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Issue Brief: Medicare Payment Bundling

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This issue brief is a summary of a comprehensive report on Medicare Payment Bundling. A copy of the full report can be downloaded at the following locations:

www.aha.org/bundlingreport
www.aamc.org/bundling

Purpose and Study Objectives

There has been a growing interest over the past several years in the concept of payment bundling, whereby services for physicians, hospitals, post-acute care providers, and others would be “bundled” together into a single payment covering an episode of care over a specified period of time. In order to implement a bundled payment system in the Medicare program, a series of operational issues needs to be considered by policymakers and providers regarding how the episode of care would be defined, how the bundled payment would be priced, and how care that is delivered under the bundled payment would be managed.

The American Hospital Association (AHA) and the AAMC (Association of American Medical Colleges) commissioned Dobson DaVanzo & Associates, LLC (Dobson | DaVanzo) to conduct a series of quantitative analyses of different episode-based payment bundles. The purpose of this issue brief is to highlight considerations for policymakers and providers based on descriptive statistics and multivariate regression analyses, supplemented with findings from the literature and select interviews.

Background on Payment Bundling

Under Section 3023 of the Affordable Care Act, Medicare payment bundles are to be implemented in a national pilot beginning in January 2013. Although the Centers for Medicare & Medicaid Services (CMS) delayed the implementation of this pilot, the Center for Medicare and Medicaid Innovation began a parallel initiative. This effort began in August 2011 and is known as the Bundled Payments for Care Improvement (BPCI) initiative. Provider behavior is influenced by three incentives and three risks.

Providers are incentivized to:

- 1) Improve necessary and evidence-based processes of care and use lower-cost care when appropriate
- 2) Better manage care transitions and reduce the utilization of providers outside the affiliated network
- 3) Reduce internal hospital costs and post-hospital costs to share savings with providers through gainsharing

Risks faced by entities accepting bundled payments include:

- 1) The size of the discount that CMS might require of providers
- 2) Liability for all services provided across the continuum including those rendered by providers outside the affiliated network
- 3) Patient severity, which may not be captured by payment risk adjustment

Methods in Brief

Dobson | DaVanzo created episodes of care using beneficiary-level Medicare claims files for a five percent sample of beneficiaries over three years linked across time and care settings. These episodes are modeled after payment bundling concepts contained in the Affordable Care Act. We analyzed the effects of bundled payments on different categories of hospitals and specific patient populations with descriptive statistics and multivariate regression models. We supplemented our quantitative analyses with a review of recent literature on bundled payments and interviews with prospective BPCI applicants.

Defining the Bundle

In determining how to define the bundle, there are several issues to consider including the clinical conditions that are most appropriate for bundled payments, the length of the episode, the types of services that could be included in the bundled payment, and the types of patients that should be excluded.

Characteristics of Clinical Conditions

We identified four characteristics to assess whether a clinical condition is well-suited to payment bundling:

- 1) Adequate prevalence, with sufficient sample size to predict costs and show the effect of clinical interventions
- 2) Significant costs to the Medicare program, either on a per-episode basis, or due to high-case volume
- 3) Appropriate amount of variation in Medicare payments to achieve efficiency gains, but not so much that the risk of multiple outlier cases outweighs the reward
- 4) Presence of clear, evidence-based clinical care guidelines

For example, Medicare Severity Diagnosis-Related Groups (MS-DRGs) 469 and 470 (major joint replacement), and MS-DRGs 291-293 (heart failure) meet three of the four criteria above.

Episode Length

There are several factors that should be considered in determining the length of the episode: the nature of the index hospitalization that initiates the episode (surgical or medical), the amount of variation in Medicare episode payment as episode length increases, the relative proportion of episode payments represented by the index hospitalization, and the ability of providers to control downstream post-acute care costs.

Inclusion of Services and Provider Types

Whether or not a service or type of provider is included in the bundle depends on whether the service or type of provider is clinically appropriate within the episode, and whether inclusion of the service or provider results in an acceptable degree of variation in Medicare payments (or financial risk to providers). Exclusions should be considered carefully, as the exclusion of more services increases the incentive for providers to shift services, costs, and responsibility for the patient outside of the bundle.

Exclusion of or Adjustment for Patients

There are several types of patients that merit exclusion or explicit risk adjustment such as beneficiaries enrolled in the Medicare Advantage (MA) program, patients with end-stage renal disease (ESRD), patients that are dually-eligible for both Medicare and Medicaid, patients with cancer, acute-care hospital transfer patients, and patients that die during the episode.

Pricing the Bundle

Our descriptive statistics identify numerous beneficiary and provider characteristics that drive Medicare episode payment and should be considered for risk adjustment:

- MS-DRG
- Beneficiary demographic characteristics such as age and sex, and clinical characteristics such as chronic conditions, functional status, and number of comorbid conditions
- Hospital characteristics such as the percent of Indirect Medical Education (IME), and Disproportionate Share Hospital (DSH) payments received
- Number of physicians in the episode and the first post-acute care setting following hospital discharge

To determine the relative impact of each of these factors on Medicare episode payment, we developed a series of exploratory multivariate regression models to predict Medicare episode payments.

Risk Adjustment and Outliers

Our regression payment models offer an analytic framework under which to consider developing a bundled payment system for episodes of care. This approach could be used to reduce financial risk to providers by risk-adjusting payments based on patient case-mix, facility characteristics, and other factors.

We found that controlling for MS-DRGs, beneficiary demographic and clinical characteristics, and facility characteristics, we are able to predict the average Medicare episode payment with relative consistency. Across differing groups of MS-DRGs, between two-thirds and three-quarters of the variation in bundled payments can be explained—and therefore adjusted—using the variables in our models. The outlier model we developed improves payment accuracy and redistributes payments to “high-cost” episodes.

As these regression models are based on Medicare payments rather than provider costs, findings should be considered exploratory and interpreted with some caution. Nevertheless our findings have major policy implications. As the variables included in our regression models explain the vast majority of variation in episode payment, these characteristics should be considered for risk adjustment under any national payment bundling program. The development of a national payment system for bundling should proceed with caution, making use of risk adjustment and outlier policies in order to mitigate patient and provider risk.

Managing the Bundle

Beyond considerations for risk adjustment under a bundled payment system, there are several important episode aspects that need to be managed by providers in order to reduce costs within the bundle.

Patient Pathways

Analyses of patient pathways—the sequence of care settings through which a beneficiary transitions during an episode of care—offer opportunities for care redesign. Given the discontinuity of cost and utilization data across settings, the relationship of care services across time and setting has not been well understood. Variation in the number of “stops” and Medicare episode payments increases with episode length, suggesting that interventions impacting patient pathways present a greater opportunity for care redesign in longer episodes. The ability of providers to manage patient pathways, in terms of common patterns of utilization, cost variation, and outcome quality will be a necessity under bundled payment.

Readmissions

The presence of a readmission within an episode more than doubles the average Medicare episode payment; the rate of readmissions varies across MS-DRGs, with medical conditions considerably more affected by readmissions than surgical conditions. In order to effectively manage costs during the episode, providers under a bundled payment will need to reduce readmissions and target interventions differentially across patients and types of providers.

First Post-Acute Care Setting

In addition to readmissions, the first post-acute care setting after discharge has a large effect on Medicare episode payments. Medicare episode payments by first-setting are the most variable aspect of payment within the episode: average Medicare episode payments to the first-setting can represent more than one-half of the total average Medicare episode payment. Providers will need to manage costs within the bundle by discharging patients to the lowest-cost, clinically appropriate setting after the hospitalization, and efficiently using downstream post-acute care. Our findings did not compare differences in quality or patient outcomes across post-acute care settings, and do not suggest current levels of service use are inappropriate.

Distribution of Costs Across Service Types

In 30-day fixed-length episodes, nearly one-third (32.6 percent) of the average Medicare episode payment was for post-acute care in MS-DRG 470 episodes (major joint replacement), in comparison to 17.2 percent of the average Medicare episode payment for post-acute care for MS-DRG 291 (heart failure). Understanding how costs are distributed within the episode for different services will help providers improve patient care management.

Capabilities Required by Organizations Managing The Bundle

Organizations will need to have a variety of operational capabilities in order to effectively manage costs and other challenges that will arise under payment bundling. Capabilities include a designated single responsible entity, risk management, clinical and administrative processes, a strong provider network, and data analytic capabilities.

Other Program Design Issues for Policymakers

In addition to the issues explored through the data analyses discussed above, the design and implementation of a national payment bundling program raises a number of other issues for policymakers:

- How to protect against stinting (under-provision of care), adverse selection, and over-utilization through policies such as risk adjustment, payment outliers, quality monitoring, and/or gainsharing
- Whether to set a minimum volume threshold
- How to measure quality at the episode level
- How to address regional variation in practice patterns
- Whether to grant waivers to current Medicare fee-for-service eligibility and other requirements in post-acute care
- What evaluation criteria should be met before implementing a national payment bundling program

Limitations and Considerations for Future Research

Medicare prospective payment systems are intended to base payments on the relative case-mix adjusted cost to providers of delivering services rather than the revenues that were used in our models. For a complete understanding of how to implement a national bundled payment system, a payment system simulation based on the costs to providers of Medicare episodes may be needed.

Conclusion

In order to promote Medicare payment bundling as a more comprehensive population-based model, policymakers will need to design a complete framework that carefully considers the ways to define and price the bundles, with adequate safeguards to protect the quality of patient care and the financial stability of providers. Providers, in turn, will need to understand how to manage episode costs under a new payment system that has markedly different incentives from fee-for-service, and holds them accountable for the costs and quality of services delivered by other providers (factors often outside of their immediate control).

In order to design and implement a pilot initiative on payment bundling, or expand a pilot initiative into a national payment bundling program, the CMS, and other policymakers and providers will need to address the issues summarized below.

Defining the Bundle

- Conditions well-suited to payment bundling should be prevalent and/or expensive to the Medicare program, have limited variation in episode payments, and have evidence-based clinical guidelines.
- Episode length should be considered based on the nature of the clinical condition, the balance between risk to providers, and opportunity for clinical interventions and/or efficiency gains.
- Providers, services, and patients should be evaluated for inclusion in an episode-based payment system based on clinical criteria, and their likely impact on variation in episode payments.

Pricing the Bundle

- Payment bundles should be risk-adjusted for factors that cause substantial variation in episode payments, such as beneficiary demographic and clinical characteristics, and facility characteristics.
- Episode payments will require an outlier policy to protect patient quality of care and mitigate financial risk, and may also require risk corridors, stop-loss provisions, and other protections in order to succeed.
- The inclusion or exclusion of IME, DSH, and other add-on payments in the price of the bundle should be carefully considered, as these payments have major implications for the financial sustainability of teaching hospitals and safety-net providers.

Managing the Bundle

- Providers should examine patient pathways to understand care across the continuum to better target clinical interventions.
- Hospital readmissions double the average Medicare episode payment across MS-DRGs; providers will need to target readmission reduction efforts under payment bundling, as the risk of readmission differs across beneficiary demographic and clinical characteristics, as well as condition.
- As the first post-acute care setting to which a beneficiary is discharged from the hospital has a major impact on Medicare episode payment, hospitals will need to carefully consider patient placement in discharge planning efforts.
- To better focus care management efforts, providers will need to understand the distribution of Medicare episode payments across settings.
- Providers need to consider issues such as designation of a single entity to accept the payment bundle, risk management, clinical and administrative processes, network formation, and data capabilities in preparing for payment bundling.

Other Program Design Issues

- While the use of provider-specific historical benchmarks as the basis for payment (such as under the BPCI initiative) takes financial risk into account, a national program based on a single, national payment rate will need to incorporate more generally applicable risk-adjustment methodologies.
- Any national program should be designed to protect beneficiaries against stinting through payment mechanisms such as risk adjustment, outlier payments and/or gainsharing, as well as episode-specific quality and outcome measures, and patient assessment tools.
- The importance of episode volume should be considered, as many providers do not have the volume of services needed to manage the risk of bundled payments.
- In order to better coordinate patient care, providers will likely require waivers to current Medicare requirements that impede their ability to manage care across settings.