

**Payment
Reform
Series**

No. 1

**Moving From Quality to Value:
Measuring and Controlling the
Cost of Health Care**

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January 27, 2015

Moving From Quality to Value: Measuring and Controlling the Cost of Health Care

The Network for Regional Health care Improvement (NRHI) is a national membership organization representing more than 30 Regional Health Improvement Collaboratives (RHICs). These multi-stakeholder organizations are working to achieve better health, better care, and lower costs in their communities. This NRHI Payment Reform Series will address a range of issues impacting multi-payer, multi-stakeholder efforts to change how care is paid for in regions and states across the country.

Moving From Quality to Value: Measuring and Controlling the Cost of Health Care

1. Introduction

Over the past decade, there have been extensive efforts to measure and improve the quality of health care services in the United States. In communities all across the country, physicians, hospitals, health plans, government agencies, and community organizations are measuring the quality of care and implementing initiatives to improve quality.

While much still remains to be done to improve the quality of health care services, concern about the cost of health care services has become an equal or greater concern for the nation, since high-quality care is of little good if patients cannot afford to obtain it. Furthermore, improvements in the quality process have not yielded measureable savings—in fact, the costs of health care have continued to rise at an unsustainable rate. In response, the conversation has shifted to improving value, which encompasses both cost and quality. Purchasers are increasingly demanding accountability for cost and seeking to differentiate among providers and practices that manage resources effectively. Finally, as physicians are increasingly entering risk-based contracts, they will need transparent cost and utilization data to be successful in managing population health and costs.

How Does Calculating Total Cost of Care Facilitate Payment Reform?

Payment reform is advanced in various ways through measuring and reporting the total cost of care. One example is adopting a global payment to pay for all services. For this scenario, a community has to have data across payers to calculate the total costs. This calculation requires patient attribution at a physician or practice level; aggregation of costs for patient health services, regardless of who provides the services; and cost and utilization reporting to better understand variation and payment reform.

Consequently, it is important that communities around the country create mechanisms to measure and control costs as well as to measure and improve quality, so that they can receive truly high-value health care. To date, however, a lack of transparency around cost of care information has stymied achievement of meaningful payment reform. Purchasers and providers seeking accountability for costs must first know what those costs are.

This issue brief describes why the industry must move beyond common but insufficient methods of measuring cost of care, and toward total cost of care, and what types of entities are well-positioned to lead this work. It presents five core components of measuring, analyzing, and reporting total cost, and presents the challenges associated with this task. Measuring and reporting total cost of care remains a nascent exercise across the country; however, in pockets across the country, progress is being made. This issue brief presents real-world examples—where available—for these efforts.

Because payment reform and measuring total cost of care is ideally a multi-stakeholder undertaking, this issue brief is most relevant to stakeholders involved in RHICs. However, it can also be used by policymakers to better understand the next generation of measurement and reporting as well as a currently vastly under-utilized lever to pull for payment reform.

2. Approaches to Measuring the Cost of Care

In this brief, the “cost” of care refers to the cost to the purchaser of care—the individual or organization paying for health care services—not the cost to a provider to deliver the care. There are two primary components to measuring the cost of care: measuring service-specific utilization and service-specific price information. Measured separately, each of these components has significant limitations, but measured together, they create a powerful way to understand what is driving purchasers’ health care costs and how to reduce them or slow their growth.

The Limitations of Service-Specific Utilization Measures

A common approach to expanding the focus of improvement efforts from quality to cost has been to measure the utilization of high-cost services, such as hospital admissions, hospital readmissions, emergency room visits, high-tech diagnostic imaging, specialist referrals, and brand name drugs. Provider organizations that have higher rates of utilization on these measures can often find ways to reduce utilization with the right data and information without harming patients.

One limitation of this approach is that in some cases, utilization of specific services may help avoid the use of other services in ways that reduce total spending on care. For example, greater involvement of specialists in diagnosing and defining treatment plans for complex patients or better patient adherence to prescribed medication regimens could result in fewer hospitalizations of those patients. A narrow focus on reducing utilization of specialists or spending on drugs could discourage these efforts and result in higher overall spending. Properly used, expensive tests can result in more accurate diagnoses and avoid the use of inappropriate procedures, and in some cases, an expensive procedure can resolve a patient's problem at less overall cost than ongoing treatments for the symptoms of that problem, so a narrow focus on reducing the utilization of the tests or procedures could result in higher costs elsewhere, defeating the purpose of cost containment.

A second limitation of a narrow focus on reducing utilization of high-cost services is that lower utilization of a particular service may not translate into lower overall health care spending if the price of the service is higher where the utilization is lower, or if providers increase their prices to offset lower utilization.

The Limitations of Service-Specific Information on Prices

Another approach that has been gaining increasing attention in recent years is making information on prices of individual services more readily

available to patients and the providers who order those services. Patients are then encouraged to use providers with lower prices, physicians are encouraged to use hospitals and laboratories with lower prices, etc., in an effort to reduce overall health care spending.

An important limitation of this approach is that it does not consider differences in utilization of services across providers or communities. A provider may be able or willing to offer a particular service at a lower price if it delivers that service more frequently, including to patients who may not really need it; consequently, a community with lower prices might also have higher utilization rates, resulting in higher overall total spending, and vice versa.

A related problem with measuring the prices of individual services is that if one community or provider uses more services than another to treat the same health condition, the total cost of care may be higher even if the prices of the individual services are lower. For example, if one gastroenterologist uses an anesthesiologist to deliver anesthesia with a colonoscopy but another gastroenterologist does not, the total cost of the colonoscopy from the first provider will be higher even if the price of the gastroenterologist's services were the same or lower. If a provider with a lower price has a higher rate of complications than other providers, the total cost of care from that provider will be higher.

The Need for Measures of the Total Cost of Care

Clearly, neither utilization nor price alone is adequate for understanding the reasons why health care costs are increasing or why they are higher in one community than another, nor is it adequate to focus simply on specific types of services. A more comprehensive approach—looking at the total cost of care—is essential. If the total cost of care in a community is lower than in others, and the quality of that care is equal or better (or if the quality is higher and the cost is the same), then the residents of that community know they are getting higher-value care. Similarly, if the total cost of care delivered by a health care provider is lower than what is delivered by another provider, and the quality is higher, then a patient

choosing that provider will know they are getting truly higher-value care, not high-quality, but unaffordable care, nor low-cost, but low-quality care.

Understanding the total cost of care also enables more flexible payment. Purchasers and payers often create complex cost management programs that are administratively burdensome and can result in shifting costs rather than reducing them. Total cost information enables payers to move away from utilization management or price negotiations to a global budget that allows purchasers to know and manage their costs, while giving providers the flexibility they need to manage utilization without harming quality. Total cost information may also enable network design that differentiates among practices that are effective resource stewards overall without the need for limits on services or incentives to use or not use specific procedures. If total cost is being managed effectively and quality and outcomes are good—and this can be transparently demonstrated—providers should be unencumbered by other utilization controls creating a potential win-win for purchasers and providers.

3. Who Should Measure the Cost of Care?

If a measure of the total cost of care is ideal, how should it be developed and who should be responsible for generating it?

Individual Providers Can't Measure the Total Cost of Care

Physicians, hospitals, and other health care providers—those who are in the best position to control health care spending—generally do not have access to the information needed to determine the total cost of care, even for their own patients. Most patients who need health care services receive those services from multiple physicians, testing facilities, and hospitals, and in general, those physicians and other providers will not all be part of the same health care organization. Since most patients have the type of health insurance that does not require the patient to obtain approval from one provider before receiving services from other providers, individual

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physicians and hospitals generally do not know and cannot find out about all of the services that their patients receive, particularly over any extended period of time. If they do know about a service, they will generally not know how much will be spent on the service, even if they've ordered it themselves.

Small Purchasers Can't Measure the Total Cost of Care

Small businesses that purchase health coverage for their employees also generally do not have any information on the total cost of care, even for their own employees. They will know the premium they pay for health insurance, but that premium will generally not reflect the actual cost of care for their employees, since federal law prohibits basing insurance premiums on the actual cost of care for individual employees. The premiums employers pay may not even reflect the overall cost of care in their communities, since the premiums will depend on the administrative costs and pricing strategies of the particular health insurance plans they use. If premiums are higher in one community than another or premiums increase, it is generally impossible for employers or individual consumers to determine whether this is because actual health care costs have increased or are higher than other communities.

Large Purchasers and Payers Can Only Measure the Cost of Care for Their Own Patients

Businesses who provide health insurance for their employees and are self-funded do know the actual amount spent on health care for their employees, since they pay for it. However, they only know that information for their own employees, and since most self-funded employers have a relatively small number of employees who live in any one region or who use any one provider, it is impossible for them to reliably assess the cost of care delivered by providers in any region using their own data.

Like self-funded employers, health insurance companies also know the cost of care for their members. However, if the health insurance company only has a small share of the insurance market in a particular region, it may

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not have enough members in that region to reliably measure the cost of care in the region, much less the cost of care delivered by individual providers.

Even in regions where a single health insurance company has a very high market share, that company will only have information on its own subscribers, which will still represent only a subset of the patients in the community. Although the larger number of patients will mean that cost of care measures generated by the health plan will be more reliable than those generated by a small plan, they will still generally only reflect a subset of any health care providers' patients, since in most communities, patients in the traditional Medicare program and patients on Medicaid will represent a large share of the total patients for many health care providers. Studies have shown that some communities rank high on spending for Medicare patients and low on spending for commercially insured patients, and vice versa, and it is difficult for community leaders or providers to accurately determine whether their costs are high or low based solely on data from one payer or one group of patients and whether that is driven by utilization, pricing, or other demographic or market factors.

The Need for a Multi-Stakeholder, Community-Based Approach to Cost of Care Measurement

Efforts to generate measures and analyses to better understand total cost of care require all stakeholders—purchasers, payers/plans, and providers—to work in tandem. In a number of regions across the country, RHCs are key partners in this collaboration. Collaboratives can combine health care claims data from multiple payers to generate measures of quality and utilization. They have existing processes in place to build consensus among providers and payers as to how measures should be

"We need all stakeholders working in tandem to appropriately support transparency needs and improvement needs in earnest. Community collaboratives need plans and providers engaged to support customized transparency, data sharing, and improvement activities along with smart benefit designs and payment reform. All of these items working together improve affordability."

***Sue Knudson, Vice President
HealthPartners, Inc.***

defined and used; they have processes in place to enable providers to review and ensure the accuracy of measures before they are publicly reported; and they have programs to help providers redesign the way they deliver care to improve performance on the quality and utilization measures. These Collaboratives also have purchasers and plans at the table to facilitate payment reform and benefit design based on measurement and reporting done collaboratively with providers. These Collaboratives are well-positioned to produce more comprehensive analyses of the total cost of care in their communities, and they are uniquely positioned to link cost and quality analyses together to ensure a focus on improving value, not just cost or quality.

A number of RHICs are currently producing total cost of care measures and/or bundled payments for their communities, including:

- The Center for Improving Value in Health Care (CIVHC) in Colorado; ¹
- The Integrated Health care Association in California; ²
- The Maine Health Management Coalition (MHMC); ³
- The Midwest Health Initiative in St. Louis; ⁴
- Minnesota Community Measurement; ⁵
- Oregon Health Care Quality Corporation (Q Corp); ⁶ and
- Partnership for Health Care Payment Reform in Wisconsin. ⁷

This report provides some examples of early efforts in communities to develop and use total cost of care measures, what they are learning, and the challenges they are facing.

¹ For more information, visit <http://www.civhc.org>.

² For more information, visit <http://iha.org>.

³ For more information, visit <http://www.mehmc.org>.

⁴ For more information, visit <http://www.midwesthealthinitiative.org>.

⁵ For more information, visit <http://mncm.org>.

⁶ For more information, visit <http://www.q-corp.org>.

⁷ For more information, visit <http://www.phprwi.com>.

4. Five Components to Measuring the Total Cost of Care

There are five key components to a successful, multi-stakeholder approach to measuring the total cost of care:

1. Obtaining and assembling the data;
2. Defining the measures;
3. Analyzing the data;
4. Reporting the results; and
5. Taking action on the findings.

This section of the issue brief walks through each component and describes critical aspects of each one.

Obtaining and Assembling the Data

Multiple Data Suppliers

A key step in producing complete and reliable data on total cost of care is obtaining and assembling health care claims data for all of the services received by as many of the patients in the community as possible. There is no one source for these data, so they must be obtained from all of the different payers in the community—all of the different commercial health plans, the state Medicaid agency and any health plans it uses to administer benefits, all of the Medicare Advantage plans, and Medicare fee-for-service claims. In regions where there are a large number of different health insurance companies competing, this can mean obtaining data from dozens of different sources. Table 1 shows the number of different data suppliers currently submitting data in the regions currently producing total cost of care measures; however, it does not reflect the actual number of patients included in the total cost of care reporting.

Table 1. Number of Claims Data Suppliers in Regions Calculating Total Cost of Care Reports

Regional Health Improvement Collaborative	Number of Data Suppliers	Estimated % of Total Population
Center for Improving Value in Health Care (Colorado)	21	67%
Integrated Healthcare Association (California)	8	45%
Maine Health Management Coalition	50	88%
Midwest Health Initiative (St. Louis)	4	30.4%*
Minnesota Community Measurement**	11	79%
Oregon Healthcare Quality Corporation	11	54%

* EXPANSION TO STATEWIDE APPROVED FOR 2015.

** MINNESOTA COMMUNITY MEASUREMENT IS A DISTRIBUTED MODEL RECEIVING AGGREGATED CLAIMS INFORMATION ON A MEASURE BY MEASURE BASIS.

Data Protection and Data Use Agreements

Because health care claims data contains confidential information about the services that patients have received, health insurance companies cannot simply turn the data over to a RHIC unless the Collaborative has appropriate methods of storing the data to protect it from inappropriate use. Although no total cost of care program would ever need or want to provide information to anyone on the services an individual patient receives, there is a need to combine information on separate services that the same patient received in order to make certain types of calculations needed for total cost of care analysis. For example, properly risk adjusting health care spending requires knowing which patients have multiple health problems, and it is generally impossible to determine all of a patient’s health problems from any one service claim. Calculating spending on “episodes of care” requires combining information from a series of services that the same patient received over a period of time for the same health problem. Although claims records for the same patient can be matched without knowing the patient’s identity by using encrypted

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patient identifiers, protections are still needed to ensure that unique characteristics of individual patients do not inadvertently lead to release of confidential information.

Detailed legal contracts, called “Data Use Agreements,” are put in place to assure appropriate protection of confidentiality and also to clearly define how data will be used. Health plans are often concerned that data they provide could be used by providers or other health plans to gain a competitive advantage in contract negotiations, and so data use agreements will often be written in very restrictive ways. Significant time and costs can be incurred by both RHICs and health plans in negotiating these agreements.

Medicare Fee-for-Service Data

Until 2014, no community could produce comprehensive measures of utilization and cost because it was not allowable to obtain identified Medicare claims data for this purpose. This changed through a provision in the Affordable Care Act that allowed the Centers for Medicare and Medicaid Services (CMS) to designate “Qualified Entities” to receive Medicare claims data. Most of the initial Qualified Entities were multi-stakeholder RHICs, and several of those—including Oregon’s Q Corp, MHMC, and Colorado’s CIVHC—are considering producing measures of Total Cost of Care using Medicare data.

Data Merger and Error Correction

In general, different payers store their data in different ways, so merging data from multiple payers into a common database is generally a very time-consuming, technically challenging, and expensive process. Not surprisingly, the more data suppliers there are, the more time and expense is involved in merging the data.

Why Employers Want Comprehensive Cost of Care Information to Advance Payment Reform

Large employers are trying to look at providers’ costs and understand where, how, and why they differ. They also want reduction in their total spend with less administrative burden and are willing to work directly with providers. Data makes it possible to work with providers on cost. However, employers like GE and Comcast are finding themselves “hamstrung” because not all hospitals will share their pricing and quality measures yet it’s difficult to exclude these facilities completely for all situations.

There are frequently errors in the data supplied that have to be identified and corrected before they can be used to produce reliable total cost of care measures. These errors may not have been identified by the payer or data supplier because they may not have been relevant to their payment of the claim; for example, claims for ambulatory care services are generally paid based on the procedure delivered, not the associated diagnosis, so while an accurate diagnosis code is not essential for accurate payment of an individual claim, its accuracy becomes important when claims data are used to risk-adjust spending for the patient.

Measuring Total Cost of Care in Appropriate, Comparable Ways

Although measuring total cost of care sounds conceptually simple—adding up all of the spending on health care services received by all patients—there are a variety of complex, technical decisions that have to be made in determining what services and costs will be included and what adjustments to make in order to compare spending across different communities and different providers. For example, if information on a particular type of service is available for some patients but not others, should costs be calculated based on the larger set of services but only for the subset of patients for which the full set of data are available, or should costs be calculated for the subset of services for which data are available for the largest number of patients? Should the cost of care be calculated based on the payments for that care, even if some payers have paid providers less than the cost of that care, or should it be based on the actual costs or resources used to deliver the care? What information should be used to determine which patients have more health problems or other issues that would be expected to result in a need for more health care services?

There is no one right answer to these issues, but if different regions make different decisions about how to measure the total cost of care, then even if their measures are consistent for different communities and providers within their own region, they will not be comparable across regions. A community or provider that has the lowest cost in one region may be much

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higher cost than communities or providers in other regions, but this will only be known if apples-to-apples comparisons can be made across regions.

Consequently, many communities are using the HealthPartners Total Cost of Care and Total Resource Use measures in their work. These measures have been used by HealthPartners—a large integrated care delivery and financing system in Minnesota—for nearly 20 years, and they were endorsed for broader use by the National Quality Forum in 2012. Through a multi-region project funded by the Robert Wood Johnson Foundation, five RHICs are working together in a pilot, using the HealthPartners measures and reaching consensus on many technical decisions necessary in order to ensure valid comparability across regions.

Analyzing Total Cost of Care Data

Once total cost of care data is available, it can be analyzed and reported in several ways to help stakeholders understand the factors that are driving costs and what can be done to reduce costs and control their growth.

Contributors to Total Cost

A Total Cost of Care measure can be disaggregated in various ways to help stakeholders understand which types of services and which types of patients are the largest contributors to health care costs. These factors differ, often significantly, from community to community, so it is important for each community to understand the sources of health care spending in their community.

In addition to providing macro-level information such as the average per capita change and percentage change in total cost of care from year to year,

analyses can give employers useful information, such as these indicators developed by the MHMC:

- The proportion of frequent emergency department users who have not visited a primary care provider (PCP);
- The clinical conditions driving the admissions to the hospital for the employer's employees;
- The proportion of employees who were high-cost in a given year and also high-cost in subsequent years, and the types of health conditions they have; and
- How the employer's employees use of medical specialties compares to other employers.

Changes in Cost Over Time

The services or patients that represent the largest share of spending may not be the services or patients that are causing the growth in health care spending. For example, even though prescription medications represent a relatively small share of total health care spending, for many years, spending on drugs was the fastest growing segment of health care spending.

The ability to measure changes in health care spending over time is a critical capability for a region to have in order for it to know whether initiatives to control spending are being effective. For example, individual initiatives may report success in controlling specific types of utilization, but community leaders need to know if these successes in individual areas are actually reducing or slowing the growth in the total cost of care, or whether spending growth is occurring elsewhere to offset the savings.

Measuring changes over time requires that there be a community mechanism for consistently assembling and analyzing data. One-time studies can produce useful information, but they do not provide a region with the ability to measure its progress over time.

Comparisons of Cost Across Communities and Regions

Some of the most useful insights about the drivers of health care costs and opportunities to reduce costs have come from comparisons made across communities and regions. For a number of years, The Dartmouth Atlas of Health care⁸ has used Medicare claims data to show significant differences in spending and utilization across states and regions that suggest opportunities to reduce spending without harming patients. Some RHICs are comparing health care spending across counties and/or provider practices in their state or region and finding not only differences in the cost of care, but identifying the specific types of services that are causing the differences.

For example, in California, there is wide variation in total cost of care among regions. The Bay Area and Sacramento region had the highest average per-member cost in 2013 at \$4,390, while the Inland Empire region had the lowest at \$3,308. All regions had a relatively modest year-over-year cost trend, with the lowest increase of 1.8% in Los Angeles, and the highest increase of 4.0% in Orange County and San Diego.⁹

There is also variation in costs across physician organizations within a region. Los Angeles showed the most variation, ranging from \$1,900 to \$6,000 per-member-per-year. Bay Area/Sacramento and Orange County/San Diego showed the least—but still substantial—variation, with a roughly \$2,000 range across organizations.¹⁰

In Maine, the risk-adjusted total health care spending per person has a 30 percent variation depending on the location where the services are delivered, e.g., professional, outpatient facility, or inpatient facility. Drilling down further into specific services and total spending for related services, prices vary significantly, from 1.6 times to 5.3 times the amount for the same service. The variation in the utilization rate ranges from 2.7:1 for some services to more than 7:1 for others. Notably, this cost variation shows no correlation with reported quality results.¹¹

⁸ <https://www.dartmouthatlas.org/data/topic/topic.aspx?cat=21>

⁹ From IHA's presentation at NRHI's Total Cost of Care meeting on December 5, 2014 in St. Louis.

¹⁰ Ibid.

¹¹ Ibid.

Table 2. Attribution Methods by Regional Health Improvement Collaboratives

	RHIC 1	RHIC 2	RHIC 3	RHIC 4	RHIC 5
Provider Type	PCPs and OB/GYNs based taxonomy, E&M codes	PCP	FM, IM, Peds, Geriatrics, NP, PA	FM, IM, Peds, Geriatrics, OB/GYN	MD, DO, NP PA & ND (pilot OB/GYN & CNM)
Visit Description	6 months apart	PCP – office based	CPT code set	PCP office based	CPT code set
# of visits	Min. of 2 E&M Visits	2 or more	Most (one or more)	Majority	Most (one or more)
Measurement Period	Last 24 months	Last 24 months	Last 12 months	Last 15 months	Last 24 months
Tiebreaker	Most E&M Visits. Most non E&M services. Most total PCP visits. Most recent PCP visit.	Most recent visit	Not attributed	Not applicable because of the majority requirement	Most recent visit
Update Frequency	Every 6 months	Quarterly	Per Report	Yearly	Twice annual measurement periods (each of one year)

Comparisons of Cost Across Providers

In many ways, the most challenging comparisons to make with total cost of care data are comparisons across providers, because in most cases, no individual physician, hospital, or health system provides, orders, or controls all of the health care services that an individual patient receives. Moreover, under typical commercial PPO health insurance benefit designs and under the traditional Medicare program, patients can get health care services wherever they wish,

How Wisconsin Employers Are Using Total Cost of Care Information

Wisconsin’s employer/business coalition, The Alliance, purchases health care on behalf of 200 employers. The Alliance employers are ready to do more to act on quality and price differences that emerge from total cost of care information on providers and hospitals. For example, employers are starting to steer employees to high-value providers through benefit design and incentives. The Alliance is currently using total cost of care calculations to talk with providers about cost and resource use because in the future, The Alliance anticipates using total cost and price information as the basis for contracting.

Additionally, Wisconsin has a bundled payment pilot underway. See the case studies provided later in this paper.

and so it is not always clear which, if any, health care provider should be expected to try and coordinate or manage the care a patient receives.

Statistical methods have been developed to retrospectively attribute a patient to a particular primary care provider or other physician, and then, in turn, to assign all of that patient's spending to the organization with which that PCP or specialist is affiliated. There is no single best way to do this attribution. In fact, HealthPartners noted that it studied five attribution methods and found very little difference in the total cost of care results in its market.¹² As a result, many RHICs have reached consensus on methods that are enabling them to make progress in their communities. For example, Table 2 shows the different methods being used for attribution by several RHICs.

When comparing costs across providers, it is important to "risk adjust" the cost measures, i.e., determine the extent to which higher spending is being caused by a provider having sicker patients (who need more services). Here again, there are different risk adjustment tools to consider, and different approaches may have different results depending on the providers, the patients, and the community. Though risk adjustment tools and methods differ, if regions share a common approach to risk adjustment, they improve comparability of results.

Many providers have serious concerns about the way payers are modifying payments based on spending measures that use retrospective statistical attribution methodologies and claims-based risk adjustment systems. One of the important advantages of generating Total Cost of Care measures through a multi-stakeholder RHIC is that the results of an attribution or risk adjustment methodology can be assessed by providers throughout the process to determine if it is fair and reasonable, and alternative methodologies can be tested and evaluated. Moreover, if the RHIC's effort to attribute spending to providers is designed to help providers identify

¹² https://www.healthpartners.com/ucm/groups/public/@hp/@public/documents/documents/cntrb_031064.pdf

potential opportunities for reducing spending, then the lack of precision in the attribution methodologies and limitations in the risk adjustment system will be of less concern, since the spending measure will presumably only be the first step in a multi-step process of analysis and action.

For example, the MHMC attributes patients to a primary care physician based on whether that physician saw that patient within the past year and other factors. To test the reliability of the attribution, MHMC randomly sampled 90 percent of the practice panel to measure any variation. Random sampling is done 500 times for every practice. The results show no significant difference between sampling 90 percent or 100 percent of a panel. In other words, attribution is not a large driver in the differences in performance between groups—the real driver is the differences in price per service of the services the practice’s patients receive from the practice and other providers. And it is possible that leadership and culture within a practice drives differences in price.

Publicly Reporting Total Cost of Care Measures

Because of the technical complexities involved in measuring and analyzing health care spending, most RHICs provide data and analyses to their member stakeholders to review before releasing any results to the public. This allows the stakeholders who are most familiar with the services and costs to identify any errors in the data or any ways in which presentations of the data could lead to erroneous conclusions, so that these problems can be corrected before the data and analyses are disseminated to the public. The multi-stakeholder structure of the Collaborative prevents “hiding” any results that are accurate but unflattering while also ensuring that problems with erroneous results can be corrected and ideally avoided in the future. Through the Collaborative, all stakeholders can discuss and agree on which uses of the measures are and are not appropriate given whatever limitations there are in the data, the samples sizes, etc.

For example, because of the challenges associated with attributing the total cost of care to individual providers, some RHCs are working with their stakeholders to test different methods of attribution and different methods of reporting the measures before publicly releasing any results. The stakeholders may also decide to formally encourage or discourage use of the measures for certain purposes (e.g., in pay-for-performance programs) depending on the level of comfort or concern about the reliability of the measures for certain providers or the unintended consequences that could result from using the measures in certain ways. Different stakeholder perspectives are balanced to ensure progress at an appropriate pace with reliable information.

Examples of public reporting or preparation for public reporting in communities includes the following:

- In Colorado, CIVHC first publicly reported per capita costs at a county level to begin to get stakeholders comfortable with cost comparisons at a less granular level. Once stakeholders were familiar and comfortable with county-level reporting, CIVHC moved toward reporting total cost of care at the practice level.
- Minnesota Community Measurement has invested a significant amount of time and analytic resources sharing total cost of care results privately with practices, answering their questions, convening public forums, and also meeting one-on-one if requested with practices across the state. This investment in outreach, education, and building trust with providers has been worthwhile in advance of the nation's most comprehensive look at total cost of care, which was released in December 2014. More information can be found at <http://www.mnhealthscores.org/learn-more-managing-cost>.
- Similarly, Q Corp has been meeting with physician groups, health plans, employers, consumers, etc., across the state to talk about total cost of care, what it means, why it's being analyzed, and how it can be used to improve the value of health care. Private reports will be shared with providers at the practice level during the spring and fall

of this year. Although Q Corp is not sharing results publicly yet, it is meeting with stakeholder groups and 'priming the pump' for a future move toward public reporting through increasing awareness among the provider community.

- The MHMC will begin to publicly report relative cost and resource use by service category alongside quality in April 2015. Building up to public reporting, MHMC created practice reports for every primary care practice in the state and shared total cost of care results privately at a practice level. MHMC has also held numerous public forums on total cost of care over the last three years to lay a foundation of education and understanding about total cost of care.
- Finally, NRHI, the umbrella organization connecting more than 30 RHICs across the country, recently convened the National Physician Leadership Seminar. The Seminar provided a forum for physician leaders from measurement experts around the country to gain a better understanding of total cost of care measurement to improve care. It offered an opportunity to enable physician leaders to understand total cost of care with the goal of leading culture change in their local communities. The physician leaders returned to their communities to lead efforts locally with their peers about total cost of care in advance of public reporting efforts in the future.

Taking Action on the Findings: Four Case Studies

Measuring and reporting on total cost of care is of limited value if it does not actually result in actions to reduce health care spending or control the growth in spending. Because their mission is improving health care quality and cost, not simply generating measures, RHICs work with their stakeholders in a continuous improvement process to analyze the drivers

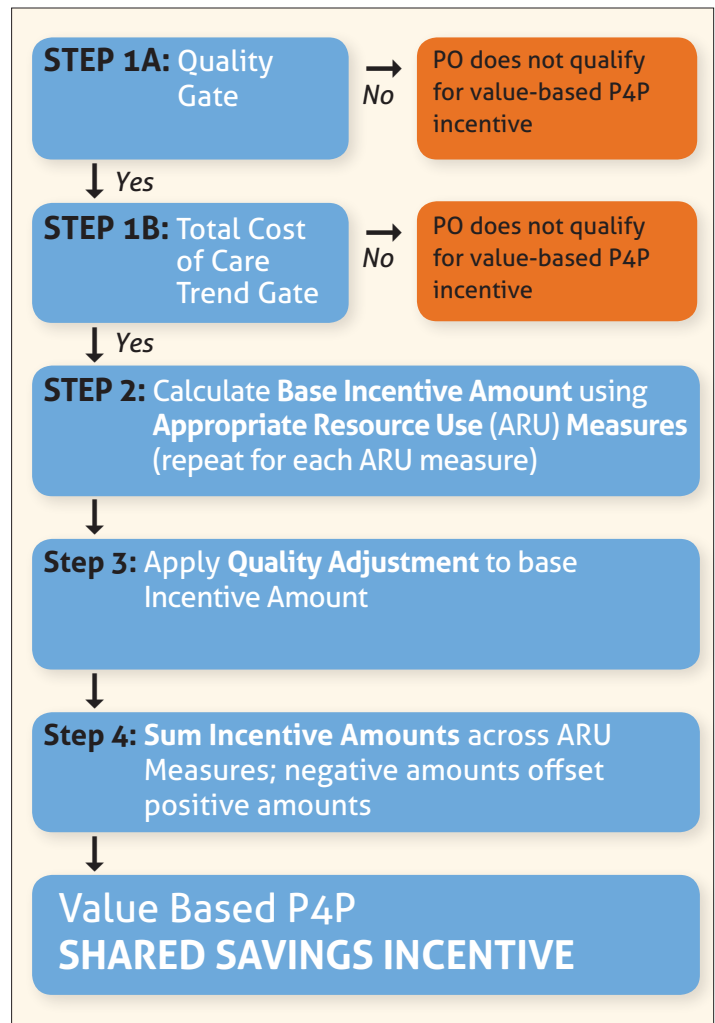
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of costs, identify opportunities for improvement, redesign care delivery to lower costs and improve quality, measure the results, and make changes as necessary to achieve better performance. The case studies that follow describe how four regional collaboratives—in California, Minnesota, Maine, and Wisconsin—are taking action using total cost of care information.

California's Integrated Health Association

VALUE-BASED PAY-FOR-PERFORMANCE

The Integrated Health care Association (IHA) in California (www.ihc.org) assembles quality and utilization information to support the largest non-governmental pay-for-performance (P4P) system in the country, involving more than 200 physician organizations and 35,000 physicians. IHA runs the program on behalf of 10 commercial health plans representing 9 million insured persons. IHA collects and aggregates data, and deploys a common measure set, producing results that are used for health plan incentives to physician organizations, public reporting, and public recognition awards. Using a common measure set and aggregating data across plans avoids potentially conflicting measurement systems that would result from uncoordinated health plan initiatives, provides larger sample sizes for more reliable results, and makes comparable performance information available to consumers on the state's Office of the Patient Advocate website (www.opa.ca.gov).



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Since the program's inception, stakeholders have focused primarily on measuring and improving quality; however, during this time, the costs of care have continued to rise unabated. In response, the IHA's P4P program adopted value, which encompasses both cost and quality, as the ultimate goal between 2012 and 2015. The primary initiative for reaching this goal is Value Based Pay for Performance (Value Based P4P), a shared savings model which holds physician organizations accountable for the cost, cost trend, and resources used for all care provided to their commercial HMO members, as well as the quality of this care. The new program reorders priorities to emphasize cost control and affordability, while continuing to promote quality.

Significant time and effort has been invested since 2012 in reaching a broad consensus among health plans and physician organizations on key parameters of the Value Based P4P design, including how total cost of care data would be incorporated. There are four components to the Value Based P4P incentive design, as described and illustrated in the figure on the previous page.

Step 1: Determine physician organization eligibility. Physician organizations must meet minimum standards for both quality and total cost of care trends in order to gain entry into the incentive program.

Step 2: Calculate shared savings based on performance on resource use measures such as inpatient bed days, readmissions, emergency department visits, outpatient procedures utilization, generic prescribing for several conditions, and Cesarean section rate for low-risk births.

Step 3: Adjust the share of savings earned based on quality performance.

Step 4: Sum shared savings across measures to determine the incentive amount. Physician organizations are held accountable for their net performance across all measures.

One health plan fully implemented Value Based P4P for measurement year 2013, and three more plans implemented it for measurement year 2014. Other plans are considering adoption for 2015 or 2016. Standardization of performance measures and the core design for the incentive is a key element of the Value Based P4P program. Accordingly, the program's governance committees make recommendations on the methodology; however, health plan adoption of all or some aspects of the recommendations is completely voluntary to keep from running afoul of antitrust regulations. The early adopters have all chosen to adopt the core design as recommended. Alignment across payers sends a strong signal to providers and increases the likelihood that they will respond to this new model for value-based payment.

BUNDLED PAYMENT CONTRACTS

IHA also recently completed a pilot funded by a three-year grant from the Agency for Health Research and Quality (AHRQ), building on two rounds of planning and feasibility work over four years funded by the Blue Shield of California Foundation and the California Health care Foundation. Leveraging their data collection and analysis expertise, IHA led a multi-stakeholder community effort with the key objective to implement more than 20 payer-provider bundled payment contracts, resulting in completion of more than 500 bundled cases within the first two years of the project. Though the process and outcome of this pilot were not what had been expected or hoped for in terms of execution of payment change, the results offer important lessons including the considerable effort required by clinicians and hospital administrators to redesign the approach to care delivery, and existing barriers of legal, regulatory, insurance benefit design, and claims payment systems to implement a prospective payment model. The pilot also made major contributions to the field by developing tools that are available to others, including 10 well-vetted and fully specified bundles, available to serve as a starting point for other innovators attempting to define and implement bundled payments; specifications and methods to analyze retrospective cost data to understand episode costs

and price bundled payments; and contracting models and templates that have been used by payers in their own bundled payment initiatives. Most importantly, the pilot successfully engaged leading provider organizations in the important and difficult process of care redesign.¹³

Minnesota's HealthPartners

HealthPartners is transforming the delivery of health care and has aligned its mission with the Triple Aim: improving the health of the population, enhancing the patient's experience, and making health care affordable.

In 2009, HealthPartners introduced total cost of care provider agreements that are derived collaboratively with providers to appropriately align the incentives of improving care and experience while reducing costs. In order to earn shared savings for reducing the overall cost of care, quality, and experience, performance thresholds must be met.

HealthPartners supports providers through sharing multiple levels of information to understand performance, take action, and improve. HealthPartners medical directors and the provider relations and/or informatics team members work with provider groups individually to help analyze the reports and the drivers of their total cost of care. The quarterly reporting package includes benchmarking information to understand the practice performance compared to others in the market as well as a patient-level data feed to augment the electronic health record (EHR) and support care coordination. These reports include a broad range of analytics, including important predictive risk, hospital use, and medications information. HealthPartners also works with provider groups when custom analytics are needed for targeted process improvement.

Using these methods and approaches, HealthPartners' risk-adjusted total cost of care is 12 percent lower than average Minnesota costs when compared to external benchmarks. The finding suggests:

- HealthPartners is successful at coordinating care delivery—on average, HealthPartners' illness-burden adjusted utilization rates per 1,000 members are lower than the benchmark database.

¹³ Tom Williams and Jill Yegian, 'Bundled Payment: Learning from our Failures', Health Affairs, August 5, 2014.

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- HealthPartners' non-user rate is lower, indicating fewer barriers to obtaining primary care and prevention services. Higher use of primary care services can help identify and address risk to keep people healthier.

Meanwhile, quality is improving. Nationally, HealthPartners ranks 26th out of 507 plans that were evaluated for the National Committee for Quality Assurance (NCQA) Private Health Insurance Rankings 2014-2015. This is among the top 5 percent of plans in the U.S.¹⁴ The HealthPartners care group is also among the top performers in quality measures reported by Minnesota Community Measurement.¹⁵ The results translate to others in the HealthPartners network. The Northwest Alliance, a collaborative between Allina Clinics, HealthPartners, and Mercy Hospital, have seen an 8 percent reduction in cost trends, resulting in lower than market average trends. At the same time, quality and experience results in areas of preventive screenings, rates of hospitalizations, and use of costly high-tech imaging services have all improved.¹⁶

The next generation of payment reforms includes complementary approaches such as bundled payments and primary pre-paid care. This frees primary care from today's issues related to fee-for-service payment, which limits the ability to financially support care redesign outside of relying on face-to-face office visits. Today 90 percent of HealthPartners medical claims are from provider groups and care systems with a total cost of care agreement that includes upside and downside risk. These payment reforms are accompanied by value-based benefit designs that reflect cost, quality, patient experience results, and transparency that enable members and patients to make informed health care choices.

¹⁴ <https://www.healthpartners.com/public/newsroom/news-releases/9-19-14.html>

¹⁵ <https://www.mnhealthscores.org/>

¹⁶ https://www.healthpartners.com/ucm/groups/public/@hp/@public/documents/documents/cntrb_037948.pdf

Maine Health Management Coalition

The Maine Health Management Coalition (MHMC) is a purchaser-led multi-stakeholder collaborative whose mission is to improve the value of health care in Maine. MHMC works with employers, unions, providers, health systems, carriers, and others to improve health care quality and reduce costs in the state. However, although health care quality has improved, Maine's health care costs are among the country's highest, compelling MHMC to shift its focus and emphasis to collectively find ways to reduce cost growth.

As part of this process, MHMC created a multi-stakeholder workgroup in 2012 to identify and better understand Maine's health care cost drivers. This was facilitated through using transparent and shared data with expert input from members in all sectors. The goal of the workgroup was two-fold: to figure out why costs were so high and to identify a core set of interventions that could measurably reduce costs when used together.

The workgroup projected that a 15 percent reduction in total health care costs could be achieved if stakeholders could:

- Reduce admissions and readmissions for people with chronic illness;
- Reduce variation in price and utilization of outpatient services;
- Reduce variation in prices for inpatient care;
- Reduce variation in treatment for preference-sensitive conditions;
- Reduce administrative costs;

Establishing Growth Caps in Maine

In an effort to manage provider cost increases in the state, Maine's Health Care Cost Workgroup presented a set of recommendations to CEOs to further advance efforts to reduce health care cost trends in Maine. One of these recommendations is to establish a voluntary growth cap for risk-based contracts between payers and providers, which are numerous in the state of Maine. This change has been informed by the total cost of care work led by MHMC.

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- Improve mental health care;
- Reduce cost shifting from public to private payers;
- “Right-size” health care infrastructure and regionalize services;
- Engage consumers through education and benefit incentives; and
- Improve wellness and community health.

To achieve these projections, the stakeholders are taking several steps. For example, benefit design changes are being implemented among Coalition members, including tiering in benefit designs of hospitals and provider practices based on publicly reported quality and safety results. There is readiness to consider further changes as needed when additional data are available. Several employers have already required employees to choose a PCP in order to facilitate both the accountability and attribution needed to calculate and understand total cost of care information at the practice level.

MHMC shares medical utilization benchmark levels with employers, which gives them a point of comparison for how allowed spending per employee compares to the Coalition’s benchmark for resource use PMPM. As a result, potential cost-saving opportunities can be identified. An employer can identify what specifically is increasing overall resource use for employees above the state’s benchmark. Employers can:

- Use total cost of care and total resource use, and quality measures to create a tiered PCP network that emphasizes high-quality, low resource use, and low-cost providers;
- Adopt value-based insurance design principles to reduce overutilization of low-value services; and
- Conduct outreach to members using the emergency department inappropriately to further reduce utilization.

Wisconsin’s Partnership for Health care Payment Reform

Wisconsin is in the early stages of payment reform, and a team of collaboratives is leading a current multi-payer pilot on bundled payments. Wisconsin has more than one regional collaborative in the state, one of which is the state’s all-payer claims database (APCD) that groups and calculates the all-payer claims data into meaningful episodes of care. The pilot focuses on bundled payment for total knee replacement and provides

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support to engaged payers and providers—including four hospitals within health systems, one ambulatory surgery center, and Anthem Blue Cross Blue Shield Wisconsin—including:

1. The bundle definition;
2. Model contract language for payers to use with provider sites;
3. Quality measures and reporting processes;
4. Resources from other payment reform efforts around the country;
and
5. Best practice sharing across pilot sites.

The participating providers and payers needed to submit a letter of commitment from their CEO; implement project management practices to support the pilot; and document and share the results from the pilot.

There were several challenges to implementing the payment reform pilot. The marketplace has not had sufficient appetite to enthusiastically adopt and spread bundled payments. Inertia has been created by using existing infrastructure and culture changes were uphill battles. Perhaps one of the most notable challenges was the small number of cases that were involved in the three participating sites.

Despite these challenges, there were reported savings from this effort—payers with a flat cost growth experienced 20 percent reductions from their pre-bundle status. Another benefit was that patients greatly appreciated the simplicity, predictability, and transparency of the bundled payments, as the patients' financial contribution was clearly stated in advance and they were not nicked and dimed by unexpected costs throughout their treatment.

The collaboratives will continue this work beyond the initial implementation of the total knee replacement bundled payment. More hospitals and payers have adopted the bundled payment. But perhaps more importantly, the pilot served as a glide path for payers and providers to transition on to bigger and better things, such as adopting additional

bundles, incorporating bundles into accountable care organization systems, and just getting used to the growing expectations of greater provider accountability for value. The pilot has also illustrated that delivery system transformation, payment reform, and transparency must work in synergy.

6. Challenges in Measuring and Controlling Health Care Costs

Although considerable progress has been made in the pioneering communities described in this report, these RHICs continue to face significant challenges that make it difficult for them to sustain their efforts and that discourage other communities from replicating their work.

Challenges in Obtaining Data to Measure Total Cost of Care

Lack of Resources to Support Data Assembly and Analysis

As the previous section makes clear, a considerable amount of time and technical expertise is needed to produce accurate measures of the cost of care, to do so repeatedly over time in order to measure progress, and to analyze the data in ways that help identify truly actionable opportunities for improvement. The Robert Wood Johnson Foundation provided seed funding to enable a number of communities to develop total cost of care measurement systems, but now the stakeholders in each community will need to provide sufficient funds to sustain these systems. In order to ensure that all analyses can be produced in a neutral and transparent way, all stakeholders—physicians, hospitals, employers, health plans, the federal government, state and local governments, patient advocacy organizations, etc.—will all need to contribute funding. Since all stakeholders will benefit if health care spending can be successfully controlled in appropriate ways, this is one of the best investments they can make. In the communities where this work is being done, stakeholders are paying for it, which is a testament to the value they perceive in both the process and the output.

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An important stakeholder in every community is the federal government; efforts to control the cost of care in a community will help control spending in the Medicare program, which is one of the major drivers of the federal budget. However, there is currently no source of federal funds to support this work.

Difficulty in Obtaining Claims Data

Some health plans decline to provide claims data to RHICs, most of which collect these data on a voluntary basis. In other cases, plans only provide data under very restrictive data use agreements or without key fields required to produce total cost information. It is difficult for Collaboratives to produce reliable measures if they cannot access claims data from all or most payers, and it is difficult for them to produce detailed analyses to validate the accuracy and completeness of claims and to analyze the drivers of costs if restrictions in data use agreements or differing restrictions across payers preclude such analyses. It would facilitate progress on measuring the cost of care and reduce costs for both plans and RHICs if a common data use agreement could be developed that all plans would use. It is also incumbent upon Collaboratives to understand the value proposition to all stakeholders—including health plan partners—who may find unique benefit in aggregated claims data, like benchmarks or analyses that cannot be done on single-payer data.

Some states have mandated submission of claims data to a state all-payer claims database. However, most state agencies do not have the ability to function as a multi-stakeholder collaborative themselves, and depending on the state law, it may be as difficult for a RHIC to obtain the multi-payer data from the state agency as it would have been to obtain it from the health plans directly. Partnerships between state government and RHICs can combine the strengths of both. In many regions, state governments participate directly in their Collaboratives as public purchasers and as partners on data use and it is not unusual for RHICs with states to perform many functions that states cannot.

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Obtaining claims data is easier in some states than others and can be facilitated by state mandates. For example, CIVHC in Colorado is an independent nonprofit multi-stakeholder collaborative, but the state of Colorado has designated it to receive and analyze claims data that state law mandates be submitted by all health plans.

Difficulty in Obtaining Data on Allowed Amounts

Some RHICs that receive claims data only have access to information on the type and number of services provided, not on the amount of money paid for those services. Since a number of research studies have shown that there is significant variation in the amounts that are paid to different providers for ostensibly the same services, both within geographic regions and across regions, it is impossible to produce accurate and actionable analyses of what is driving spending without access to information on payment amounts. When it is understood whether costs are driven by price or utilization, and what variation is appropriate and what can be improved, it is possible to develop targeted and effective cost reduction efforts.

Health plans have understandable concerns about releasing confidential information on the prices they have negotiated with individual providers. However, because the cost of care measures produced by RHICs will aggregate information across multiple payers, they will not reveal individual payer-provider payment amounts.

Restrictions on Use of Medicare Claims Data for Analyses of Costs

Although the provision of the Affordable Care Act that authorized the release of Medicare claims data to Qualified Entities has been a major advance in the ability of communities to analyze data from all payers, the law requires that the data only be used to generate publicly reported measures endorsed by the National Quality Forum or approved by the

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Department of Health and Human Services and severely restricts how the data can be combined, analyzed, or shared privately. This severely limits the ability of a RHIC to use Medicare claims data in the collaborative process described in Section 2, since much of the exploratory analysis of the data to identify the drivers of health care costs may never be translated into a publicly reported measure. Changes in the law to remove these restrictions would facilitate the ability of communities to more effectively use Medicare claims data to find ways to reduce Medicare spending.

Need to Combine Clinical Data With Claims Data

Claims data generally do not have accurate or complete information on clinical characteristics of patients, e.g., what types of health problems they have, what kinds of complications they experienced during treatment, etc. Although claims data frequently contain diagnosis codes, the diagnosis codes recorded are intended to justify the service being billed, not to give a complete picture of the patient's health conditions. Clinical data from providers' EHR systems or patient registries used for quality improvement can provide many of these missing pieces of data, and clinical data are also generally preferable to claims data for measuring quality and outcomes. However, a complete picture of quality and cost requires a combination and possible linking of the clinical data from the EHRs or registries to claims data.

A growing number of RHICs are collecting clinical data from providers as well as claims data from payers and in some cases are combining the two sources of data to enable truly comprehensive analysis of both services and patient characteristics.

Challenges in Redesigning Care to Reduce Costs

Understanding the drivers of health care costs is a critical first step in trying to reduce or control health care spending. However, most communities

have found that in order to redesign care to reduce spending, changes are needed in the health care payment system. The current fee-for-service payment system penalizes providers financially when they pursue initiatives to improve quality and reduce spending. In some cases, this is because services that would deliver better results at lower cost aren't paid for at all, and in other cases, when a provider delivers fewer services, it loses all of the revenue it had received for those services, even though it still needs a portion of that revenue to cover the fixed costs of delivering the remaining services.

Payment reforms such as bundled payments, warranties, condition-based payment, and global payments can overcome these barriers to change. However, unless payers indicate a willingness to implement payment models that support different approaches to care delivery, providers may reasonably resist cost containment efforts and even efforts to measure and analyze the drivers of costs. In turn, payers may be reluctant to implement new payment models without information or a business case analysis showing that health care spending will be lower under the new payment/delivery system. The solution to this "chicken and egg" problem is a more comprehensive strategy of measurement, care delivery redesign, and payment reform developed jointly by all of the stakeholders in the community—providers, payers, and patients—facilitated by the RHIC.

7. The Future of Total Cost of Care Measurement

Although total cost of care measurement is still in its infancy, the early results are extremely promising. If appropriate support is provided at the national, state, and local level to overcome the challenges described in this brief, faster progress will be made in the communities already producing Total Cost of Care measures, and additional communities will be both willing and able to join them.

NRHI is engaged—or proposing to engage—in a several efforts to accelerate the development and use of cost measures in communities around the country, including:

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- Helping five Collaboratives to work with their employers/ purchasers to use total cost of care information to advance payment reform through purchasing strategies;
- Continuing to measure total cost of care in communities to track whether/how it changes in the regions over time;
- Convening a Total Cost of Care Summit in April 2015 to disseminate lessons learned from the NRHI Total Cost of Care Pilot;
- Expanding measurement and reporting of total cost of care to at least three new communities across the country;
- Working with physician leaders on a regional basis to better understand how to use total cost of care information to change how care is delivered and managed;
- Incorporating Medicare data into cost measures; and
- Exploring new ways to use total cost of care information to advance payment reform.