American Hospital Association®

ISSUE BRIEF

Moving Towards Bundled Payment

Introduction

The fee-for-service system of payment for health care services is widely thought to be one of the major culprits in driving up U.S. health care costs. This system not only encourages volume but rewards poor quality and provides little incentive for care coordination. Bundled payment, where providers are reimbursed a set fee for an episode of care, would break down current payment silos and reward providers for improving the coordination, quality and efficiency of care. While evidence of the impact of bundled payment is limited to date, there is growing interest from both payers and providers in further developing and testing this model.

Under the *Patient Protection and Affordable Care Act* (ACA), the secretary of the Department of Health and Human Services (HHS) must establish a five-year, voluntary pilot bundling program beginning in 2013. The program is to include 10 conditions representing a mix of chronic, acute, surgical and medical conditions. The bundles would include care provided three days prior to admission through 30 days post discharge (though the secretary could use another timeframe, if appropriate) and whatever range of acute and post-acute services the secretary deems appropriate. The law requires the secretary to test different payment methodologies during the pilot and study how to address challenges, such as low volume or the unique issues faced by rural and critical access hospitals (CAHs). The secretary has the authority to extend the pilot's duration and scope indefinitely if it is found to reduce costs without reducing quality.

Meanwhile, the Centers for Medicare & Medicare Services' (CMS) Center for Medicare and Medicaid Innovation (CMMI) unveiled its Bundled Payments for Care Improvement (BPCI) initiative on August 23, 2011. This initiative called for applications from organizations on four broadly defined bundling models.

- Model 1 includes only inpatient hospitalization services for all Medicare severity diagnosis-related groups (MS-DRGs). Medicare will pay participants traditional fee-for-service payment rates, less a negotiated discount. In return, participants may enter into gainsharing arrangements with physicians.
- Model 2 includes the inpatient hospitalization, physician and post-discharge services. Medicare will pay participants their "expected" Medicare payments, less a negotiated discount.
- Model 3 includes only post-discharge services. Payments will be made as in Model 2.
- Model 4 includes the inpatient hospitalization, physician and related readmission services. Medicare will pay participants a prospectively determined amount.

Numerous organizations applied to participate in the BPCI, and final selections and target negotiations are in progress. CMS elected to delay Model 1 because of too few applicants. In reviewing data and applications, CMS has identified 48 conditions for bundling that together represent about 70 percent of spending on episodes of care.

Other organizations are exploring bundling in the private sector. To be successful, organizations must delve deeply into their data to support decision-making on key parameters of bundling, including determining which services are the best candidates for bundling, how the episode should be defined, how to price the bundle, and mechanisms to mitigate various forms of risk. They also will need a clear sense of which providers would make the best partners and be able to pinpoint where opportunities to reduce costs exist. This issue brief examines several topics that hospitals should explore as they begin to examine their data. Most of the data displayed is from a project conducted by Dobson|DaVanzo & Associates, LLC for the AHA and the Association of American Medical Colleges.[1]

[1]Dobson | DaVanzo analysis of research-identifiable 5 percent SAF for all sites of service, 2007-2009, wage index adjusted by setting and geographic region, and standardized to 2009 dollars. All episodes have been extrapolated to reflect the universe of Medicare beneficiaries. Medicare Episode Payment includes care from all facility-based and ambulatory care settings and excludes beneficiary co-payments. indirect medical education, disproportionate share hospital payment, capital, and other third party have been removed from payments. Home health prospective payment system (PPS) payments do not include payments for Part D drug or durable medical equipment services that are provided under skilled nursing facility, inpatient rehabilitation facility, and long-term care hospital PPS payments. Detailed results of the study can be found in the full report, Medicare Payment Bundling: Insights from Claims Data and Policy Implications, at www.AHA.org.

Create episodes of care

The first step in analyzing an organization's data is to create episodes of care. An episode of care needs to have a specific triggering event, usually an inpatient stay – or index admission – for a particular condition or procedure, often defined as an MS-DRG or, in the case of Model 3 in the BPCI, the initiation of a post-acute care service. It needs to have a clear endpoint, which may be an event such as discharge from the hospital, or a specific timeframe such as 30, 60 or 90 days from hospital discharge. From there, it is helpful initially to include in your data analysis all of the services provided within the episode and then determine later what should be excluded as unrelated. At the initial stages of analysis, looking at a fairly broad range of episode types will allow for comparisons across different dimensions.

In constructing bundles, one issue is potential overlap. For example, if a facility is contracting to do both a bundle for congestive heart failure (CHF) and one for total knee replacement (TKR), what happens if a patient is admitted to the hospital on day one for a CHF episode but then comes back for a TKR on day 15? Which admission should trigger the bundle? Some researchers propose that a "clean period" must precede a triggering event. For example, for an admission to be counted as a triggering event for a 30-day episode, the prior 30 days would have to be free of other admissions. Proposed bundle definitions should include a proposed approach to dealing with potential overlap.

There are a number of proprietary episode groupers that are available on the market and used by private payers. These groupers sort each clinical event into its unique episode and, therefore, avoid issues of overlap. For organizations exploring bundling options beyond the BPCI, these groupers may be worth exploring.

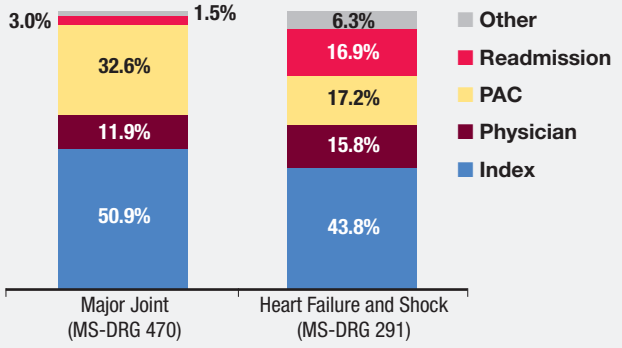
Examine the distribution of costs across services

Once you have constructed your bundles, there are many dimensions to examine to determine which episodes would be the best candidates for bundled payment and what factors you need to consider in setting your price. Most organizations will have never seen the entire picture of care across the continuum and should expect some surprises.

Different types of episodes have a different distribution of costs by service type. Understanding where the costs are concentrated helps identify where cost reduction opportunities are likely to be found and where partnerships with other providers or specific types of interventions may be most important. For example, Chart 1 shows the distribution of episode costs by type of care. Note that for a major joint procedure, nearly a third of costs are in post-acute care (PAC) while only about half that proportion is associated with PAC for heart failure and shock. At the same time, nearly 17 percent of costs for heart failure and shock are associated with readmissions compared to only 3 percent for major joint procedures. These care patterns suggest that readmission reduction programs should target heart failure and shock patients while management of PAC should be a priority for major joint patients.

Understanding the distribution of costs will help identify where to look for savings opportunities.

Chart 1: Percent of Spending by Episode Type, 30-day Fixed-length Episodes, 2007-2009



Source: Dobson | DaVanzo (2012). Medicare Payment Bundling: Insights from Claims Data and Policy Implications.

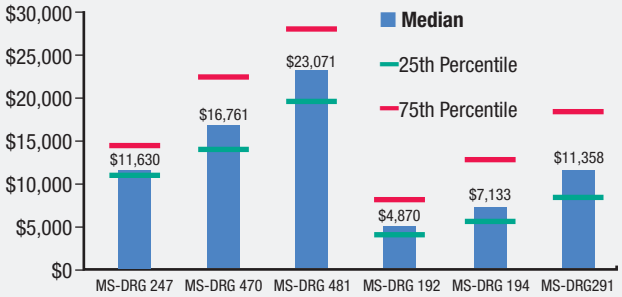
Pinpoint sources of variation

The ability to identify, understand and eliminate variation in care practices will be critical to success under bundled payment. It may help to first look at the level and source of variation in the cost per case. Chart 2 shows how the degree of variation in costs is different by condition. For example, the range between the 25th and 75th percentile (the interquartile range) for a percutaneous cardiovascular procedure with drug-eluting stent (MS-DRG 247) is about $3,251, or about 28 percent of the median episode cost. In contrast, the interquartile range for chronic obstructive pulmonary disease (MS-DRG 192) is about $3,884, or about 80 percent of the median episode cost. Episode types should be selected that have enough variation to provide opportunities for cost reduction, but not so much variation as to pose excessive risk to the organization.

The next step is to pinpoint where the variation occurs. Chart 3 shows the difference in cost for the highest and lowest quintiles for two episode types. The range in cost for a hip replacement is significantly greater than for a colectomy (resection of the colon). One way of identifying opportunities to reduce costs is to look at what percentage of the variation in cost is due to each service type. For a hip replacement, on average, 85 percent of the variation is in PAC. This indicates that managing PAC will be critical to the overall management of resources for this condition. In contrast, for a colectomy the variation is split between PAC and readmissions, which points to a different care management focus. Chart 3 is based on a national claims analysis. The experience of individual organizations may be different.

The level of variation differs by condition.

Chart 2: Median Cost and Interquartile Range by Condition, 30-day Fixed-length Episodes, 2007-2009

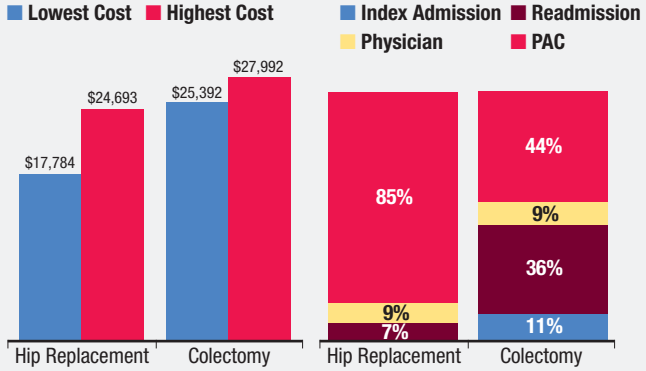


247: Percutaneous cardiovascular procedure with drug-eluting stent w/MCC
470: Major joint replacement or reattachment of lower extremity w/o MCC
481: Hip & femur procedures except major joint w/CC
192: Chronic obstructive pulmonary disease w/o CC/MCC
194: Simple pneumonia & pleurisy w/CC
291: Heart failure & shock w/MCC

Source: Dobson | DaVanzo Analysis of 5% Sample of Medicare Claims Data (2007-2009). Additional details on study methodology can be found in Dobson | DaVanzo (2012). Medicare Payment Bundling: Insights from Claims Data and Policy Implications.

The source of the cost variation for each condition will help identify where efforts should be targeted.

Chart 3:
Difference Between Top and Bottom Quintile in Cost per Episode
Percent of Difference Between Highest and Lowest Cost Case by Service Type



Source: Miller, David C. et al. Large Variations in Medicare Payments for Surgery Highlight Savings Potential from Bundled Payment Programs. Health Affairs, November 2011.

Map pathways of care

The pathway of care that each patient takes will greatly influence the course of care and overall costs. Chart 4 shows the episode cost by first setting of post-acute care for patients undergoing a major joint procedure. The average cost varies from a low of $12,695 for patients who first receive outpatient therapy to a high of $43,772 for patients admitted to long-term acute care hospitals. Of course, these differences in the choice of setting and costs are partially attributable to differences in patient clinical needs, but by examining care pathways and ensuring that patients are admitted to the PAC setting most appropriate to their needs, providers can improve quality and reduce costs.

Patient pathways often involve more than one setting – even in a 30-day period. A patient may go from the acute care setting to a skilled nursing facility (SNF) then receive home health for a period of time, or he or she could be discharged to the community (i.e., physician or outpatient care) then readmitted to the hospital, then go to a SNF or receive home health. Current pathways may be unnecessarily complex making it harder to coordinate care and driving up costs. Reducing steps in the pathway (e.g., readmissions) will be a key strategy to reduce costs.

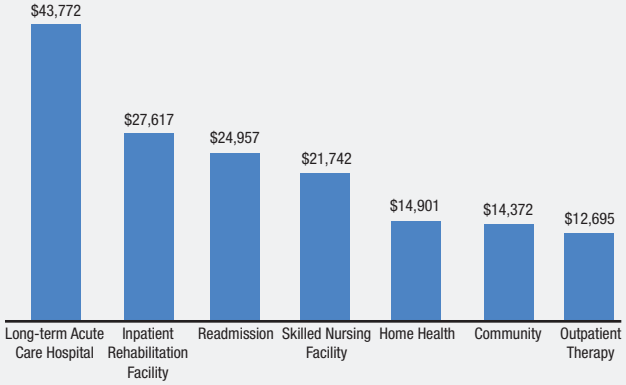
Chart 5 shows the top 10 most frequent care pathways for heart failure and shock (MS-DRG 291). Generally the choice of the first setting of post-acute care and the number of subsequent sequence stops drive payment. Note that although a discharge directly to the community has the lowest cost, a discharge to the community followed by a readmission has the highest. This highlights the importance of choosing the right follow-up care for patients after discharge so that adverse events (such as a readmission) are less likely to occur. Currently, assessment tools to help hospitals determine the most appropriate post-discharge care plan are limited. Hospitals may want to work with their PAC providers to develop their own criteria for placing patients.

Understanding the number of different providers involved in an episode of care will be important in assessing how many care partnerships you may need to effectively manage a bundled payment stream. For example, how many SNFs and inpatient rehabilitation facilities (IRFs) do your patients use? Do they tend to be concentrated in a few or spread evenly across those in the community? Does the particular SNF or IRF used vary by condition? By discharging physician?

It is important to note, however, that CMS has not given providers authority to steer patients to particular PAC providers so developing multiple relationships will be necessary under Medicare; although private payers may be amenable to more limited networks.

The first setting of post-acute care can have a big impact on episode costs.

Chart 4: Total Episode Cost by First Setting for Post-discharge Care, 30-day Fixed-length Episodes, Major Joint Procedure (MS-DRG 470), 2007-2009



Source: Dobson | DaVanzo (2012). Medicare Payment Bundling: Insights from Claims Data and Policy Implications.

The average payment for a Medicare episode varies with the sequence and complexity of the pathway.

Chart 5: Top 10 Patient Pathways Ranked by Number of Episodes for 30-day Fixed-length Episodes for Heart Failure and Shock (MS-DRG 291), 2007-2009

Pathway	Percent of Episodes	Average Medicare Episode Paid
A-C	25.8%	$8,853
A-H-C	8.6%	$10,550
A	8.2%	$9,939
A-S	7.7%	$17,497
A-T	2.5%	$11,002
A-C-H-C	2.5%	$10,760
A-C-A	2.3%	$19,244
A-C-A-C	2.3%	$18,647
A-S-C	1.9%	$16,058
A-T-T	1.6%	$13,380
Subtotal	**63.4%**	**$11,500**
Other	36.6%	$20,868
Total	**100.0%**	**$14,928**

Facility-based Sequence Stops:
A=STACH (Index or Readmission)
H=HHA
I=IRF
L=LTCH
S=SNF

Ambulatory-based Sequence Stops:
C=Community (Physician and Outpatient)
E=ER
P=OP Therapy
T=Hospice
Z=Other IP

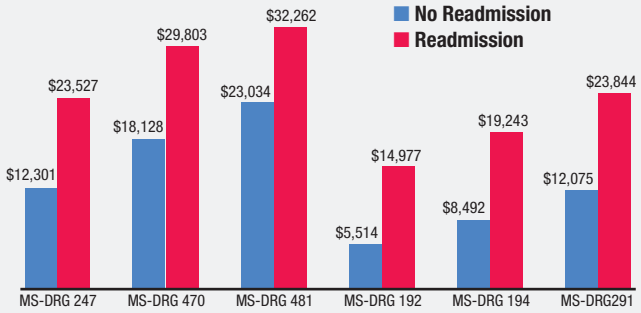
Source: Dobson | DaVanzo (2012) . Medicare Payment Bundling: Insights from Claims Data and Policy Implications.

Assess the performance of your post-acute care providers

Once you have identified where your patients tend to receive post-acute care, assess the performance of those providers to determine those with which you would most like to partner. In addition to looking at length of stay, cost and quality indicators for the services provided by the facility, closely examine the readmission rate. Readmissions are key determinants of episode costs. Chart 6 shows that a readmission can more than double the episode cost. In general, readmission rates tend to be highest for patients that first receive post-discharge care in SNFs (Chart 7). Even so, however, most readmissions come directly from the community (patients who are only receiving physician and outpatient care post-discharge) rather than facility settings (Chart 8).

A readmission can more than double the episode cost.

Chart 6: Cost of a 30-day Fixed-length Episode with and without a Readmission, 2007-2009



247: Percutaneous cardiovascular procedure with drug-eluting stent w/MCC
470: Major joint replacement or reattachment of lower extremity w/o MCC
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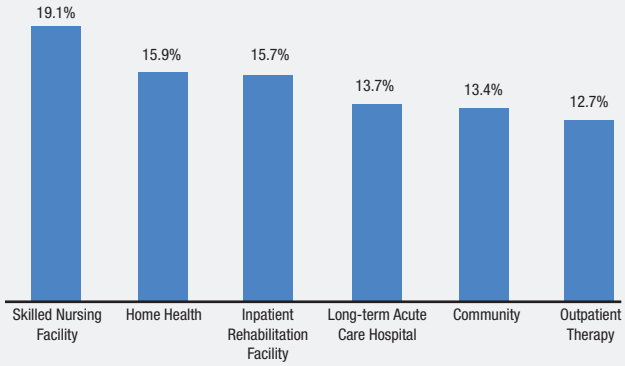
Source: Dobson | DaVanzo (2012) . Medicare Payment Bundling: Insights from Claims Data and Policy Implications.

Patients discharged to SNFs have the highest readmission rates when looking across all conditions...

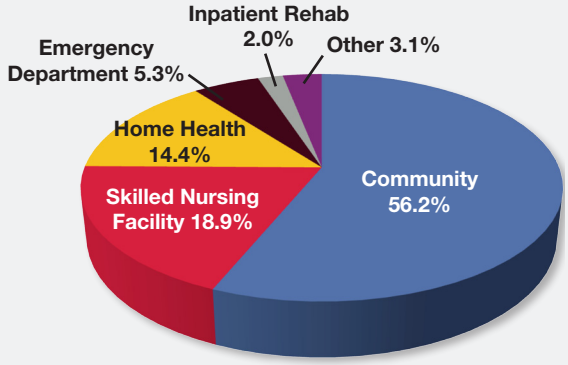
Chart 7: Percent of 30-day Fixed-length Episodes with Readmissions by First Setting of Post-discharge Care



Source: Dobson | DaVanzo Analysis of 5% Sample of Medicare Claims Data (2007-2009). Additional details on study methodology can be found in Dobson | DaVanzo (2012). Medicare Payment Bundling: Insights from Claims Data and Policy Implications.

...but the highest percentage of readmissions come from patients who did not receive post-acute care.

Chart 8: Percent of Readmissions by Source, 30-day Fixed-length Episodes, 2007-2009



Source: Dobson | DaVanzo Analysis of 5% Sample of Medicare Claims Data (2007-2009). Additional details on study methodology can be found in Dobson | DaVanzo (2012). Medicare Payment Bundling: Insights from Claims Data and Policy Implications.

Examine physician practice patterns

Examining physician practice patterns will allow you to identify areas of potential opportunity to better manage care both within and outside the hospital setting. This will involve looking at information beyond what is available in the claims data. For example, whether or not a diabetic patient arrived at the hospital with his blood glucose level under control can influence the length of stay and cost of the episode. Differences in performance across physicians may indicate a need to implement standard care practices for pre-hospital care. Looking for variation in how different physicians care for similar patients can indicate opportunities to better standardize care and potentially reduce complications, improve quality and lower costs. Areas to examine include use of supplies, drugs and devices, use of intensive care, length of stay, discharge destination, follow-up care, readmissions and complications rates.

Assess level and types of risk

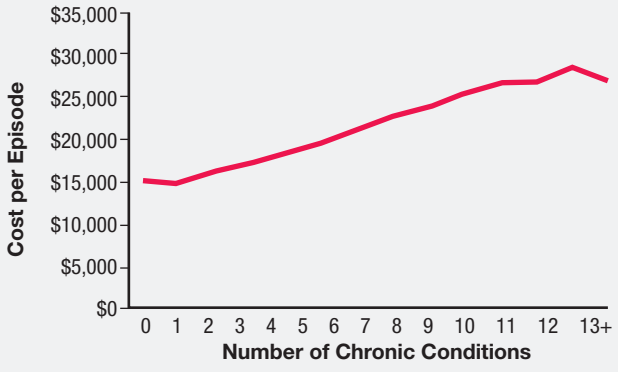
Each organization will need to determine the level and type of risk it is willing to take on. It will be important to take steps to mitigate risk. The range in episode costs is both an indicator of opportunity for cost savings and a signal of potential risk. As noted earlier (Chart 2), variation can be greater in one service than another. It can be riskier for a hospital to choose a particular service for bundling when more of the costs and variation in costs are associated with non-hospital services or readmissions, depending on your assessment of your ability to manage post-discharge care.

Outliers are another factor to consider. How much does the presence or absence of very high-cost cases affect the average cost of the bundle? While CMS instructs organizations to include outliers in the cost of their bundles, organizations will likely want to consider the protection afforded by a reinsurance policy or, for private sector initiatives, suggest an outlier policy.

While organizations participating in bundled payment initiatives will want to take on performance risk, they also will want to protect themselves from insurance risk by ensuring payment rates are risk-adjusted. Under the BPCI, organizations will set their own price, which will be dependent on their historical mix of patients. This provides some level of risk adjustment to the extent the types of patients the organization serves remain relatively constant. However, episode costs do increase with the number of chronic conditions (Chart 9), and cost factors like the propensity to be readmitted vary with demographic characteristics (Chart 10). Risk adjustment beyond that afforded by MS-DRG severity level is advisable.

Costs increase with the number of chronic conditions, making risk adjustment critical.

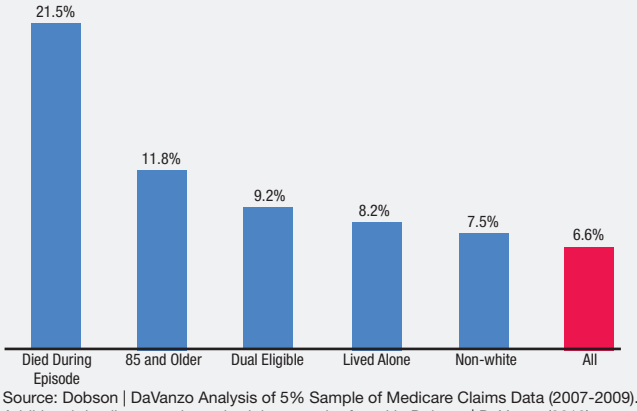
Chart 9: Average 30-day Fixed-length Episode Cost by Number of Chronic Conditions, Major Joint Procedure (MS-DRG 470)



Source: Dobson | DaVanzo (2012) . Medicare Payment Bundling: Insights from Claims Data and Policy Implications.

Patient characteristics influence readmission rates in turn affecting cost.

Chart 10: Percent of 30-day Fixed-length Episodes with Readmissions by Patient Characteristics, Major Joint Procedure (MS-DRG 470)



Source: Dobson | DaVanzo Analysis of 5% Sample of Medicare Claims Data (2007-2009). Additional details on study methodology can be found in Dobson | DaVanzo (2012). Medicare Payment Bundling: Insights from Claims Data and Policy Implications.

Develop a price for the bundle

An organization's bid price for a bundle will be based on historical patterns of cost across the continuum for the conditions selected, an assessment of how much it can lower that cost, and an evaluation of where it sits relative to competitors. The organization will need to negotiate a factor by which to trend the target forward to future years – probably something less than historical growth rates – and also will want to build in certain adjustments to mitigate various forms of risk.

One way to evaluate how much an organization can hope to reduce costs is to sort costs into those that are related to the routine care that every patient with a particular condition receives, additional costs associated with individual patient needs (e.g., comorbidities), costs of complications, and then costs of unrelated services such as when a patient is admitted for a CHF episode, but then comes back for a hip replacement within the 30-day episode window. Routine costs represent a base level that the hospital can expect to spend on every patient. Within this category, one area of opportunity is to ensure that the services each patient receives are in the least expensive setting appropriate for his or her condition (e.g., substituting home care for a facility-based, post-acute care setting when possible). Costs that are associated with individual patient characteristics should be built into the risk adjustment model, while costs associated with complications represent another opportunity for cost savings and are an indicator of the potential discount rate your organization can afford to provide. Unrelated costs should be excluded from the bundle, so pulling together a clinical team to look at each condition to develop a consensus on what those might be is another process step.

Organizations also should tap a clinical team to assess possible changes in clinical practice that can affect future performance relative to a target price that has been set on relatively old data and trended forward. The BCPI is using 2009 claims data to set prices for 2013 and beyond. If a new technology or drug has been developed since that time that has increased costs or changed the mix of patients, efforts should be made to account for this in the target price. An organization may elect to avoid conditions where rapid advances are being made to avoid taking on risk for future changes in clinical practice.

Payment policies change over time and can have an impact on your ability to come in below the target price. For example, hospitals can see large fluctuations in their wage indices from year to year. A policy may be implemented or discontinued that can impact costs. For example, under the ACA, Congress implemented the frontier hospital adjustment, which assigned a wage index value of one in states with a very low population density. This greatly increased payment for certain facilities and will lead to an increase in payments relative to the target price even if service utilization remains the same. CMS has included adjustments for indirect medical education and disproportionate share hospital payments in the BPCI but not any adjustments for the wage index and other potential policy changes.

Some Questions to Ask

When considering engaging with a payer in a bundled payment program, ask yourself these additional questions:

- ✔ Do you have enough volume to make the investment worthwhile, yet not experience undue risk?
- ✔ Do you have the data necessary to evaluate current practice patterns to identify possible areas of improvement?
- ✔ Do you have an effective process in place with solid clinical leadership to quickly and successfully implement changes in care processes?
- ✔ Have you already identified what those changes need to be?
- ✔ Do you have the right partnerships in place with other providers to manage transitions and effectively coordinate care?

Conclusion

The opportunity to look at data across the continuum of care is new for the vast majority of health care organizations. Even integrated care delivery systems experience an unknown level of patients seeking care elsewhere where data are not currently accessible. The availability of these data will do much to advance understanding of care delivered across the continuum. Even those hospitals that choose not to pursue bundling have much to learn from assessing the types of data that CMS has provided to applicants to the BPCI. These data have utility for a range of care coordination initiatives beyond bundled payment, including medical homes, readmission reduction programs and accountable care organizations as well as understanding performance under the Medicare spending per beneficiary measure in the value-based purchasing system.

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