model enabled under the Affordable Care Act that seeks to tie provider reimbursements to quality metrics and reductions in the total cost of care for an assigned population of patients.

The goal of cost and spending accountability measures is to analyze cost and spending patterns over time and across settings of care in order to identify high-performing plans and providers (and learn from their examples) and low-performing plans and providers (to design interventions for improvement). If premiums rise from one year to the next, it would be useful to know what services were accounting for that—and spending increases could be compared with quality gains. Accountability demands a different set of measures than those consumers and purchasers might use for choice or negotiation, for instance. These accountability measures ideally would assess the impact on cost and spending that happens when multiple clinicians group together or organizations create incentives to coordinate care and hold clinicians accountable for that spending.

One type of accountability measure, community-level cost and spending measures, is of interest to many. These are different measurements, though, than those accountability measures that attempt to assess cost and spending by individual plans, providers, or entities. Community-level measures are useful to policy-makers so they can compare costs and efficiency across geographic regions—so that they can learn, for instance, that a knee surgery

costs a certain amount in Nashville, Tenn. and more or less in Memphis, Tenn. Leaders could then adjust policies according to that insight. These community-level measures are, however, of relatively little practical utility to potential users within those communities (e.g., consumers, purchasers). Community-level measurement does not provide information upon which those people can practically act to reduce costs or spending.

Does Efficient Mean Cheap?



Many consumers grow understandably nervous when they are told of efforts to make health care more efficient. Some consumers picture rationing of services, denial of needed care, or other efforts to cut spending by devaluing—even cheapening—care.

But this would be a misrepresentation. Efficiency can be defined as "acting or producing effectively with a minimum of waste, expense or unnecessary effort" or "exhibiting a high ratio of output to input."[17] Another term for this is eliminating waste.

Health care is considered a highly wasteful system.[18] [19] Thus, the Institute of Medicine (IOM) has declared that efficiency is one of the cornerstones of a high-quality health care system, along with safety, timeliness, effectiveness, equity, and patient-centeredness.[20] Efficiency should never be confused for cheapness, because it's not about denying necessary care; it's about making sure that people who need care get the care they need—only the care they need—and that they actually benefit from that care.

Consumers

If they are interested in the financial impact of health care at all, consumers are interested in prices, not in costs—or at least they should be.

Yet to a certain extent, consumers arguably already know the relevant price to them. That is, they know what they pay out-of-pocket (e.g., co-pays). However, this price information is for discrete services (e.g., a CT scan, a prescription medication) rather than for a complete set of services or management of a condition. Further, insurance distorts price or at least the consumer reaction to price. That is because a consumer often pays the same co-pay for a good or service even if he or she chooses a more expensive option. Additionally, the amount of a co-pay can vary greatly depending on the type of health plan the consumer uses, with amounts being unrealistically small for patients in traditional preferred provider plans, much higher in "consumer-directed" plans, and certain services that have value do not require a co-pay at all (e.g., a "free" preventive care visit in a "value-based" insurance plan). The result is that price often takes on an air of fiction to consumers; the price isn't "real." Therefore, there is no need to react to it.

There are major barriers to good price measurement and reporting for consumers. There are few usable apples-to-apples comparisons of care price in existence. For instance, a patient needing a knee replacement would have to do a great deal of research to compare prices among health professionals, and would likely encounter so much resistance and unusable information that the results of the research are likely to be meaningless. In fact, a major initiative would be necessary to standardize consumer-centric pricing to enable broad consumer choice based on price. The development of episode-of-care measures (see Page 13) may be helpful to develop these prices, but even these measures are not yet immediately or widely available.

Unfortunately, though, the problem is even worse. Insurance distorts the meaning and importance of price information to insured consumers. Further, many consumers are not properly prepared to understand—let alone make decisions based on—price information. In fact, consumers simply may not be ready yet to use these data at all. Although most current research has for the most part only examined consumer reactions to health care costs or resource use rather than price or out-of-pocket cost, that research does raise important concerns regarding consumer readiness or willingness to use this type of information. These

studies show that consumers often equate higher cost with higher quality when only given cost data, even though the exact opposite (i.e., higher cost may mean poorer quality) is often the case.[21] However, this last observation does not negate the need for price transparency. Instead, it demonstrates that price transparency carries a necessary educational component. Again, whether consumers like it or not, many will be increasingly forced to make decisions based on price as well as quality. It is unreasonable and unfair to ask them to do so in a price information vacuum.

In fact, consumers should be encouraged to consider price when making purchasing decisions, but that consumer consideration should be just one of many factors. Other factors should include clinical quality, convenience (i.e., proximity, timeliness), and non-quantifiable personal values (e.g., a hospital's religious affiliation). As with every spending decision, consumers make choices based on a variety of considerations, and a rich and varied marketplace can cater to a variety of consumers, each of whom has different preferences. Price, however, must be one factor to consider, and the health care system owes it to consumers to give them good information so they can consider that factor fairly.

However, market research has demonstrated that consumers today are highly suspicious of efforts to achieve efficiency and value, and in fact associate the very word "value" with low quality. Consumers are reluctant to associate cost in any way with care, and when forced to do so often consider higher cost to be a proxy for higher quality.[22] Thus, any serious measurement and reporting effort built to enable choice must distinguish between cost and price and must engage consumers with a sophisticated public education campaign.

Do We Really Need Price Measurement?

In our economy most prices are transparent. If a driver wants to buy a gallon of gasoline, the price per gallon is advertised on a sign on the highway, so the driver knows exactly what he or she is paying.

Health care prices are less transparent. But they are not invisible. For example, many consumers know that a physician office visit will cost a $50 co-pay and that filling a prescription for a medication costs $25 (or $15 for the generic equivalent).

To an insured consumer, the price is the co-payment and, in some cases, the deductible expense—that is, what he or she spends out-of-pocket on care. These prices tend not to change no matter what provider the consumer uses, although there is an exception under "tiered" insurance arrangements. This point is the "distorting" effect of insurance—that a consumer's price is either known or is fundamentally knowable, but is nevertheless irrelevant because prices usually do not vary. Thus, for those with health insurance, price information definitely exists that could inform consumers—even if that information is at times opaque and difficult to discern or appreciate at the time of the transaction. That out-of-pocket price information certainly could be measured and presented in ways that would enhance consumer decision-making.

For uninsured consumers or consumers who are covered under high-deductible health plans (e.g., "consumer-directed" plans), the picture is fuzzier. A physician office visit likely has a usual price that the consumer can learn when making an appointment, but most other health care transactions do not have a fixed price associated with them. An uninsured patient who needs a colonoscopy, for instance, would have a hard time estimating his out-of-pocket expense before the procedure. Prices matter greatly to these patients. Unfortunately, because there exists no "bundled payment" way to estimate prices, these consumers still would be shopping for care on a per-treatment basis, not on an episode-based or person-based mechanism.

Developments in Measurement

Today, price, cost, and spending measurements are in their relative infancy. Yet significant work is being done to advance these, and the state of the science is improving. Innovative initiatives include:

- ***Aligning Forces for Quality***

  Aligning Forces for Quality is RWJF's signature effort to lift the overall quality and improve the value of health care in targeted communities.[23] The Foundation's commitment to improve health care in 16 communities is the largest effort of its kind ever undertaken by a U.S. philanthropy. While much of *Aligning Forces*' initial work has focused on clinical quality improvement, several of these communities are now working to improve cost and spending of care in those markets as well. As part of that effort, those communities are working to report cost, resource use, and efficiency measures. They are starting with reporting basic charge information, usually based on Medicare or, in some cases, "all-payer" claims databases.

  In addition, all 16 *Aligning Forces* communities have identified specific community quality and cost and spending goals. These include goals such as reducing 30-day readmissions to hospitals for heart attack and heart failure; reducing preventable hospital admissions for heart failure; and reducing emergency department utilization. So far, achievement of these goals often is measured by resource use (e.g., reducing 30-day readmissions for heart failure patients by 10 percent), which is associated with an assumed rather than measured cost savings. That means that these goals are using a measure of cost by proxy rather than actual measures of cost. This groundbreaking community work demonstrates some of the practical difficulties and the complexity in measuring cost. Some communities are reporting this information to the public. For instance, in Seattle, the Puget Sound Health Alliance has released a report on resource utilization for high-volume hospitalizations. The report was created by analyzing data for highly utilized hospital services, and indicators such as length of stay, medical tests, and examinations. The report examines resource use through two lenses—intensity and appropriateness—and paints a picture of the value of such care in the Puget Sound region.[24]

  Additionally, several *Aligning Forces* communities are hosting cost "convenings" in which community stakeholders (e.g., health plans, providers, purchasers, consumer advocates) gather to discuss whether and and how to measure and report information.

- **State of Massachusetts**

  Massachusetts is known for its universal coverage, which it achieved via an individual mandate. But it is also the first state to rigorously analyze cost data from the state's private and public health care payers, providers, and acute care hospitals. The data collection and public reporting is pursuant to a 2008 law[25] enacted to promote cost containment, transparency and efficiency in the health care delivery system.

  Under the law, the state's Division of Health Care Finance and Policy holds an annual public hearing based on the collected data. The hearings are intended to focus not only on costs and cost trends, but the factors that contribute to cost growth within the health care system and the relationship between provider costs and payer premium rates.[26] The attorney general may require testimony under oath and has previously released her own report, coinciding with the division's reports. The attorney general reports have drawn conclusions about trends in payment and health care costs. The most recent attorney general report, released in the summer of 2011, recommended giving consumers more options to make value-based purchasing decisions through tiered and limited network health plans. The report also recommended institution of temporary cost controls to reduce variation in payment for comparable services until tiered and limited network health plans are functional.[27]

- **Federal efforts**

  Federal law including the Affordable Care Act mandates several activities that get at payment reform, with an eye toward cost measurement. Interestingly, most of these efforts focus on resource use. These federal measurement efforts do not parse the many issues regarding price, cost, or spending. These efforts also presumably, for the most part, manage cost measurement with an accountability purpose or to enhance payment strategies. They include:

  - The Centers for Medicare & Medicaid Services (CMS) have been phasing in the development of physician resource use reports to provide individual physicians and physician groups with confidential feedback allowing them to compare their resource use with other physicians in their specialty or in their geographic region.[28]
  - CMS is funding development of a publicly available episode-of-care approach for six clinical conditions. (See below for more information on episodes of care.) CMS will use the logic behind the episodes to analyze resource use among physicians, which will be a critical element for Medicare's physician feedback reporting program and for its value-based payment modifier. CMS will ultimately likely use the tool to compare one provider against another and thus identify the most efficient physicians, but not initially base payment from this component.[29]
  - CMS currently is developing a value-based payment modifier that will eventually be applied to Medicare payments under the physician fee schedule, and should result in higher payments for higher quality care. This modifier will apply to some physician payments in 2015 and to all physician payments by 2017.[30]

Development of global payment measures

It is not conceptually or even practically that difficult to understand the price a consumer pays for a given physician office visit, nor is it a stretch for a hospital to understand how much a new piece of equipment costs. However, health care is more than a single event at a fixed point in time or a single new machine. It is a series of events over time, taking place in multiple settings and with multiple providers. So, while the consumer can understand the price of a single physician office visit, if that consumer has diabetes, he or she has a much harder time understanding what the prices will be over the course of a year of managing the disease; and, if he or she has multiple chronic conditions (e.g., diabetes and congestive heart failure), price measurement becomes even more difficult.

There are innovative initiatives and studies that are attempting to rationalize cost measurement as a component of overall health care payment reform. These emphasize episode-based care, which the National Quality Forum defines as a "longitudinal perspective [that] offers a more comprehensive assessment of resource use, including overuse and unnecessary use of services, as well as of the technical quality of the specific services that are delivered."[31] Its chief feature is bundled payments that promote adherence to guidelines, as with Geisinger Health System's ProvenCare package for coronary artery bypass graft and elective percutaneous angioplasty[32] and the PROMETHEUS Payment system's "evidence-informed case rate."[33] The National Quality Forum has developed a significant amount of work, including a measurement framework, around episodes of care.[34]

Bundled payment based on or in the context of an episode-of-care approach is an important development in payment reform. Episode costs or spending, if made public, may also be a good basis for patient and payer choice and negotiation with providers. But they are incomplete in and of themselves, because they measure care as it is delivered. These measures do not get at the appropriateness of the episode, nor do they account for multiple concurrent episodes.

Development of spending measures: Understanding appropriateness

Sometimes, the most appropriate care is the care that never happens in the first place. It has been estimated that the United States spends between one-fifth and one-third of our health care dollars—up to $700 billion a year—on care that does nothing to improve our health.[35] This care not only weighs down our system economically; it also likely harms patients.

This insight has created a strong demand from policy-makers for measures of appropriateness. Episode-of-care measures are insufficient to measure appropriateness, because they measure care for episodes that were delivered, not whether the episode should have been delivered at all (e.g., was the hip replacement surgery needed). The goal of spending and appropriateness measures is to encourage not just efficient spending, but spending on the right thing. (The PROMETHEUS initiative did seek to address appropriateness by differentiating recommended and "typical" costs from potentially avoidable costs.)

Spending measures could be focused on the whole patient, not on that patient's treatment or condition. This type of spending measures could help draw a clear connection between cost measurement and clinical quality measurement. They would measure for clinically meaningful groups. And by doing so, they could also tie cost measurement to population health management. Ideally, spending measures should target specific populations (e.g., a specific ethnic group living in a particular ZIP code) and be able to risk-adjust for comorbidities, as do some measures of clinical quality.

The Robert Wood Johnson Foundation and Cost and Spending Measurement

The Robert Wood Johnson Foundation (RWJF), the nation's largest philanthropy devoted solely to the public's health, has committed to improving cost and spending measurement as part of its focus on improving health care for everyone in America, including how health care is delivered, paid for, and how well it does for patients and their families.

In addition to supporting the *Aligning Forces for Quality* initiative, RWJF is promoting payment reform in a variety of communities across the nation and has supported nascent efforts to measure the cost of care, particularly across episodes of care. Those cost measurement efforts include RWJF support for PROMETHEUS Payment and, previously, for the High-Value Health Care Project with the Brookings Institution.[36] [37] Under the High Value Health Care Project, RWJF worked with the American Board of Medical Specialties Research and Education Foundation to develop measures of the cost of episodes of care.[38]

Getting There from Here

What is the status of cost and spending measurement today?

Current cost measurement tools work, in that they do what they were designed to do. They are, by and large, actuarial cost models—but they do not get at the full spending picture. Episode-based cost measures are helpful to a point, but they are not person-based. That means, for example, these episode-based measures would need to be augmented to account for multiple episodes for a person, or for situations in which services included in an episode are delivered at the same time as services that are not part of an episode (e.g., a person with depression who is also being treated for a broken arm). Current cost and spending measurement tools also do a poor job of measuring results for innovations and interventions such as disease management. There is often no connection between these tools and quality measures. In short, they are site-, service-, episode-, and condition-centric but not "people-centric."

Thus, it is fair to call current measurement efforts nascent, despite unprecedented hard work and collaboration by multiple stakeholders. The totality of initiatives, while well intentioned, do little to inform any actor in the health care marketplace, in part because no "Rosetta Stone" template exists to translate cost data to information for choice, negotiation, and accountability.

What will it take to accelerate cost and spending measurement? The *Aligning Forces* Evaluation Team[39] has identified four stages of community cost measurement: initiation, conceptualization, production, and dissemination.[40] This effort starts with building stakeholder consensus around mutual goals—which can be the hardest part because it involves the setting aside of traditional suspicions and parochial concerns. In fact, some communities may not achieve consensus at all, depending on the purchaser-provider-plan dynamic in a given market.

One big challenge for this effort is to identify the goals of measurement. This question is one that each group trying to measure will have to consider independently. Certainly, it would be nice to devote the enormous amount of needed resources toward the development of a full range of new measurement all at once. That spectrum of new measurement could provide important information for choice, negotiation, and accountability. Unfortunately, time and resources are limited, and that full spectrum approach is probably unrealistic. Thus, many communities will need to choose their measurement goal: choice, negotiation, or accountability—or some realistic, practical mix of those goals. Another key question: what resources are in fact available? Available resources will shape whether the measurement activity is done piecemeal (i.e., with individual measures and indicators) or as part of a comprehensive measurement approach. Everything else—the audience, the types of measures collected, what is done with the measures—flows from those decisions.

Conclusion: Toward a focus on value

Health care's various stakeholders are on a quest to achieve value—which is defined as the relationship between outcome and cost or, more specifically, the health outcome per dollar expended. In a competitive marketplace, the only way to transform health care in ways that drive toward value is to realign competition such that all actors are focused on achieving it.[41]

Value means different things to different stakeholders because, for instance, one entity's cost may likely be another's price. Health care is a $2.7 trillion industry in the United States, comprising 17.7 percent of the gross domestic product.[42] It would be impossible to consider reforming the wide ranging pieces of health care in order to control spending without considering the impact of these reforms on various, disparate participants in the system.

Yet there can be little doubt that health care in the United States is too expensive today—that we spend too much and don't derive better health outcomes as a result of that spending. Our current health care model or approach obviously and demonstrably does not focus on value—and for that reason is arguably unsustainable. The ultimate goal of efforts to transform health care, then, is to give people the various kinds of information they need so they can make the sorts of choices and decisions that, in aggregate, will ideally move health care toward high-quality at a lower overall cost. That is the quest for value.

Measurement alone, of course, won't create value. But it will enable it. Measurement of price, cost, and spending in clear, understandable terms that enables consumers, purchasers,

oversight bodies, health care professionals, and health plans to understand the way money interacts with health care is of paramount importance. Done correctly, that measurement will facilitate decision-making, provide a fair point of information for negotiation, and foster accountability. While such measurement will not be easy and is not without some risk, it comes with great rewards. Put simply: without it, we cannot pursue any truly serious effort to put U.S. health care on a path toward high value.

About This Paper

This paper was developed by Michael W. Painter, JD, MD, Senior Program Officer at the Robert Wood Johnson Foundation (RWJF), and Michael E. Chernew, PhD, Professor of Health Care Policy in the Department of Health Care Policy at Harvard Medical School, with assistance from Philip Dunn of Philip Dunn Editorial Services. It is informed by a meeting of national cost experts hosted by RWJF in Washington, D.C., on June 8, 2011.

References

1. Kaplan RS, Porter ME. How to solve the cost crisis in health care. Harv Bus Rev. Sept 2011; 46-64.
2. Graham R, Painter M. Cost and Price Transparency: Building Blocks for Value. November 2011; *Aligning Forces for Quality*.
3. Data from World Health Organization, 2005.
4. Except where otherwise noted, definitions are taken from: Scanlon D. "Measurement & Reporting of Cost & Efficiency at the Community Level." Slide presentation to RWJF Cost Measurement Meeting; Washington, DC; June 8, 2011.
5. Robert Wood Johnson Foundation. Glossary: Defining the Problem: Cost and Price Transparency. November 2011.
6. Ibid.
7. Health Insurance Resource Center Health Insurance Glossary. Available online at www.healthinsurance.org/glossary/.
8. NQF. Measurement Framework: Evaluating Efficiency Across Patient-Focused Episodes of Care. Washington, DC: NQF; 2009. Original source: Hornbrook et al. Health Care Episodes: Definition, Measurement and Use. Medical Care Review. 1985:42(2):163-218.
9. Agency for Healthcare Research and Quality. Selecting Quality and Resource Use Measures: A Decision Guide for Community Quality Collaboratives. Available online at www.ahrq.gov/qual/perfmeasguide/perfmeaspt3.htm.
10. National Committee for Quality Assurance. Relative Resource Use (RRU). Available online at www.ncqa.org/tabid/1231/Default.aspx.
11. Porter ME, Teisberg EO. Redefining Health Care: Creating Value-Based Competition on Results. Boston, MA: Harvard Business School Publishing; 2006.
12. The philosophical underpinnings of the argument that health care is not a commodity can be traced to Arrow KJ. Uncertainty and the welfare economics of medical care. Amer Econ Rev 1963 Dec; 141-149. Available online at www.who.int/bulletin/volumes/82/2/PHCBP.pdf.
13. Colmers JM. Public Reporting and Transparency. Prepared for The Commonwealth Fund/Alliance for Health Reform 2007 Bipartisan Congressional Health Policy Conference. January 2007.
14. Mirkin D. Healthcare Insurance Cost and Utilization Reporting—Current Status. Slide presentation to RWJF Cost Measurement Meeting; Washington, DC; June 8, 2011.
15. Kohn LT, Corrigan JM, Donaldson MS, eds. To Err is Human: Building a Safer Health System. Washington, DC: Committee on Quality of Health Care in America, Institute of Medicine. National Academies Press; 2000.
16. Shyam K. Getting consumers to understand and use information on health costs and resource use: Preliminary research findings. American Institutes for Research. Presentation to *Aligning Forces for Quality* National Meeting, November 10, 2011.
17. The American Heritage® Dictionary of the English Language, Fourth Edition. ©2000 by Houghton Mifflin Company. Updated in 2009.
18. Brownlee S. Overtreated: Why Too Much Medicine Is Making Us Sicker and Poorer. New York, NY: Bloomsbury; 2007.
19. Halvorson GC, Isham GJ. Epidemic of Care: A Call for Safer, Better, and More Accountable Health Care. San Francisco, CA: Jossey-Bass; 2003.
20. Kohn LT, Corrigan JM, Donaldson MS, eds. To Err is Human: Building a Safer Health System. Washington, DC: Committee on Quality of Health Care in America, Institute of Medicine. National Academies Press; 2000.
21. Alston C. The New Frontier: Messaging on Payment and Delivery Reform. Presentation to the Robert Wood Johnson Foundation Cost Expert Meeting; Washington, DC; June 8, 2001.
22. Ibid.
23. Learn more about *Aligning Forces for Quality* at http://forces4quality.org/.
24. The Puget Sound Health Alliance resource use report is available online at www.pugetsoundhealthalliance.org/documents/puget_sound_health_alliance_resource_use_report_2011.pdf.
25. Massachusetts Acts of 2008, Chapter 305. The data reporting requirements were expanded recently under Acts of 2010, Chapter 288.
26. MGL c. 118G, § 6 ½.

27. Massachusetts Office of the Attorney General. Examination of Health Care Cost Trends and Cost Drivers: Report for Annual Public Hearing; June 22, 2011.

28. Branham C. Regulatory News from Arnold and Potter: 2010 11 Nov. American Geriatrics Society. Available online at www.americangeriatrics.org/press/id:1361.

29. Rastogi A. CMS to estimate resource use using episode-of-care prototype. Health Care Incentives Improvement Institute: Improving Incentives. 2011 July, Vol. 1, Issue 2. Available online at www.hci3.org/content/improving-incentives-newsletter-cms-estimate-resource-use-using-episode-care-prototype.

30. Branham C. Regulatory News from Arnold and Potter: 2010 11 Nov. American Geriatrics Society. Available online at www.americangeriatrics.org/press/id:1361.

31. National Quality Forum (NQF). Responding to the Call for Efficiency. NQF Issue Brief No. 4. Washington, DC; NQF; June 2007.

32. Geisinger Health System. Available at www.geisinger.org/provencare. Last accessed November 2011.

33. de Brantes F, Camillus JA. Evidence-Informed Case Rates: A New Health Care Payment Model. New York: Commonwealth Fund; Pub. No. 1022; April 2007.

34. NQF. Measurement Framework: Evaluating Efficiency Across Patient-Focused Episodes of Care. Washington, DC: NQF; 2009.

35. Brownlee S. Overtreated: Why Too Much Medicine Is Making Us Sicker and Poorer. New York, NY: Bloomsbury; 2007.

36. High-Value Health Care Project: An Initiative of the Quality Alliance Steering Committee. Measuring the Cost-Of-Care. March 2011. Available online at www.rwjf.org/files/research/72031costofcare.pdf. Last accessed November 2011.

37. Robert Wood Johnson Foundation. High-Value Health Care Project. Information available online at http://rwjf.org/pr/product.jsp?id=72850. Last accessed November 2011.

38. Johnston-Fleece M, Cunningham A. Key Initiatives to Promote Appropriate Resource Use. American Board of Internal Medicine (ABIM) Foundation. 2011 ABIM Foundation Forum. Available online at www.abimfoundation.org/Events/2011-Forum/~/media/ABIM_Stewardship_Final.ashx. Last accessed November 2011.

39. The *Aligning Forces for Quality* evaluation team is led by Dennis P. Scanlon, PhD, associate professor of health policy in the Department of Health Policy and Administration at Penn State University. The full team roster can be found at www.hhdev.psu.edu/chcpr/alignforce/directory.html.

40. Scanlon D. "Measurement & Reporting of Cost & Efficiency at the Community Level." Slide presentation to RWJF Cost Measurement Meeting; Washington, DC; June 8, 2011.

41. Porter ME, Teisberg EO. Redefining Health Care: Creating Value-Based Competition on Results. Boston, MA: Harvard Business School Publishing; 2006.'

42. Office of the Actuary, Centers for Medicare & Medicaid Services. National health spending projections through 2020: Economic recovery and reform drive faster spending growth. Health Aff July 2011 10.1377/hlthaff.2011.0662; published ahead of print July 28, 2011.