

CHAPTER

3

**Approaches to bundling
payment for post-acute care**

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Chapter summary

Under traditional fee-for-service (FFS) Medicare, the program pays widely varying rates for the care beneficiaries can receive following a hospital stay at one of four post-acute care (PAC) settings (skilled nursing facilities, home health care, inpatient rehabilitation hospitals, and long-term care hospitals). Nationwide, use rates for PAC services also vary widely for reasons not explained by differences in beneficiaries' health status, indicating that, in aggregate, fewer services could be furnished to Medicare beneficiaries without necessarily compromising patient outcomes. In recent years, the Commission has been concerned about Medicare spending and quality-of-care issues associated with hospital readmissions and hospital discharges to PAC providers. Bundled payments have the potential to improve care coordination and quality of services, rationalize service use, and lower potentially avoidable readmissions. In 2008, the Commission recommended that the Congress require the Secretary to create a pilot program to test the feasibility of bundled payment around a Medicare hospitalization for selected conditions. The Congress enacted this requirement in 2010, and in 2011 CMS launched a Bundled Payments for Care Improvement Initiative to test different bundle designs.

Under a bundled approach, one payment (or a benchmark price across multiple providers) would cover all services furnished across all settings and providers during a defined period of time such as 30 days or 90 days after a

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- Implications of bundled payments for beneficiaries
- Conclusion

triggering event. By tying a provider's payment to services furnished beyond "its four walls," bundled payments encourage accountability for cost and quality across a spectrum of care. In contrast to FFS, a provider has an incentive and the flexibility to coordinate care and provide only clinically necessary services. In principle, providers would not have an incentive to furnish more services to generate revenue; instead, they would deliver a mix of services that enable them to improve the quality of their care while keeping Medicare spending low. The scope and duration of the bundle and the incentives tied to payment would shape the financial pressures providers experience to change their current practice patterns.

This chapter discusses design aspects of a bundled payment and the advantages and disadvantages of possible approaches. Each decision involves trade-offs between increasing the opportunities for care coordination and requiring providers to accept financial and clinical risk for care beyond what they furnish themselves. To illustrate the trade-offs inherent in these design decisions, we selected a design consistent with the Commissioners' support for more- rather than less-inclusive bundles and one that does not require providers to have an infrastructure to make and receive payments for other providers. The illustrative bundle begins with an initial hospital stay; spans 90 days after discharge; and includes any potentially avoidable readmissions, PAC, and physician services furnished during the hospital stay and during any institutional PAC care (skilled nursing facilities, inpatient rehabilitation facilities, and long-term care hospitals). In this illustration, CMS would continue to pay providers FFS (perhaps minus a withheld amount) and retrospectively compare actual average spending for a condition with a benchmark spending amount. If the providers' "collective" average spending for the bundle is kept below the benchmark, CMS would return the withheld amount to the participating providers or share with them the "savings" realized between the benchmark amount and actual spending. Conversely, providers would be at some risk for spending above the benchmark. We use this illustration to begin a conversation about how best to proceed with this potential payment reform, acknowledging that many other designs are possible, with different strengths and weaknesses.

Regarding the scope of the services to be covered by a bundled payment, we note that having more services in the bundle offers more opportunities to coordinate care across settings compared with bundles that include fewer services but add more financial risk for providers. Because not all beneficiaries use PAC, even among conditions with relatively high PAC use, bundles could encourage providers to carefully consider whether beneficiaries would benefit from PAC. In this illustration, the spending benchmark includes episodes without PAC, thereby giving providers strong incentives to withhold PAC services entirely. Furthermore, the

wide variation in sites used and the payments associated with each underscores the potential savings opportunity of selecting PAC settings that match beneficiary care needs. Tying some portion of bundled payments to quality standards (through a withheld amount or a shared-risk approach) will be critical to ensuring that providers furnish the PAC required to meet beneficiaries' care needs.

Long bundles have the advantage of covering more services and increasing the amount of care for which providers are accountable and the incentive to coordinate it, but they put providers at more risk compared with short bundles. On the other hand, long bundles are also more likely to include care at the end of the bundle period that is unrelated to the initial hospitalization. However, spending and financial risk do not increase proportionally to the time frame spanned by the bundle. For example, a bundle that is triple the length of another bundle does not triple the spending it includes.

Bundle designs differ in the variation in spending across episodes and how much of the variation can be predicted. In general, broader bundles (longer and encompassing more services) encourage more care coordination but explain less of the variation in spending across episodes compared with more narrowly defined bundles (shorter and including fewer services). That said, we found that 90-day bundles that included the hospital stay, potentially avoidable readmissions, PAC care, and physician services furnished during the hospital and institutional PAC stays accounted for as much variation in resource use or spending as payment systems Medicare currently uses to pay hospitals and Medicare Advantage plans.

To pay providers, Medicare could pay one entity an all-inclusive payment to cover all services rendered during the bundle. This approach would place one entity in charge of the beneficiary's care and require the entity to make payments to other providers. Alternatively, Medicare could continue to pay individual providers under FFS. Because one entity would not receive the payment and be responsible for apportioning it to other providers, this approach sidesteps the many thorny issues associated with making a single payment that could undermine implementation. However, continuing to pay all providers separately could dampen the incentive for individual providers to change their patterns of care.

To encourage providers to keep their spending low, CMS could compare average spending for the bundles with a benchmark (set in advance for each condition and risk adjusted). Providers would collectively be at risk for spending above the benchmark and would benefit from keeping average spending below it. One approach would be to retain a small share of the FFS payment made to each provider and return the withheld amounts if providers keep their total average

episode spending below the benchmark. The program would keep the withheld amounts if average spending is above it. Alternatively, the difference between average spending and the benchmark could be shared with providers (or the losses split with providers). With larger risks and rewards at stake, a shared-risk approach—rather than withheld amounts—would create stronger incentives for providers to change behavior but could raise program payments for low-spending providers.

Medicare could consider specific design elements to counter the incentive to underfurnish care. For example, continuing to pay providers on an FFS basis would help ensure that providers continue to furnish services to meet beneficiaries' care needs. Placing providers collectively at risk for readmissions would encourage all providers to deliver the care needed to avoid these costly events. Comparing average spending (over many cases) with the benchmark would mean providers could furnish costly care when needed for individual cases and still keep average spending below the benchmark. Finally, Medicare could tie the return of the withheld payments of shared savings to providers' performance on certain quality metrics. Medicare will need to monitor the rates of hospital admissions for conditions covered under bundled payments. If they increase, CMS could consider an admission policy to penalize hospitals with unusually high rates of potentially avoidable admissions for those conditions covered by bundled payments.

Setting the spending benchmark will require a judgment about where in the current cost or spending distribution to set the level. Current FFS spending is not a good benchmark given the current incentives in FFS to furnish services of marginal value. Benchmarks could reflect lower PAC and readmission spending (both of which exhibit high variation) or spending in areas with relatively low resource use. The benchmarks will determine the changes required of providers to reduce their average spending, while the design of the withheld amounts or shared risk will shape providers' incentives for doing so.

For beneficiaries, payment bundles should result in fewer potentially avoidable hospital readmissions and improved transitions between settings. While preserving beneficiaries' freedom of choice of providers, providers could be allowed to encourage beneficiaries to use recommended providers and settings—for example by offering services beneficiaries may not currently receive, such as transitional care. In the future, the program may elect to reinforce beneficiary decisions about where they seek care by raising the minimum conditions of participation to exclude the poorest quality providers or by charging higher beneficiary cost-sharing amounts when a beneficiary chooses not to use recommended PAC settings or providers.

Bundled payments are one way to begin changing the delivery system away from the fragmented care that results from FFS and toward shared provider accountability that encourages care coordination and cost control during an episode of care.

Bundled payments would give providers, especially those not ready or unable to participate in broader payment reforms (such as accountable care organizations), a way to gain experience in coordinating care that extends beyond their narrow purview and across a spectrum of providers and settings. In this way, bundling could help facilitate continued progress toward larger delivery system reforms. The specific design of bundles will shape the risk for providers and the opportunities for care coordination and better care for beneficiaries. Over the next year, the Commission plans to continue its conversation about how best to proceed with this payment reform. ■

Introduction

Beneficiaries enrolled in Medicare fee-for-service (FFS) who require posthospital care face a fragmented delivery system that does not facilitate smooth transitions between providers or encourage the appropriate use of services. FFS does not provide incentives for coordinated care, even though poorly executed transitions can put beneficiaries at risk for readmissions, which may represent poor-quality care and are costly to the program.

Under FFS, providers are not accountable for the total cost of services across an episode of care. Individual providers are not required or given an incentive to consider costs across other providers and settings in rendering care to beneficiaries. Indeed, furnishing more physician visits or using an additional post-acute care (PAC) setting generates more Medicare payments. Furthermore, under Medicare's separate payment systems, PAC providers—skilled nursing facilities (SNFs), home health agencies (HHAs), inpatient rehabilitation facilities (IRFs), and long-term care hospitals (LTCHs)—may be paid very different rates to treat beneficiaries with similar medical conditions and health status. Medicare's conditions of participation and coverage rules do not clearly delineate the types of patients who are appropriate for some PAC settings. PAC use also varies because some areas of the country do not have any IRFs or LTCHs so beneficiaries living in these areas may receive this care in SNFs or remain in an acute care hospital. The lack of placement guidelines, the availability of PAC providers across markets, and multiple payment systems result in a wide variation in the use and cost of posthospitalization care for beneficiaries in FFS Medicare.

At the same time, Medicare's prospective payment systems create incentives for providers to shift care to other settings. Hospitals and PAC providers may discharge patients to other PAC settings or home, and PAC providers may rehospitalize patients rather than treat them in the PAC setting to lower their own costs. According to our analysis of 2006 Medicare data, 17 percent of beneficiaries who were discharged to one PAC setting subsequently used a second PAC service, but we do not know if this practice reflects a more appropriate placement for the patient or, in the case of episode-based or discharge-based payments, if it is a way for a provider to lower its own costs.

In its June 2008 report, the Commission recommended that the Congress require the Secretary to create a voluntary pilot program to test the feasibility of bundled payments for services around a hospitalization for select

conditions (Medicare Payment Advisory Commission 2008). Under a bundled payment, a provider or set of providers are at risk for the care furnished across multiple settings over some period of time after a triggering event such as an inpatient stay. The recommendation reflected the Commission's concern that FFS payment fails to encourage providers to cooperate with one another to improve coordination of care and appropriately control the volume and cost of services delivered across an episode of care. The Patient Protection and Affordable Care Act of 2010 included a provision that directed the Secretary to test the bundling concept. In August 2011, CMS announced an initiative to test a variety of bundle designs (see text box, pp. 66–67).

Since its initial work on bundling, the Commission has observed that the distortions created by FFS payment systems underscore the urgency to reform this method of paying providers. The Commission has focused its bundling work on PAC because the variation in program spending per beneficiary exceeds the variation in any other provider sector, suggesting opportunities for program savings if practice pattern variations are narrowed (Medicare Payment Advisory Commission 2011). Per person per month use of PAC services differed more than twofold between low-use and high-use geographic areas (10th and 90th percentiles). In contrast, inpatient hospital and ambulatory service per capita spending varied only 20 percent. An Institute of Medicine study found that variation in per capita spending on PAC explained 40 percent of the variation in total Medicare per capita spending and that utilization varied most significantly for HHA and SNF services (Institute of Medicine 2013). Potentially avoidable readmissions to hospitals are another opportunity for better care coordination and lower program spending. Risk-adjusted rates of readmission in 2010 varied 50 percent between hospitals in the lowest decile and in the highest decile (see Chapter 4).

Bundling could achieve several goals. First, care would be less fragmented because all providers involved in delivering care to a beneficiary would be accountable for all care furnished during an episode. As a result, care coordination and quality of care could improve. Providers would have an incentive to furnish the right mix of services to achieve good outcomes. Although these care coordination services might raise providers' costs, these costs could be offset by savings associated with averted readmissions or less costly PAC. Second, bundling could give providers experience managing care across a continuum that is likely to be required in broader payment

CMS's Bundled Payments for Care Improvement Initiative

In 2011, CMS launched an initiative for contracting entities (providers or conveners of participating providers) to develop and test four models of bundled payments (Centers for Medicare & Medicaid Services 2011). Model 2 and Model 3 include post-acute care (PAC). Model 2 bundles payment for all the services delivered during an inpatient stay, PAC, and readmissions. This model differs from the Acute Care Episode (ACE) Demonstration, a prior Medicare demonstration, because it includes postdischarge services and related readmissions; the ACE demonstration bundled only hospital and physician services. Model 3 bundles begin at initiation of PAC services within 30 days after an inpatient hospitalization and include PAC, clinically related postdischarge services, and readmissions (Table 3-1).¹ An entity could submit applications for one or more models and, for Model 2 and Model 3, propose the clinical conditions it would test.

Under these bundled payment arrangements, the contracting entity and its providers will be paid fee-for-service (FFS) for all services rendered. A target price will be established for each condition based on the entity's historic spending minus an agreed-upon discount. CMS will conduct periodic retrospective reconciliations to compare actual FFS payments with the target price. If, during the period, aggregate FFS payments are higher than the agreed-upon target amount, the entity must repay Medicare. If payments are less, the entity is paid the difference (which may then be shared among participating providers). CMS will also monitor aggregate Medicare Part A and Part B FFS spending for the 30 days after the bundle period; if spending is higher than historic spending plus a risk threshold, the entity owes CMS the difference. This feature is intended to prevent providers from delaying service provision until after the bundle period as a way to avoid the bundle's spending limits.

In 2012, the applicants for this initiative proposed conditions to bundle, the duration of the bundle (30 days, 60 days, or 90 days postdischarge for Model 2 and post-initiation of PAC for Model 3), a risk-adjustment method, quality measures, the network of participating providers and a method to share savings

with them, and any desired waivers from current Medicare policy (such as the three-day hospital stay requirement for Medicare coverage of skilled nursing facility care). Technical panels reviewed all applications. Based on the wide range of conditions proposed by applicants, in November 2012 CMS announced a preliminary list of 48 clinical conditions (which include a collection of Medicare severity–diagnosis related groups (MS–DRGs)) it would consider for the initiative. All the clinical conditions include the full family of MS–DRGs (with and without complications), thus preventing an entity from opting to test only lower severity patients within a condition.

In January 2013, 69 contracting entities (involving 357 providers) were approved (for Model 2 and Model 3) to move to the next, no-risk phase of the initiative (Center for Medicare and Medicaid Innovation 2013, Centers for Medicare & Medicaid Services 2013a, Centers for Medicare & Medicaid Services 2013b).² During this phase, entities share ideas about care pathways and quality measures and provide feedback to participating providers. CMS is holding several webinars to share information about program policies and requirements as they are decided and for entities to share strategies with each other about how to meet the target prices. For example, CMS is expected to identify data requirements and design several payment-related policies that may affect an entity's decision to proceed to the initiative's financial risk phase. Either party may decide not to enter into a project, depending on the final details of a contract between CMS and the entity and review by CMS's program integrity unit. CMS anticipates moving to the risk phase of the initiative in October 2013.

CMS is using the no-risk phase to delineate approved approaches to many complex features of the bundling initiatives. CMS outlined some restrictions on gainsharing in its request for proposals, such as basing payments not on the volume or value of referrals but on savings. CMS will review each applicant's approach to gainsharing. It is also establishing a set of quality measures and the required patient assessment tools entities must use, but it will not tie payments to meeting certain minimum quality metrics. Participants will be

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CMS's Bundled Payments for Care Improvement Initiative (cont.)

**TABLE
3-1**

Comparison of CMS's Bundled Payment for Care Improvement Initiative models that include post-acute care

Feature	Episode covered by Model 2 bundle: Inpatient stay + PAC + readmissions	Episode covered by Model 3 bundle: Post-acute care + readmissions
Services included	Furnished during the bundle period: <ul style="list-style-type: none"> • Inpatient stay • Physician services • Post-acute care • Related readmissions • Other Part B services 	Furnished during the bundle period: <ul style="list-style-type: none"> • Post-acute care • Physician services • Related readmissions • Other Part B services
Case types	Entity selects any of the 48 clinical conditions that make up a collection of MS-DRGs	Entity selects any of the 48 clinical conditions that make up a collection of MS-DRGs
Episode initiation	Hospital stay	Use of SNF, IRF, LTCH, or HHA services after hospital discharge
Payment	Entity is paid fee-for-service fees with a retrospective comparison of payments to target prices, which incorporate an agreed-upon discount. If payments are less than the target, Medicare pays the difference to the contracting entity. If payments are greater than the target, the entity repays Medicare the difference.	Entity is paid fee-for-service fees with a retrospective comparison of payments to target prices, which incorporate an agreed-upon discount. If payments are less than the target, Medicare pays the difference to the contracting entity. If payments are greater than the target, the entity repays Medicare the difference.
Postepisode reconciliation <i>(30 days after end of episode)</i>	If total Medicare Part A and Part B payments following the episode period exceed some threshold, the entity repays Medicare for the excess.	If total Medicare Part A and Part B payments following the episode period exceed some threshold, the entity repays Medicare for the excess.
Expected minimum discounts to Medicare	3% for 30- and 60-day episodes; 2% for 90-day episodes	3%
Quality measures	Entity proposes measures but CMS decides on a standardized set. No pay-for-performance component.	Entity proposes measures but CMS decides on a standardized set. No pay-for-performance component.

Note: PAC (post-acute care), MS-DRG (Medicare severity–diagnosis related group), SNF (skilled nursing facility), IRF (inpatient rehabilitation facility), LTCH (long-term care hospital), HHA (home health agency).

Source: Center for Medicare and Medicaid Innovation. 2011. Bundled payments for care improvement initiative: Request for application. Available at <http://innovation.cms.gov/initiatives/bundled-payments/bpci-archive.html>.

subject to all rules associated with FFS, though CMS is considering entities' requests to obtain waivers from certain program requirements. CMS is reviewing

each entity's method for notifying beneficiaries of its participation in the initiative and ensuring that beneficiaries have a choice of providers. ■

reforms. Last, bundling would encourage providers to make clinically appropriate decisions about which patients are referred to PAC, which PAC setting is used, and the most efficient mix of services beneficiaries receive. At the same time, depending on the policy design, bundled payments could create incentives for undesirable provider

behavior, such as the underprovision of care (to lower the spending for a bundle) or the provision of unnecessary initial hospitalizations (to generate new bundles). Bundling could also require considerable infrastructure to implement. Design features could dampen these disadvantages, as discussed throughout this chapter.

The Commission notes that bundled payments are not the only method to align provider incentives and increase accountability for beneficiary care. Another promising avenue is the accountable care organization (ACO), in which a set of physicians (and possibly other providers) are responsible for annual Medicare spending and quality of care for a defined patient population. However, many providers are not ready to participate in ACOs and manage all services furnished by all providers to a panel of beneficiaries over a year. For these providers, bundled payments offer an alternative to ACOs that would instill some accountability for the care spanning multiple providers over a period of time and allow them to gain the experience needed to take on the risks associated with broader payment reforms. The Commission considers the approaches complementary. Both require providers to consider the care furnished within and extending beyond their “four walls.” Bundled payments also require implementation of a common patient assessment tool across settings (or adding common elements to existing tools), including assessments at a patient’s discharge from the hospital. A tool such as the Continuity Assessment Record and Evaluation could facilitate more accurate risk-adjusted payments and fair comparisons between beneficiaries treated in different settings but would not, by itself, result in more appropriate use of PAC settings.

Illustration of how services could be bundled

The Commission has discussed various design aspects to bundle services that include PAC—the services in the bundle, the duration of the bundle, how entities would be paid, and the incentives required to encourage more efficient provision of care. Each decision involves trade-offs between increasing the opportunities for care coordination and requiring providers to accept risk for care beyond what they furnish. To illustrate the trade-offs inherent in these design decisions, we selected a design consistent with the Commissioners’ discussion of bundles that include more services over a longer period of time rather than fewer services over a shorter period of time. We also considered a design that does not require providers to have an infrastructure to make and receive payments for other providers. Clearly, there are other possible designs with different strengths and weaknesses. We use this bundle design to frame a conversation about how best to proceed with this potential payment reform.

The illustration considers services furnished during an initial hospital stay and spanning 90 days after discharge. The example design includes the initial hospital stay, potentially avoidable readmissions, any PAC, and physician services furnished during the hospital and institutional PAC stays (in SNFs, IRFs, and LTCHs). Services excluded from the bundle would continue to be paid FFS. To minimize the infrastructure required if one provider or entity received an all-inclusive amount (which would be disbursed to providers that furnished services during the bundle), we assumed that providers would continue to receive FFS-based payments from CMS. To create incentives for providers to lower their spending for the episode, this illustration has CMS comparing average episode spending over some period of time (such as a year) with a benchmark set for each condition. If providers kept their average spending below the benchmark, CMS would return some portion of the “savings” (the difference between the benchmark and average payments) to each provider. If actual spending is above the benchmark, all providers would be at risk for all or some portion of the amount above it.

Throughout this illustration, many of our analyses focused on 10 conditions with high rates of PAC use (i.e., relative to other conditions) and, at discharge from the acute care hospital, the beneficiaries went to a broad mix of PAC settings (see text box, p. 70–71). We focused on bundles that include PAC because of the large variation in spending for these services (Table 3-2). Across the 10 conditions, interquartile spending on PAC services varied fourfold, with medical conditions generally exhibiting more variation than surgical ones.

The selected conditions include surgical and medical conditions. The 10 conditions accounted for 23 percent of all hospital episodes (90-day bundles that include the initial hospital stay, potentially avoidable readmissions, PAC, and physicians’ services furnished during institutional care—hospitals, SNFs, IRFs, and LTCHs) and 15 percent of all FFS spending. Bundled payments with this design for all conditions would encompass over half (56 percent) of FFS spending.

Scope of services to include in the bundle

The first design decision centers on the services to include in the bundle. Bundles that include more services would require providers to be accountable for a wide range of care, thereby creating greater incentives for care coordination than narrowly defined bundles. Providers would be at risk for the cost and quality of services they do not directly

**TABLE
3-2**

Spending on post-acute care during 90-day bundles varies more than fourfold for 10 conditions that frequently involve this service use

Condition	Medical or surgical	Number of episodes	Episode spending			Ratio of 75th to 25th percentile
			Mean	25th percentile	75th percentile	
Stroke	Medical	10,740	\$20,411	\$6,856	\$30,300	4.4
Simple pneumonia & pleurisy	Medical	20,780	10,567	2,787	15,082	5.4
Coronary bypass w/ cardiac catheterization	Surgical	2,276	6,539	1,887	7,957	4.2
Heart failure & shock	Medical	15,376	9,301	2,319	12,379	5.3
Major small & large bowel procedures	Surgical	6,180	8,169	2,176	10,528	4.8
Major joint replacement	Surgical	29,627	9,752	4,006	13,277	3.3
Hip & femur procedures except major joint replacement	Surgical	7,814	22,052	13,244	30,045	2.3
Fractures of hip & pelvis	Medical	2,066	17,392	9,044	23,854	2.6
Kidney & urinary tract infections	Medical	10,133	13,048	3,909	19,771	5.1
Septicemia without ventilator 96 + hours	Medical	4,961	13,532	3,861	20,116	5.2
Average for 10 conditions						4.3

Note: Post-acute care (PAC) includes services furnished by home health agencies, skilled nursing facilities, inpatient rehabilitation facilities, and long-term care hospitals. We risk adjusted spending using Medicare severity–diagnosis related groups (MS–DRGs) and standardized payments for differences in wages and special payments, such as teaching, disproportionate share, and outlier payments. Episodes were initiated by a hospital stay with an admission date from January 1, 2007, through August 31, 2008. Spending for 90-day inpatient hospital–post-acute care bundles includes payments for initial hospital stay, post-acute care, potentially preventable readmissions, and the physician services furnished during the hospital and institutional PAC stays. Data shown are for MS–DRG acuity level 1 (no complications or comorbidities) bundles.

Source: Analysis of 5 percent 2007 and 2008 claims data prepared for MedPAC by 3M Health Information Systems.

furnish. For example, in a bundle that spans inpatient hospital, PAC, and readmissions (referred to as a combined hospital–PAC bundle), providers would have strong incentives to coordinate care across PAC settings, carefully manage care transitions, and refer beneficiaries to providers that minimize the risk of readmissions. The style of practice encouraged would be in sharp contrast to the current FFS environment, in which acute care hospitals generally do not track what happens to patients once they are discharged and, except in integrated systems, do not have a financial stake in which setting is selected and the amount of services furnished to patients after they are discharged.

A PAC-only bundle would establish one payment to span PAC (HHA, SNF, IRF, and LTCH) services and possibly readmissions. Hospitals or physicians would have no direct incentive to refer patients to PAC or to specific PAC settings. Because their incentives would not be aligned with those for the PAC providers, there could be more checks on the appropriateness of PAC use. At the same time, PAC providers would encourage physicians and discharge planners to refer beneficiaries to PAC, which could generate unnecessary care. PAC-only bundles could be more appealing to PAC providers who may have

limited experience managing acute care, especially since the initial hospital stay makes up a large portion of bundle spending. However, because providers would have less incentive to coordinate care between the hospital and PAC settings, PAC-only bundles may not achieve the levels of care coordination of broader bundles.

There are two reasons to consider combined hospital–PAC bundles. First, even among conditions with high PAC use, not all beneficiaries use care after hospitalization, and the share using PAC is highly variable. The vast majority of episodes for orthopedic conditions includes PAC, but the use in other conditions is generally lower. Fewer than half of the episodes for four medical conditions include PAC. Separate PAC-only bundles could encourage PAC use, even when it is not medically necessary, because hospitals and physicians are not financially liable for the spending on these services. PAC providers would be keen on generating volume by working with hospital discharge planners to identify beneficiaries who are likely candidates to receive PAC. Yet, even for conditions with relatively high PAC use, beneficiaries’ use of these services is not universal, suggesting that PAC use could increase for beneficiaries with many common conditions.

Commission's analysis of bundled payment designs

To examine the alternative designs for bundled payments, the Commission contracted with 3M Health Information Systems. Bundles spanning 30 days and 90 days were constructed for various scopes of service initiated by a hospital stay between January 1, 2007, and August 30, 2008 (3M Health Information Systems 2013a). The analyses included beneficiaries at all severity levels and those whose stays qualified for outlier payments. The analyses excluded beneficiaries who died during the hospital stay or bundle period. We examined the following bundle designs:

- inpatient hospital–post-acute care (PAC) bundles that include the inpatient stay, PAC services (home health agency (HHA), skilled nursing facility (SNF), inpatient rehabilitation facility (IRF), and long-term care hospital (LTCH)), physician services during any hospital stays and institutional PAC stays (IRF, SNF, and LTCH), and hospital readmissions;
- PAC-only bundles that include formal PAC services (HHA, SNF, IRF, and LTCH), the physician services furnished during institutional PAC stays, and spending associated with readmissions (hospital and physician services); and

- bundles that included and excluded potentially preventable readmissions, using 3M's definition and methodology (Goldfield et al. 2008).

Medicare spending was standardized to adjust for differences in wages and special payments for teaching hospitals, disproportionate share hospitals, and outliers. Spending was risk adjusted using the Medicare severity–diagnosis related groups (MS–DRGs) to account for differences in clinical severity across patients during their hospital stays. Episodes were assigned to base diagnosis related groups and acuity levels using MS–DRGs. Acuity level 1 identifies episodes without a major complication or comorbidity (MCC); acuity level 2 includes episodes with an MCC. A base MS–DRG was split into the two acuity levels even if the standard MS–DRGs used by Medicare were not differentiated by the presence of an MCC. To simplify the display of our results, we present our analyses of acuity level 1 episodes, but the trends were similar for acuity level 2 episodes.

We included physician services provided during the initial hospital stay, readmissions, and institutional PAC stays. The inclusion of physician services in the bundle is designed to encourage greater collaboration among physicians providing care to a beneficiary to improve quality outcomes and efficiency. Although institutional PAC settings have formal relationships with the physicians who practice in these settings, HHAs may not.

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For the 10 conditions with relatively high PAC use, the share of hospital stays that led to PAC varied from 36 percent (beneficiaries with pneumonia) to 94 percent (for beneficiaries recovering from hip and femur procedures except major joint replacement) (Table 3-3, p. 72). The use of PAC greatly increased average episode spending. Across the 10 conditions, spending for episodes with PAC was 2.6 times the spending for episodes without PAC. PAC made up more than one-third of the bundle spending on average and accounted for more than half the spending for three conditions (stroke, hip and femur procedures except major joint replacement, and fractures of hip and pelvis).

A second reason to design combined hospital–PAC bundles is to narrow the variation in the PAC settings

used by similar patients. Currently, hospitals, physicians, and PAC providers have no incentive to work with beneficiaries to make cost-effective PAC placement decisions. Several studies have found that PAC placements reflect factors such as the number and mix of providers in a market, proximity of the discharging hospital to PAC providers, and whether the hospital has PAC providers in its system (Assistant Secretary for Planning and Evaluation 2008, Buntin et al. 2005, Medicare Payment Advisory Commission 2007). A combined hospital–PAC bundle would help engage discharging physicians to make medically appropriate, cost-effective PAC placement selections.

Commission's analysis of bundled payment designs (cont.)

To simplify the analyses, we included the spending on PAC services initiated (but not necessarily concluded) during 90-day windows. This approach avoids having to prorate spending for services that extend beyond the bundle window. Although many beneficiaries also use outpatient services (such as radiology, laboratory, and physical therapy services), we excluded them in the illustrative model to limit the number of providers whose care would need to be coordinated to keep spending under the benchmark, which would ease implementation. The bundles also exclude program spending on outpatient prescription drugs (Part D) but do include drugs delivered in hospitals and institutional PAC settings (SNFs, IRFs, and LTCHs). Including spending on outpatient prescription drugs would be complicated by the fact that not all beneficiaries participate in Part D. We do not know the bias that would be introduced by having data on only a subset of beneficiaries.

Bundles that included readmissions were constructed using potentially preventable readmissions (Goldfield et al. 2008). Only those readmissions that were potentially preventable were included in the bundle. If a readmission that was not preventable occurred during the 90-day period after the initial hospital discharge, the episode was terminated and excluded from the analysis. The readmission that was not preventable could then initiate a new episode. Where indicated, to assess their

effect on our ability to predict bundle spending, some analyses exclude all readmissions.

To compare the ability of the bundle design to explain the variation in resource use (as measured by charges) and spending across episodes, episodes were risk adjusted using MS-DRGs, clinical risk groups (CRGs), and functional status. CRGs account for differences in the chronic illness burden of patients at the time of the discharge from the hospital, using the diagnostic and procedure information gathered from hospital and physician claims during the year before the episode (Hughes et al. 2004). For episodes that included home health, SNF, or IRF services, functional and cognitive status information at admission to PAC was used to evaluate the ability of functional status to explain differences in resource use in the bundle. Patient information from the three assessment instruments (the IRF-Patient Assessment Instrument, the SNF Minimum Data Set, and the HHA Outcome and Assessment Information Set) was standardized and grouped into ranges of low, medium, and high impairment for four functional domains: mobility, self-care, incontinence, and cognitive reasoning (3M Health Information Systems 2013b, Mallinson et al. 2012). According to the level of functional status in each of the four domains, beneficiaries were assigned to one of the nine composite functional categories that represent the extent of overall beneficiary functional status impairment (3M Health Information Systems 2013b). ■

Selection of the PAC setting has significant implications for bundle spending. For the 10 conditions we examined, spending for beneficiaries who first used IRFs was 30 percent higher on average than for those who first used SNFs (Table 3-4, p. 72). Spending for beneficiaries discharged to SNFs was on average more than double that for those who first received HHA services.

Medicare's Post-Acute Care Payment Reform Demonstration examined outcome differences in patients across PAC settings. It found no differences in mobility outcomes for beneficiaries using different PAC settings and small differences in the self-care function. This overlap in patients across settings suggests that some shifts in service use would not necessarily lower the quality of

care (Gage et al. 2011). However, not all beneficiaries could be shifted to lower cost settings. For example, beneficiaries without adequate support at home or residing in nursing homes would not be candidates for home health care. Likewise, complex patients receiving rehabilitation services may not be appropriate for SNF care.

Include or exclude readmissions in the bundle

The definition of the bundle also needs to specify whether readmissions are included or excluded. In our illustration, in bundle designs that include readmissions, we consider potentially preventable readmissions (PPRs). PPRs hold providers accountable for those readmissions that

**TABLE
3-3****Spending is considerably higher for bundles that include post-acute care**

Condition	Percent using PAC	Mean episode spending		Ratio of spending for episodes with PAC to episodes without PAC	PAC spending as a share of total episode spending
		With any PAC	Without any PAC		
Stroke	64%	\$30,770	\$8,534	3.6	57%
Simple pneumonia & pleurisy	36	20,522	7,555	2.7	31
Coronary bypass w/cardiac catheterization	58	45,213	37,134	1.2	9
Heart failure & shock	43	21,219	8,828	2.4	28
Major small & large bowel procedures	37	32,110	18,661	1.7	13
Major joint replacement	82	24,691	14,162	1.7	37
Hip & femur procedures except major joint replacement	94	36,633	12,860	2.8	63
Fractures of hip & pelvis	90	24,025	5,671	4.2	65
Kidney & urinary tract infections	49	21,464	6,381	3.4	31
Septicemia without ventilator 96+ hours	48	27,585	11,331	2.4	30
Average for 10 conditions	60			2.6	36

Note: PAC (post-acute care). Post-acute care includes services furnished by home health agencies, skilled nursing facilities, inpatient rehabilitation facilities, and long-term care hospitals. Episodes were initiated by a hospital stay with an admission date from January 1, 2007, through August 31, 2008. We risk adjusted spending using Medicare severity–diagnosis related groups and standardized payments for differences in wages and special payments, such as teaching, disproportionate share, and outlier payments. Spending for 90-day inpatient hospital–post-acute care bundles includes payments for initial hospital stay, post-acute care, potentially preventable readmissions, and the physician services furnished during the hospital and institutional PAC stays. Data shown are for Medicare severity–diagnosis related group acuity level 1 (no complications or comorbidities) bundles.

Source: Analysis of 5 percent 2007 and 2008 claims data prepared for MedPAC by 3M Health Information Systems.

**TABLE
3-4****Mean bundle spending varies considerably by first post-acute care site used**

Condition	First post-acute care site used			Ratio of IRF to SNF spending	Ratio of SNF to HHA spending
	HHA	SNF	IRF		
Stroke	\$13,344	\$33,266	\$40,881	1.2	2.5
Simple pneumonia & pleurisy	12,403	26,597	39,166	1.5	2.1
Coronary bypass w/ cardiac catheterization	39,708	52,554	60,677	1.2	1.3
Heart failure & shock	13,881	30,984	45,516	1.5	2.2
Major small & large bowel procedures	25,658	39,443	48,933	1.2	1.5
Major joint replacement	17,712	28,013	32,891	1.2	1.6
Hip & femur procedures except major joint replacement	17,177	38,324	40,770	1.1	2.2
Fractures of hip & pelvis	9,980	26,947	32,200	1.2	2.7
Kidney & urinary tract infections	11,597	27,613	37,739	1.4	2.4
Septicemia without ventilator 96 + hours	16,516	32,961	47,081	1.4	2.0
Average for 10 conditions				1.3	2.1

Note: HHA (home health agency), SNF (skilled nursing facility), IRF (inpatient rehabilitation facility). Post-acute care includes services furnished by home health agencies, skilled nursing facilities, inpatient rehabilitation facilities, and long-term care hospitals. Episodes were initiated by a hospital stay with an admission date from January 1, 2007, through August 31, 2008. We risk adjusted spending using Medicare severity–diagnosis related groups (MS–DRGs) and standardized payments for differences in wages and special payments, such as teaching, disproportionate share, and outlier payments. Spending for 90-day inpatient hospital–post-acute care bundles includes payments for initial hospital stay, post-acute care, potentially preventable readmissions, and the physician services furnished during the hospital and institutional post-acute care stays. Data shown are for MS–DRG acuity level 1 (no complications or comorbidities) bundles.

Source: Analysis of 5 percent 2007 and 2008 claims data prepared for MedPAC by 3M Health Information Systems.

**TABLE
3-5**

Lowering readmissions presents a savings opportunity

Condition	Readmission rate	Mean episode spending		Ratio of spending for episodes with readmissions to those without readmissions	Readmissions spending as a share of total episode spending*
		With readmissions	Without readmissions		
Stroke	16%	\$38,078	\$19,824	1.9	26%
Simple pneumonia & pleurisy	17	\$24,974	9,722	2.6	42
Coronary bypass w/cardiac catheterization	18	\$55,591	38,840	1.4	22
Heart failure & shock	28	\$24,900	10,003	2.5	26
Major small & large bowel procedures	14	\$38,297	21,095	1.8	32
Major joint replacement	8	\$40,172	21,313	1.9	27
Hip & femur procedures except major joint	15	\$49,517	32,707	1.5	24
Fractures of hip & pelvis	13	\$34,550	20,335	1.7	27
Kidney & urinary tract infections	18	\$25,511	11,183	2.3	38
Septicemia without ventilator 96+ hours	20	\$33,985	15,447	2.2	36
Average for 10 conditions	17			2.0	30

Note: Spending for 90-day inpatient hospital–post-acute care bundles includes payments for initial hospital stay, post-acute care, and the physician services furnished during the hospital and post-acute care stays. The bundles that include readmissions also include the spending for the hospital readmission and physician services during the readmission. Episodes were initiated by a hospital stay with an admission date from January 1, 2007, through August 31, 2008. We risk adjusted spending using Medicare severity–diagnosis related groups (MS–DRGs) and standardized payments for differences in wages and special payments, such as teaching, disproportionate share, and outlier payments. Readmission rates are for potentially preventable readmissions. Data shown are for MS–DRG acuity level 1 bundles.
* Spending on readmissions was calculated for episodes that include readmissions.

Source: Analysis of 2007 and 2008 5 percent claims data prepared for MedPAC by 3M Health Information Systems.

they should be able to avert with adequate primary and outpatient care. However, PPRs could encourage shifts in providers’ coding of diagnoses to avoid including a readmission in the bundle. Using an all-cause measure would increase the readmissions that providers would be at risk for but would counter any incentive to change coding practices. There is considerable overlap in the two measures. PPRs account for about 80 percent of all-cause readmissions (see Chapter 4).

If PPRs were excluded from the bundle, hospitals would continue to be paid separately for readmissions. In this scenario, it would make sense to extend the current hospital readmission reduction policies to all PAC providers so that they share the responsibility for readmissions.³ Readmission reduction policies similar to those that began in October 2012 for hospitals would be applied to PAC providers with high readmission rates during a year. This past year, the Commission recommended that SNFs be held accountable for readmissions that occur during SNF stays and noted that it would consider similar policies for other PAC settings.

Alternatively, including readmissions in the bundle would give providers a strong incentive to coordinate care across all settings. All providers, not just hospitals, would share in the responsibility for readmissions because the bundle would include the cost of readmissions. Because hospitals would already be at risk for readmissions, the conditions with bundled payments would be excluded from the hospital readmission policy. Otherwise, hospitals could face two penalties if their readmission rates were high: They would be at financial risk for the readmission and the cases would count in calculation of their readmission rate.

Including readmissions in the bundle represents an opportunity for providers to lower their total bundle spending. Across the 10 conditions examined, 17 percent of beneficiaries without complications or comorbidities (acuity level 1) on average were readmitted during a 90-day period after the initial hospital stay (Table 3-5). Across the 10 conditions, bundles with readmissions were on average twice as costly as those without them. While other factors also contributed to the episodes’ higher spending, readmissions made up 30 percent of the spending for

**TABLE
3-6**

Spending included in 90-day bundles is not proportionately greater than 30-day bundle spending

Condition	Share of 90-day spending included in 30-day bundle
Stroke	77%
Simple pneumonia & pleurisy	80
Coronary bypass w/cardiac catheterization	96
Heart failure & shock	74
Major small & large bowel procedures	93
Major joint replacement	92
Hip & femur procedures except major joint replacement	74
Fractures of hip & pelvis	74
Kidney & urinary tract infections	72
Septicemia without ventilator 96+ hours	78
Average for 10 conditions	84

Note: Spending for bundles includes payments for the initial hospital stay, post-acute care, potentially preventable readmissions, and the physician services furnished during the hospital and institutional post-acute care stays. Post-acute care refers to home health care, skilled nursing facilities, inpatient rehabilitation facilities, and long-term care hospitals. Episodes were initiated by a hospital stay with an admission date from January 1, 2007, through August 31, 2008. We risk adjusted spending using Medicare severity–diagnosis related groups (MS-DRGs) and standardized payments for differences in wages and special payments, such as teaching, disproportionate share, and outlier payments. Readmission rates are for potentially preventable admissions. Data shown are for MS-DRG acuity level 1 bundles.

Source: Analysis prepared by 3M Health Information Systems for MedPAC using 2006–2008 Medicare claims data.

bundles with readmissions. Because readmission rates vary by PAC setting, bundled payments may also encourage entities to use PAC settings with low readmission rates, all else being equal.⁴ Beneficiaries who did not use PAC had considerably lower readmission rates (on average 10 percent) than beneficiaries who did.

Duration of the bundle

The length of the bundle establishes the number of days when service utilization will be included. There are advantages and disadvantages to each bundle length, with an inherent trade-off between holding providers responsible for more services (i.e., over a longer period of time) and the likelihood that services furnished at the end of the bundle period will be unrelated to the original hospital stay. Bundles of relatively short duration, such as 30 days, hold providers accountable for services

most likely related to the principle reason for the initial hospitalization. Given the long duration of much PAC, short bundles will require a decision about how to consider the costs of PAC services that have been initiated but not completed during the time period.

Long bundles create strong incentives to coordinate care and give providers flexibility to consider the mix and timing of services they furnish. They also accommodate the variation in recuperation times required by beneficiaries to reach similar outcomes. Long bundles more closely mirror the duration of PAC use: One-third of SNF stays are more than 30 days long, and over half of beneficiaries who use home health services receive care that spans 45 days or more. However, long bundles may include care at the end of the period that is unrelated to the original hospital stay.

Long bundles require providers to assume greater financial risk because costs and readmissions are more variable with longer episodes (Dobson et al. 2012). However, the added risk is not proportional to the expansion of the time frame. Bundle lengths three times as long do not triple bundle spending. Most 90-day spending was incurred within the first 30 days after hospital discharge (Table 3-6). These results are consistent with another study that found that, as episode lengths increase, the variation in costs and readmissions (and hence associated risk) did not increase proportionally (Gage et al. 2009, Sood et al. 2011).

Whatever the bundle length, providers would have an incentive to delay care until after the bundle period has ended. As a result, CMS will need to adopt policies to discourage these delay tactics. In CMS’s bundling initiative, spending during the 30 days after the bundle has ended will be compared with aggregate historic spending trended forward. Providers will be at risk for spending above some threshold. Providers that systematically delay medically necessary readmissions until after the bundle period has ended will be at financial risk if their spending in the postbundle period is substantially higher than expected.

Bundle designs differ in the variation in spending they introduce and shape our ability to account for the variation in resource use

Bundle designs differ in the variation in spending across episodes and how much of the variation can be predicted using MS-DRGs and CRGs. Short bundles that include fewer services display less variation, which is easier to predict (have higher r^2) than longer bundles that include

**TABLE
3-7**

Comparison of ability to predict resource use at episode level, by bundle definition across all MS-DRGs

Bundle length	Inpatient hospital-PAC bundle		PAC-only bundle	
	With readmissions	Without readmissions	With readmissions	Without readmissions
30 days	39%	43%	8%	17%
90 days	34	42	8	16

Note: MS-DRG (Medicare severity–diagnosis related group), PAC (post-acute care). Resource use was measured using charges. Predictive ability was measured with r^2 . Post-acute services include services furnished in skilled nursing facilities, home health care, inpatient rehabilitation facilities, and long-term care hospitals. Spending for inpatient hospital-PAC bundles includes payments for the initial hospital stay, post-acute care, potentially preventable readmissions, and the physician services furnished during the hospital and institutional PAC stays. Spending for PAC-only bundles includes payments for post-acute care, potentially preventable readmissions, and the physician services furnished during the hospital readmission and institutional PAC stay. Inpatient hospital-PAC bundles were initiated by a hospital stay with an admission date from January 1, 2007, through August 31, 2008. We risk adjusted spending using MS-DRGs and patient comorbidities (using clinical risk groups) and standardized payments for differences in wages and special payments, such as teaching, disproportionate share, and outlier payments. Data shown are for MS-DRG acuity level 1 bundles.

Source: Analysis prepared by 3M Health Information Systems for MedPAC using 2006–2008 Medicare claims data.

more services. We used charges to gauge resource use because they generally reflect patient complexity: Sicker patients use more services. Although payments instead of charges would give a better indication of how well the bundle design would fit the variation in bundle spending, the explanatory power is dominated by the circularity of using MS-DRGs to explain hospital spending, which is a large component of the combined hospital-PAC bundle spending.

Short (30-day) bundles explain slightly more of the variation in charges than long ones (90-day). Bundles that include hospital and PAC accounted for more of the variation than PAC-only bundles, in large part reflecting less well-developed risk-adjustment methods for PAC (Table 3-7).⁵ Including readmissions increases the variation in spending and lowers the r^2 , capturing the fact that readmissions are relatively infrequent but costly when they occur.

In selecting a bundle design, policymakers will need to consider the inherent trade-off between designs with strong incentives to coordinate care across settings and the variation in spending inherent in longer bundles that include more services. The bundle design with the highest explanatory power incorporates weaker incentives to coordinate care and share accountability across providers compared with more inclusive, longer bundles. Still, the explanatory power of the design with the strongest incentives (90-day combined hospital-PAC bundle that includes readmissions) is comparable to the diagnosis

related group payment bundle and the per capita payments in Medicare Advantage.

We also examined the number of episodes an entity would need for the payments to be reasonably accurate for most bundles (referred to as a power calculation). Given the extent of variation in spending across episodes, the power calculation determines the number of episodes an entity would have to provide to be confident that the difference between its spending and national average spending was not due to chance. Across the 10 conditions, an entity would need to treat 150 cases for its spending to be within 10 percent of the national average spending for 90 percent of its episodes. Most hospitals (85 percent) paid under the inpatient prospective payment system treat this many cases (in these 10 conditions) a year, including rural hospitals. Because of the higher variation in PAC spending, the counts would be higher for PAC providers.

How to pay providers and encourage cost-effective care

In a bundled approach, one entity could be paid an all-inclusive amount to cover all services, or payments to individual providers could continue on an FFS basis. Each option has its advantages and disadvantages. To encourage providers to lower their spending per episode, CMS could establish benchmarks for each condition and compare them with actual average spending. In one version of this comparison, CMS could withhold a small amount from its payments to providers and, depending on average

episode spending, return the withheld amounts (in the case of below-average spending) or keep it (in the case of above-average spending). Alternatively, CMS could take a shared-risk approach, in which providers would be at risk for or share in the savings from average spending that is over or under the benchmark. With either option, providers would have an incentive to keep their average spending below the benchmark.

Options to pay providers

There are two basic ways providers could receive their Medicare payments. In one, an entity (such as the hospital providing the initial hospitalization or a third-party entity) could receive an all-inclusive amount to cover all care furnished during the bundle. The receiving entity would be responsible for paying all providers furnishing care to the beneficiary during the bundle window. This approach would require the entity to have an infrastructure sufficient to receive a lump-sum payment for an episode and, in turn, make payments to other providers. With one entity “in charge” of the episode, this approach may be more successful at achieving benchmark spending and providing a structure for coordinating care. However, many, if not most, providers are not ready to accept this level of financial risk, nor do they have the administrative infrastructure necessary to make payments to other providers.

Alternatively, Medicare could continue to pay each provider under its FFS systems, but the payment levels would be modified (see discussion on p. 80). For example, CMS would pay the hospital for the initial stay and any readmissions that occur, and CMS would pay PAC providers for the PAC services furnished. One refinement to this FFS-based approach could be to convert the discharge-based and episode-based PAC payments to a per day payment, so that PAC spending is not so “lumpy.” For example, an HHA would receive a payment for each visit or day of home health care rather than a full 60-day episode payment. This refinement would allow providers to select an appropriate mix of PAC services without payments being made for such large units of service (HHA episodes or discharges from IRFs or LTCHs).

The advantage of the FFS-based bundle is that it does not require a single entity to receive payment for a collection of services, establish rates for other providers, and administer payments to them, thus making it practicable for most providers. It also avoids the thorny policy issues of how to attribute responsibility for episodes (since all providers share it) and which provider would receive the bundled payment (Hussey et al. 2009, Pham et al. 2010).

Such implementation issues could thwart efforts to move this payment reform forward. An FFS-based approach is consistent with CMS’s bundling initiative and Medicare’s payments made to providers participating in ACOs. The disadvantage of this approach is that it could continue to encourage unnecessary service provision, depending on the incentives established for providers to keep their total spending below benchmarks. Therefore, it represents a modest improvement over current FFS.

Options to encourage spending below the benchmark

Under either approach to paying providers (a lump-sum payment to one entity or continued FFS payments to all providers), CMS could use a couple of different methods to encourage providers to keep their average episode spending below the benchmark. In one method, a small amount would be withheld from each provider’s payments (from the hospital, PAC providers, and physicians), retained if the average episode’s spending exceeded the benchmark, and returned if average episode spending was below it. Each provider would be at risk for the amount withheld from its FFS payment if average total episode spending exceeded the benchmark but would continue to be paid for services furnished. In a second method, all providers would share in the savings that result from below-benchmark spending and be at risk for spending above the benchmark. For example, if providers kept their average total episode spending below the benchmark, they would receive some share of the difference between their average spending and the benchmark. An individual provider’s share of the savings could be proportional to its share of total episode spending. Under a shared-risk approach, a provider’s rewards and losses are potentially larger than under a withhold approach, depending on the size of the withheld amount. A shared-risk approach could require lower benchmarks to “finance” the rewards. Regardless of the approach, the policymakers will need to decide whether the risks and rewards are symmetric.

When providers’ payments exceed the benchmarks, CMS could use a couple of different ways to recoup funds. In one, withholds do not have to be paid back by providers when the benchmark is exceeded. Providers would forfeit the withheld amounts but their losses would be limited to the withheld amounts since they would continue to be paid the FFS-based payments (minus the withheld amounts). The program would continue to pay for services above the benchmarks, but its risk would be limited because the amounts withheld would help underwrite the additional

spending above the benchmarks. Alternatively, each provider could be required to establish an irrevocable line of credit or escrow account with funds to cover a certain level of risk. CMS is using this approach in the ACO and bundling initiatives.

Either method (withholds or shared risk) should tie performance to the quality of care providers furnish. Under value-based purchasing, providers would have to keep their average total episode spending below the episode benchmark and meet certain minimum quality standards to receive the withheld amount or share in the savings achieved. Medicare is using this approach in the ACO shared savings program.

The success of any bundle design will pivot on whether providers accept the challenge to change the way they deliver care. At the heart of bundled payments is a collective incentive to do better—keep spending below a benchmark and achieve good patient outcomes. While collective incentives did not spark changes in physician behavior under the sustainable growth rate system, we think bundled payments differ in significant ways. Most importantly, bundled payments require collaboration among providers who know each other to jointly manage care. Future referrals for business will require providers to interact to achieve good results for an episode of care. Further, under the designs we discuss, there will be financial pressure on each provider to lower spending and achieve good outcomes. Otherwise, their payments will be lower than they currently are under FFS.

Options to counter the incentive to stint on care

Like any capitated or prospective payment system, bundled payments create an incentive to furnish fewer services than medically necessary or to use low-cost settings even if another setting is more appropriate. As such, without proper safeguards, a bundled payment puts beneficiaries at risk for underprovision of care or for referrals to PAC settings based on cost, not a beneficiary's care needs. Options to limit this behavior include:

- Continue to pay providers FFS. A provider is paid only if it furnishes care. If a patient has high care needs, the provider is paid for the care.
- Place all providers at financial risk for hospital readmissions by including readmissions in the bundle. If underfurnishing care raises readmission rates, this strategy will work against providers. They may opt to

furnish care coordination services if the services lower the risk of readmissions or allow beneficiaries to be safely placed in lower cost settings.

- Compare the providers' average spending for episodes treated during a period of time (such as quarterly or annually) with benchmarks. Comparisons would not be made for individual cases, thus avoiding incentives to underfurnish care for a given episode. A provider can afford to refer beneficiaries to high-cost settings (IRFs and LTCHs) without necessarily incurring a loss in the aggregate. The benchmark would include some use of these services.
- Tie rewards to meeting minimum quality requirements and keeping spending below the benchmarks.

The Commission supports performance measurement programs that focus on a relatively small set of measures with an emphasis on outcomes (Medicare Payment Advisory Commission 2010, Medicare Payment Advisory Commission 2005). Quality measures to detect stinting on services could include rates of potentially avoidable hospital readmissions and emergency department (ED) visits as well as changes in functional status (see text box, pp. 78–79). Avoidable readmissions and ED visits can be indicators of poor quality of care, such as inadequate communication between the discharging hospital and admitting PAC provider during care transitions, selection of an inappropriate PAC setting for a clinically complex patient, and lack of timely access to follow-up physician care.

The ability to risk adjust quality measures is critical to assuring providers that their relative performance will not be affected by the clinical complexity of the patients they serve. For functional status, risk adjustment should compare actual change relative to expected change, given the type of patient treated. For patients with chronic diseases such as diabetes and congestive heart failure, the best possible outcome may be stabilizing physical or cognitive functioning; for patients recovering from orthopedic procedures, the expected outcome will be improvement in mobility. CMS is planning to use a shortened version of the Continuity Assessment Record and Evaluation tool in its bundling initiative to gauge changes in PAC patients' physical and cognitive function (Center for Medicare and Medicaid Innovation 2013). In addition, CMS could consider comparing groups of providers with a similar share of poor Medicare beneficiaries as a way to adjust for socioeconomic status.

Quality measures to consider for bundled payments

Bundled payments contain certain financial incentives that could influence provider behavior and lead to compromised patient care. Providers could, for example, reduce the amount of resources used for direct patient care during the bundled payment period (i.e., stinting), inappropriately shift the timing of care delivery outside the bundled payment period when fee-for-service payment policies would apply, or increase hospital admissions to generate payments. To monitor and counter these potential unintended consequences, CMS would need to focus on a limited set of quality and utilization measures and eventually require providers to meet a minimum level of performance on them. These measures could be added to existing conditions of participation.

To develop a short list of measures (Table 3-8), we analyzed recent reports on post-acute care and long-term care performance measurement from the National Quality Forum's Measure Applications Partnership and the Long-Term Care Quality Alliance and the tentative set of quality measures that CMS is considering for the initial implementation phase of its bundling initiative (Center for Medicare and Medicaid Innovation 2013, Long-term Quality Alliance 2011, National Quality Forum 2012).⁶ The measures fall into five broad categories to monitor: stinting on care, cost shifting outside the bundle period, increase in the number of bundles, care coordination and transitions, and patient experience. All measures can be calculated with currently available data collection methods. ■

(continued next page)

Option to dampen the incentive to increase hospital admissions

With more dollars at stake, bundling could encourage hospital admissions for treatment that could have been delivered in a less intensive setting, such as managing care for beneficiaries with congestive heart failure or treating urinary tract infections. A beneficiary may require acute-level services but only because adequate primary care was not provided previously or the patient did not appropriately manage his or her condition. These unnecessary admissions can jeopardize patients' health—raising their risk, for example, of infection, medication error, and pressure sore injuries—and reduce their independence and functional ability associated with extended hospital stays.

Admission rates vary geographically (Epstein et al. 2011, Medicare Payment Advisory Commission 2012) and can be influenced by physician practice (Mitchell 2010, Stensland and Winter 2006). In a combined hospital-PAC bundle, the incentives of hospitals, physicians, and PAC providers are aligned. Some policy analysts worry that with more dollars at stake, bundled payments would raise the number of initial admissions to trigger a bundled payment. Although providers would also be at added risk, they may assume they can keep their average episode spending below benchmarks.

Under a bundled payment, CMS will need to monitor admission rates, particularly for discretionary admissions, and could eventually develop an admission policy. The Commission has work under way examining the variation in potentially preventable hospital admission rates (and ED visits) that could form the building block for an admission policy to discourage unnecessary admissions. Similar to the readmission policy, hospitals with above-average rates of potentially avoidable admissions could be penalized. Although the hospital value-based purchasing program starting in 2014 will hold hospitals accountable for total costs in the 30-day window postdischarge, the measure is one part of a composite that includes over two dozen measures, so the incentive is weak. Furthermore, it does not penalize hospitals for admitting potentially avoidable admissions, which could encourage hospitals to admit low-cost cases to keep their average spending low.

Setting the episode benchmark for the bundle

An episode's spending benchmark should be set to reflect the beneficiary's clinical needs and efficient providers' practice patterns and costs. Benchmarks should not vary by PAC setting; otherwise, PAC use will continue to vary

Quality measures to consider for bundled payments (cont.)

**TABLE
3-8**

Quality measures to gauge provider performance under bundled payment

Measure	Data source for:	
	Measurement	Risk adjustment
Monitoring for stinting on care under bundled payment		
<i>Readmissions:</i> Rate of unplanned readmissions during and within 30 days after bundled payment period	Claims	Claims
<i>ED use:</i> Rate of ED use, total and without hospitalization, during and within 30 days after bundled payment period	Claims	Claims
Changes in patient physical and cognitive function	CARE tool items	CARE tool items
Monitoring for cost shifting outside bundled payment		
Service use and program costs within 30 days after bundled payment period	Claims	Claims
Medicare payments per beneficiary per month	Claims	Claims
Monitoring for increase in number of bundles		
Rate of potentially avoidable admissions	Claims	Claims
Monitoring care coordination/transitions		
<i>Timely PAC admission:</i> Length of time (average and median) from hospital discharge to PAC admission	Claims	Claims
<i>Timely physician follow-up:</i> Length of time (average and median) from hospital discharge to first physician visit	Claims	Claims
Monitoring patient experience		
Survey questions on provider communication, pain management, shared decision making	Selected CAHPS® survey items	N/A

Note: ED (emergency department), CARE (Continuity Assessment Record and Evaluation), PAC (post-acute care), CAHPS® (Consumer Assessment of Healthcare Providers and Systems®), N/A (not available).

for reasons other than clinical differences across patients. Appropriate risk adjustment incorporates the comorbidities and functional status of patients to discourage patient selection or unfair comparisons across providers. In establishing the episode benchmark, current spending would not be a good reference point, given the incentives in FFS to furnish services of marginal value. Two possible ways to establish benchmarks are presented here: Discount FFS payments based on lower PAC and readmission

spending or base the amount on resource use (which has been adjusted for differences in wages and special payments) in geographic areas with low spending.

Develop one benchmark for each condition

To encourage lower PAC spending, CMS should establish one episode benchmark for each condition based on patient care needs, not separate benchmarks based on site of service. A uniform (risk-adjusted) payment across PAC

**TABLE
3-9**

If spending on post-acute care and readmissions were reduced by 10 percent, episode benchmarks for combined hospital-post-acute care bundles would be 5 percent lower than current spending

Condition	Total episode	Illustrative reduced episode benchmark	Percent reduction
Stroke	\$22,692	\$21,239	6%
Simple pneumonia & pleurisy	12,280	11,720	5
Coronary bypass w/cardiac catheterization	41,791	41,197	1
Heart failure & shock	14,129	13,421	5
Major small & large bowel procedures	23,564	23,089	2
Major joint replacement	22,787	21,903	4
Hip & femur procedures except major joint replacement	35,216	32,969	6
Fractures of hip & pelvis	22,124	20,449	8
Kidney & urinary tract infections	13,770	12,956	6
Septicemia without ventilator 96+ hours	19,056	18,178	5
Average reduction for 10 conditions			5

Note: Post-acute services include services furnished in skilled nursing facilities, home health care, inpatient rehabilitation facilities, and long-term care hospitals. Spending for 90-day inpatient hospital-post-acute care bundles includes payments for initial hospital stay, post-acute care, potentially preventable readmissions, and the physician services furnished during each. We risk adjusted spending using Medicare severity–diagnosis related groups and standardized payments for differences in wages and special payments, such as teaching, disproportionate share, and outlier payments. Reduced episode benchmarks were calculated using 90 percent of spending on readmissions and PAC. Data shown are for potentially preventable readmissions and acuity level 1 patients.

Source: Analysis based on bundled spending prepared by 3M Health Information Systems for MedPAC using 2006–2008 Medicare claims data.

settings would encourage providers to find an efficient mix of services and consider the risk of readmission by setting. Setting-specific payments would continue to encourage referrals that do not necessarily reflect a beneficiary’s care needs. We found that the explanatory power of a single payment (regardless of setting and including episodes with no PAC) was comparable to Medicare payment systems currently in use (p. 75). This result suggests that any losses and savings associated with the use of high-cost and low-cost settings could be sufficiently averaged out over multiple episodes. Furthermore, benchmarks based on current spending will incorporate the appropriateness of current referral patterns.

Options for setting spending benchmarks for bundle

Establishing a bundle’s spending benchmark for an episode of care requires a judgment about where along a spending or cost distribution to set the amount. Current program spending is not a good episode spending benchmark. There is wide variation in the use of PAC; Medicare margins are high in some sectors; PAC is not necessarily furnished in the most efficient setting; readmissions have not, until recently, been discouraged;

and the amount of PAC services furnished may reflect biases in the payment systems to furnish therapy services. The Commission has recommended that CMS rebase HHA and SNF payments, redesign the SNF and HHA prospective payment systems, and establish more meaningful criteria for LTCH use.

The level of the benchmarks will determine how hard it will be for providers to keep their spending below them. Benchmarks that reflect large reductions from current FFS spending will require more changes from existing practice patterns than small reductions. At the same time, the size of the withheld amounts or the amount at risk under a shared-risk approach will shape providers’ interest in beating the benchmarks. If few dollars are at stake, providers will be less interested in recouping the amount at risk. In combination, the two levers—the benchmarks and the withhold-payments or shared-risk approach—will shape providers’ responses to bundled payment.

Base episode benchmark on below-average spending

Bundled payments should give providers an incentive to consider the most efficient mix of services. To strengthen this incentive, CMS could establish episode

**TABLE
3-10**

Spending on post-acute care and readmissions in high- and low-spending areas

Condition	National average	High-spending areas	Low-spending areas	Ratio of high- to low-spending areas
Stroke	\$14,528	\$16,864	\$12,318	1.37
Simple pneumonia & pleurisy	5,603	6,916	4,352	1.59
Coronary bypass w/ cardiac catheterization	5,941	7,045	5,506	1.28
Heart failure & shock	7,079	8,510	5,735	1.48
Major small & large bowel procedures	4,755	5,147	4,331	1.19
Major joint replacement	8,842	10,852	7,047	1.54
Hip & femur procedures except major joint replacement	22,475	24,889	19,145	1.30
Fractures of hip & pelvis	16,754	17,484	14,159	1.23
Kidney & urinary tract infections	8,145	8,979	6,553	1.37
Septicemia without ventilator 96 + hours	8,781	10,895	7,020	1.55
Average for 10 conditions				1.39

Note: Areas were defined using metropolitan statistical areas (MSAs) and statewide rural areas. Post-acute services include services furnished in skilled nursing facilities, home health care, inpatient rehabilitation facilities, and long-term care hospitals. High-spending MSAs were defined as the MSAs making up the top 5 percent of per episode spending. Low-spending MSAs were defined as the MSAs making up the bottom 5 percent of per episode spending. Post-acute care spending is during the 90 days after discharge from the hospital. We risk adjusted spending using Medicare severity–diagnosis related groups and clinical risk groups and standardized payments for differences in wages and special payments, such as teaching, disproportionate share, and outlier payments. Data shown are for potentially preventable readmissions and acuity level 1 patients.

Source: Analysis prepared by 3M for MedPAC using 2006–2008 Medicare claims data.

spending benchmarks based on spending that is lower than the current national average. For example, episode benchmarks set 5 percent to 10 percent below the current national average would encourage all providers to lower their costs. One variant could be to establish episode benchmarks based on lower PAC and readmission spending. For example, if PAC and readmission spending were lowered by 10 percent, total episode spending would be 5 percent lower (Table 3-9). Lower PAC spending would reflect shifting some beneficiaries to lower cost PAC settings (perhaps some beneficiaries not even receiving PAC) and, within HHAs and SNFs, receiving only those services that are needed. Given the overlapping characteristics of some patients treated in different settings and the growth in SNF care that appears unrelated to patient care needs, these shifts would not likely result in poorer care. Given the variation in readmission rates across providers within and across sectors, a 10 percent reduction in spending associated with readmissions might be an appropriate initial value for the episode benchmark.

Base episode benchmark on spending in low-spending geographic areas

An alternative way to establish the episode benchmark is to consider the variation in spending across geographic

areas—called metropolitan statistical areas (MSAs) and statewide rural areas. Episode benchmarks could be based on areas where practice patterns result in low spending relative to the national average. For the 10 conditions examined, we compared risk-adjusted spending on PAC and readmissions across MSAs with the highest and lowest bundle spending (defined by the highest and lowest 5 percent of episodes). This risk adjustment includes the comorbidities of the patient. Across the 10 conditions, PAC spending in MSAs with the highest spending was 39 percent higher than in low-spending MSAs (Table 3-10).

Providers located in markets without high-cost PAC providers (IRFs and LTCHs) may be at an advantage because nationally set rates would include some use of the high-cost settings. Because their own practice patterns do not include the use of these services, the nationally set rate is more likely to exceed their own spending level. Providers in markets with high-cost PAC settings will be under pressure to lower their use of high-cost settings to patterns more in line with national averages.

Table 3-11 (p. 82) provides an illustration of how spending in low-spending areas could be used as inputs to establish episode benchmarks. If spending on PAC and readmissions were lowered to the mean of the national

**TABLE
3-11**

An illustration of how spending on post-acute care and readmissions in low-spending areas could be used as inputs to setting benchmarks

Condition	National average spending on post-acute care and readmissions	Mean of national average and average low-spending areas	Percent reduction
Stroke	\$14,528	\$13,423	8%
Simple pneumonia & pleurisy	5,603	4,978	11
Coronary bypass w/cardiac catheterization	5,941	5,724	4
Heart failure & shock	7,079	6,407	9
Major small & large bowel procedures	4,755	4,543	4
Major joint replacement	8,842	7,945	10
Hip & femur procedures except major joint replacement	22,475	20,810	7
Fractures of hip & pelvis	16,754	15,457	8
Kidney & urinary tract infections	8,145	7,349	10
Septicemia without ventilator 96+ hours	8,781	7,901	10

Note: Areas were defined using metropolitan statistical areas and statewide rural areas. Post-acute services include services furnished in skilled nursing facilities, home health care, inpatient rehabilitation facilities, and long-term care hospitals. Post-acute care spending is during the 90 days after discharge from the hospital. Data shown are for potentially preventable readmissions and acuity level 1 patients. We risk adjusted spending using Medicare severity–diagnosis related groups and clinical risk groups and standardized payments for differences in wages and special payments such as teaching, disproportionate share, and outlier payments.

Source: MedPAC analysis based on data prepared by 3M using 2006–2008 Medicare claims data.

average and the average for low-spending MSAs, spending would be between 4 percent and 11 percent lower than the national average. Other approaches could include setting the benchmark based on spending for MSAs that are lower than the national average. For example, spending could be set at the 40th percentile or some other amount below the mean. Setting the benchmark at a lower point in the distribution would place more pressure on high-spending areas and would result in more areas needing to change their utilization patterns to stay below the benchmark.

Seek to improve risk adjustment

Accurate risk adjustment is key to helping ensure payments do not encourage patient selection or stinting on care and do not place providers at undue risk. Risk adjustment also facilitates fair comparisons across providers, which is particularly important as Medicare moves toward value-based purchasing. With poor risk adjustment, a provider may appear to be less efficient or to have worse quality outcomes when, in fact, the provider differs from its peer group in the mix of cases it treats.

We compared, in an additive way, three risk-adjustment methods: MS–DRGs; the patient’s comorbidities recorded during the year before the trigger hospitalization (using clinical risk groups); and, for patients with patient assessment information, functional status at admission

to a PAC setting. Information about both comorbidities and functional status improved the ability of the risk-adjustment model to account for the variation in resource use (as measured by charges) across bundles (Table 3-12). Our ability to explain differences increased when a patient’s comorbidities were considered in addition to the severity of the hospital stay (from 31 percent to 34 percent). A patient’s functional status further improved our ability to explain differences across bundles (to 36 percent). Similar patterns were found when we examined the three risk-adjustment methods using payments, though the r^2 values were higher.⁷ These results underscore the importance of adjusting payments for functional status and a patient’s comorbidities and gathering consistent patient assessment information across settings, including at hospital discharge. CMS should move toward requiring core elements of the Continuity Assessment Record and Evaluation patient assessment tool to be used in each setting, including at discharge from the hospital.

Continued work on improving risk adjustment, particularly predicting PAC spending, is needed to dampen incentives for providers to avoid certain patients who are likely to require high-cost care. To date, no method—including those currently used to pay providers and Medicare Advantage plans—is perfect and any method is likely to allow some selection.

Alternative approach to bundling: Medicare spending per beneficiary concept

As an alternative to bundling, CMS could adapt the concept of Medicare spending per beneficiary (MSPB). The MSPB is a measure of hospital efficiency that compares each hospital's risk-adjusted spending for its inpatient stays plus 30 days with the national average.⁸ Currently, hospitals receive information (by major diagnostic category, such as surgical orthopedic cases) from CMS on their expected versus actual spending for inpatient stays plus 30 days of care. The measure includes spending on PAC, physician services, and readmissions. Although CMS is currently reporting the information to hospitals, it will use the measure in a value-based purchasing program in 2014. A portion of each hospital's performance will be based on whether its per beneficiary spending was above or below the MSPB target.

The big difference between the MSPB approach and bundled payments is that the MSPB establishes a target amount for each hospital and holds it accountable for keeping the average per capita spending (for all services) below it. Other providers (such as PAC providers) are not directly at risk or reward for spending that is above or below the target. Therefore, PAC providers may not gain experience with managing risk across settings and care transitions for beneficiaries. Another difference is that the MSPB target is for a collection of related conditions, such as a major diagnostic category. From a hospital's perspective, this target could coincide with a specific product line such as orthopedic surgery. In contrast, bundled payments and the associated benchmarks consider conditions individually. Performance relative to benchmarks and quality standards may furnish more actionable information to providers.

Implications of bundled payments for beneficiaries

Gains in quality and efficiency under bundling could improve coordination of care, quality, and the care experience of beneficiaries. Ensuring that bundling results in better outcomes would require measures to track outcomes and tie payments to them. To ensure that the goals of bundling are met, providers and the program could take steps to encourage beneficiaries to make choices about where they receive their PAC.

TABLE 3-12

Risk adjustment for all MS-DRGs improves with the addition of patient comorbidities and functional status

Hospital MS-DRG	Comorbidities	Functional status	Ability to explain differences in resource use
×			31%
×	×		34
×	×	×	36

Note: MS-DRGs (Medicare severity–diagnosis related groups). We used charges to measure resource use. Comorbidities were measured using clinical risk groups. Functional status was measured using patient assessment data that were cross-walked and calibrated across assessment instruments (see text box on pp. 70–71). Data shown are 90-day bundles that include inpatient hospital, post-acute care, physician services furnished during institutional care, potentially avoidable readmissions, and acuity level 1 patients.

Source: Analysis prepared by 3M Health Information Systems for MedPAC using 2006–2008 Medicare claims data and functional status data for beneficiaries who used skilled nursing facilities, home health agencies, or inpatient rehabilitation services.

Improved quality and patient experience

Because providers will be at risk for all of the care over a period of time, bundling is likely to result in more coordinated care. Providers would have an incentive to improve their processes for successful transitions across settings and to prepare beneficiaries and their caregivers for the next setting. For example, a family or caregiver is likely to receive more extensive follow-up care and be assigned a care manager who will oversee posthospital care. As a result, beneficiaries are more likely to know who to call with their questions and concerns, a frequent complaint of the fragmented “system” of care they now face. Beneficiaries and their caregivers are likely to receive more information and training about how to manage their condition after discharge from a hospital. Care managers are likely to ensure that follow-up appointments are made and kept. As a result, beneficiaries could experience fewer (and better) transitions between settings and fewer hospital readmissions. Reduced readmissions would avoid the health declines that often accompany a hospital stay.

To track quality under bundled payments, several measures of care coordination and the patient experience could be monitored (Table 3-8, p. 79). These measures include determining the length of time between a patient's discharge from a hospital and initiation of PAC, assessing whether essential clinical information about a patient's hospital stay is transmitted in a timely fashion to the PAC

provider, and determining how quickly patients are seen by their community-based physician after the hospital stay that initiated the bundled episode. Measures of unplanned readmissions and ED use may also reflect poor care coordination or failure of providers to communicate during care transitions.

Medicare could measure patients' experience of care by adopting or adapting selected elements from existing Consumer Assessment of Healthcare Providers and Systems[®] (CAHPS[®]) surveys, such as the Hospital CAHPS, the Home Health Care CAHPS, and the CAHPS Clinician & Group Surveys. While patient experience measures are inherently subjective, they capture an important patient-centered dimension of quality that is not available from other sources (Medicare Payment Advisory Commission 2004). Measures could include beneficiaries' perceptions of how well their pain was managed, whether their providers communicated effectively with them (e.g., answered their questions), and whether beneficiaries were included in treatment decisions and the planning of their care.

Under bundled payments, all providers will have an incentive to ensure that their care does not result in readmissions, which would undercut their ability to keep spending below benchmarks. PAC providers will have an additional incentive to maintain or grow their referrals from hospitals by having low readmission rates. To reinforce these incentives, CMS could tie whether providers keep their withheld amounts or share in savings to achieving certain minimum quality standards in addition to meeting benchmarks.

Aligning beneficiary decisions with the goals of bundling

Under bundled payments, beneficiary behavior plays a key role in whether providers and the program realize the goals of bundled payments. Beneficiaries' choice of providers is a cornerstone of Medicare but is influenced by providers. Providers could seek to influence these choices by giving beneficiaries information about the quality of PAC providers and offering additional care management services beneficiaries currently may not receive. The program could tie a portion of a provider's payments to achieving quality standards, raising the conditions of participation to exclude the lowest quality providers, or raising cost sharing for beneficiaries who do not go to the recommended PAC setting.

Current Medicare policies require beneficiaries to have the freedom to choose their providers. Selection of the PAC site reflects recommendations made during the hospital discharge process and beneficiary preference, subject to Medicare's rules for coverage and a PAC provider's willingness or ability to serve a beneficiary. Preserving beneficiaries' choice will be important in any bundling initiative. Although providers may not establish formal networks, under bundled payments, hospitals and doctors would have an incentive to refer beneficiaries to the PAC providers that best meet the bundle's goals for efficiency and cost.

Providers may rely on providing beneficiaries with information to shape their choice of providers. Current choices are heavily influenced by physicians and discharge planners. To help guide decision making, hospitals could furnish information on the quality of PAC providers. CMS could supply referring hospitals with risk-adjusted measures that would help inform beneficiaries' choice of providers. This information is likely to be better understood by beneficiaries when delivered and explained by their provider and could shift beneficiaries' use away from poor-quality providers. Shared decision-making tools may be useful in ensuring that beneficiaries fully understand their PAC choices and the implications of choosing one PAC setting over another.

Providers could influence beneficiaries' choices by offering care management services if beneficiaries elect to use a specific set of providers. Such an option would provide beneficiaries with services that might not be available from other PAC providers, such as assigning a nurse or other health professional to follow a beneficiary across the span of care, improved patient education practices, and expanded efforts at medication reconciliation (Coleman et al. 2006, Naylor et al. 2011). In experimental trials, patients who are offered these services overwhelmingly accept them, suggesting that beneficiaries would prefer these services if they were made available under bundling. Providers would have an incentive to furnish these services if the services lowered the risk of readmissions or allowed beneficiaries to be placed in lower cost PAC settings. Providers may decide to incur the cost of such services to raise the likelihood that their total episode spending will be below the benchmark.

The program can also adopt policies that reinforce choices about cost-effective high-quality care. In the near term, Medicare could tie the at-risk payments to quality outcomes. Providers would have a financial

incentive to achieve and maintain high-quality care. In the future, broader reforms could be considered. Medicare could revise its conditions of participation to include higher quality standards. In setting higher standards, Medicare could exclude the poorest quality providers from participating in the program. The program could also consider basing cost sharing on the recommended course of PAC care. Beneficiaries who followed the recommendation would have little or no cost sharing, while those who opted for a different choice would be subject to higher cost sharing. Beneficiaries would retain choice about where to receive their care, but their choices could cost them more. So that these decisions do not simply shift costs to beneficiaries, it is essential to ensure that beneficiaries understand how differences in their cost sharing are related to their election to use providers and settings most likely to produce the best clinical results.

Conclusion

Bundled payments are one way to begin to change the delivery system away from the fragmented care that results from FFS and toward shared accountability that encourages care coordination and cost control during an episode of care. Bundled payments would give providers

a way to gain experience in managing care that extends beyond their narrow purview and across a spectrum of providers and settings. Because bundles would span episodes of care (not an entire year) and include a less complete set of services, they would require providers to assume different risks than they would in ACOs. As a result, bundling is a more practical option for many providers, but at the same time it limits what they are likely to accomplish.

The specific design of bundles will shape the risk for providers and the opportunities for care coordination. Long, inclusive bundles will lead to coordinated care over more services for longer periods of time but entail greater risk (and reward) for providers compared with short, more narrowly defined bundles. The level of the benchmark and the mechanism used to encourage cost-effective care (such as a withheld portion of the payment or a shared-risk approach) together will shape the pressure exerted on providers to change their current practice patterns. We illustrated the trade-offs inherent in the design decisions with one configuration, but many variants of this design are possible, each with its own strengths and weaknesses. Over the next year, the Commission plans to continue its conversation about how best to proceed with this potential payment reform. ■

Endnotes

- 1 Model 1 and Model 4 exclude PAC. Model 1 covers only an inpatient stay and requires an entity to take a discounted diagnosis related group payment for all diagnosis related groups in exchange for allowing gainsharing with physicians. Model 4 bundles include an inpatient stay, related readmissions, and physician services associated with the inpatient services.
- 2 Model 2 participants in the no-risk phase include 55 entities and 192 health care organizations; Model 3 participants in the no-risk phase include 14 entities and 165 health care organizations.
- 3 CMS implemented the hospital readmissions reduction program in October 2013. The program reduces payments to hospitals that have excess readmissions for three conditions (acute myocardial infarction, pneumonia, and heart failure). Each hospital's individual risk is limited in fiscal year 2013 because its total penalty is capped at 1 percent of inpatient base operating payments. The cap increases to 2 percent in 2014 and to 3 percent in 2015, and it stays at 3 percent thereafter.
- 4 Across the 10 conditions, SNFs and IRFs had the same readmission rates (24 percent) and HHAs had lower readmission rates (18 percent), though these rates varied by condition. IRFs had higher readmission rates (20 percent higher) than SNFs for beneficiaries with pneumonia, kidney and urinary tract infections, and sepsis. SNFs had similarly higher rates than IRFs for patients with stroke, major bowel procedures, and hip fractures. While HHAs had lower rates on average compared with other settings, their readmission rates were similar for beneficiaries with kidney and urinary tract infections or septicemia and those who were recovering from major bowel procedures.
- 5 The variation in bundle spending as measured by payments under the combined hospital-PAC bundle designs was higher than measured using charges. The r^2 values for the payment models were as follows: 62 percent for the 30-day bundle including readmissions, 67 percent for the 30-day bundle excluding readmissions, 45 percent for the 90-day bundle including readmissions, and 53 percent for the 90-day bundle excluding readmissions. The r^2 values for payments are higher than those for charges because they are driven by the use of MS-DRGs (which are used to set hospital payments) to explain the combined hospital-PAC bundle spending.
- 6 The Measure Applications Partnership is a public-private partnership convened by the National Quality Forum for providing input to the Department of Health and Human Services on selecting performance measures for public reporting, performance-based payment programs, and other purposes.
- 7 The ability to explain spending using payments found similar patterns, with higher r^2 values for reasons discussed in endnote 5. MS-DRGs alone explained 43 percent of the variation in payments. Adding comorbidities (as captured using clinical risk groups) raised this amount to 45 percent, and adding functional status raised the explanatory power to 51 percent.
- 8 Spending is risk adjusted using MS-DRGs, age, hierarchical condition categories, disability and end-stage renal disease status, and long-term care residence. Spending includes outlier payments and is adjusted for differences in wage levels and mix of cases but excludes payments for indirect medical education and disproportionate share hospitals.

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