HCP LAN
Health Care Payment Learning & Action Network

CLINICAL EPISODE PAYMENT MODELS

ELECTIVE JOINT REPLACEMENT

Chapter 3: Elective Joint Replacement

Background: Why Use Episode Payment for Elective Joint Replacement?

Total hip and total knee replacements are among the most commonly performed surgical procedures today. According to the U.S. Centers for Disease Control and Prevention, over one million such procedures are performed each year across all payers. Despite the high volume of these surgeries, outcomes and costs of care for joint replacement surgeries vary greatly among providers and across geographic areas (Table 4). This variation, combined with a clear care trajectory, the availability of quality measures, and the ability to empower consumers, made it an ideal focus for the CEP Work Group to develop recommendations.

Table 1: Joint Replacement in the U.S.: Prevalence, Cost, and Opportunities for Improvement[1]

	Commercial Market	Medicare
Number of Procedures	In 2011, there were more than 645,000 knee replacements and more than 306,000 hip replacements (American Academy of Orthopaedic Surgeons, 2014).	In 2014, FFS Medicare covered more than 400,000 procedures (U.S. Department of Health and Human Services, 2015).
Reason for Procedure	Joint replacements are most often due to osteoarthritis. Hip replacements may also be due to fracture.	
Spending by Payers	Knee replacement costs range from $11,317 to $69,654. Hip replacement costs range from $11,327 to $73,987 (Blue Cross Blue Shield Association & Blue Health Intelligence, 2015).	In 2014, on hip and knee replacement, FFS Medicare spent more than $7 billion (including cost sharing) for the hospitalizations alone (U.S. Department of Health and Human Services, 2015).

[1] The data in this table includes both elective and non-elective joint replacement, as well as joint replacements conducted for reasons other than osteoarthritis.

	Commercial Market	Medicare
Variation in Cost	The cost of a joint replacement procedure can vary by tens of thousands of dollars, depending on the geographic location. Variation can occur within the same metropolitan market. For example, in Dallas, a knee replacement can cost anywhere from $16,000 to $61,000, depending on the hospital. In Boston, a hip replacement can cost anywhere between $17,000 and $73,987. A study of 64 markets in the U.S. found that costs can vary up to 313% (Blue Cross Blue Shield Association & Blue Health Intelligence, 2015).	Medicare expenditures for surgery, hospitalization, and post-acute recovery range from $16,500 to $33,000, across geographic areas (U.S. Department of Health and Human Services, 2015).
Factors Affecting Variation	• Duplication of exams, imaging, and other diagnostics due to lack of communication between the surgical practice and the hospital. • Site of service; i.e. performing the procedure in an inpatient hospital setting when a less costly outpatient setting would be deemed safe and appropriate for a given patient. • Variation in the price paid for inpatient length of stay. • Delays and/or lack of coordination in transferring patients from hospital to post-acute care (home health, outpatient or inpatient rehabilitation, or skilled nursing). • Variation in value and cost of services, technology, equipment, and implants. • Variation in the use of standardized care protocols. • Variation in, and unnecessary use of, high intensity, post-acute care (PAC).	

Source: The MITRE Corporation.

Medicare, Medicaid, large purchasers, commercial payers, and providers have all developed clinical episode payment strategies for hip and knee joint replacement in an effort to reduce variation and thus positively affect overall costs and variation. As described in in Appendix C: Summary of Joint Replacement Initiatives Reviewed, joint replacement episode payment efforts tend to correlate with reduced use of non-value-added care, such as unnecessary post-acute care, lengthy inpatient hospital stays, avoidable complications and readmissions, all of which together contribute to better outcomes and experiences and lower total episode costs.

Recommendations: Elective Joint Replacement

The design element recommendations reflect the CEP Work Group's research and analysis on a range of existing episode payment initiatives for joint replacement (see Appendix C). See Chapter 2, Episode Payment Design Elements, for a summary of the recommendations described in more detail below.

1. Episode Definition

The episode is defined as an elective and appropriate total hip or total knee replacement due to osteoarthritis.

The recommendations in this chapter are based on defining the episode as a total hip or total knee replacement procedure[2] that is both **elective** and **appropriate.**

Elective: There are a number of reasons why this episode is defined around elective total hip and elective total knee replacement. Compared to lower extremity joint replacement due to fracture, elective joint replacement is higher volume and more predictable. Focusing on elective joint replacement then provides a higher value "target" than focusing on an episode that includes fractures and emergency joint replacement. It is also a more controlled clinical event, in which there are greater opportunities for patient engagement and shared decision-making. In addition, the pre-operative and post discharge care trajectories for elective joint replacement have an evidence base and are well-standardized, which can ease the way for wide adoption of this episode model. Finally, an elective procedure creates the opportunity for patients and providers to have a meaningful discussion about whether the procedure is truly appropriate, and/or whether there are alternative treatments that would better suit the patient's goals and values.

Appropriate: As noted previously, joint replacement is among the most common inpatient surgeries in the United States, and some estimate that the demand for this procedure will quadruple by 2030 (Ghomrawi, Schackman, & Mushlin, 2012). Finding data on how many of those joint replacement procedures were elective and appropriate, however, is not as straightforward. Stakeholders see joint replacement as a prime opportunity for applying appropriateness criteria in the course of determining whether or not it should be performed, or whether alternative, less invasive treatments are preferred by the person with osteoarthritis that can achieve similar or better functional outcomes at lower costs.

When appropriateness criteria were applied in other countries, studies found that 20% to 40% of elective joint replacement procedures were considered inappropriate, when using evidence-based criteria (Quintana et al., 2008; Van Walraven et al., 1996). The model described here is designed to include only those patients for whom the decision to have an elective joint replacement is evidence-based and, consistent with patient preferences and values.

Appropriateness will be determined via **both** the use of a functional status assessment tool **and** a meaningful, validated, shared-decision making process:

1. Evidence-based functional status assessment: For a patient to be included in the episode, there should be evidence that in addition to a clinical assessment, a provider used a **standardized, validated functional status assessment tool** to determine that the patient is an appropriate

[2] The episode definition does not include partial knee replacements or partial hip replacement due to their low volume in the Medicare population. Organizations that want to pursue adding these procedures to the episode should be aware that the cost is often higher than the cost for total replacement, which will factor into the episode price.

candidate for a surgical procedure, as opposed to being a candidate for less invasive care such as weight loss, activity modifications, non-steroidal anti-inflammatory medications, and exercise. The assessment should look not only at the functional capability of a patient's hip or knee, but also the pain that the patient is experiencing, optimization of modifiable risk factors (such as obesity, smoking, opioid tolerance, untreated depression or anxiety, and/or poorly controlled diabetes). It should also include an assessment of whether the procedure will meaningfully affect both function and pain levels.

Examples of Functional Status Assessment Tools

Some examples of provider-administered functional status tools are:

- Western Ontario and McMaster Universities Arthritis Index (WOMAC) score;
- Hip Disability and Osteoarthritis Outcome Score (HOOS JR);
- Knee Injury and Osteoarthritis Outcome Score (KOOS JR);
- Patient Reporting Outcome Measurement Information System (PROMIS); and
- Veterans RAND 12-item Health Survey (VR-12).

2. Meaningful Shared Decision-Making: In addition to formal assessment of pain and functional status, there must be evidence that the **patient, possibly with a family caregiver, has worked through a decision aid** that is highly rated according to International Patient Decision Aids Standards (IPDAS) with the support of a decision coach or a health educator, if needed (Ottawa Hospital Research Institute, 2014a). One example of a decision aid provider is Healthwise, a not-for-profit corporation that provides consumer health information to patients and caregivers, which has highly rated decision aids for both hip and knee replacement, as assessed by the IPDAS (Ottawa Hospital Research Institute, 2014b; Ottawa Hospital Research Institute, 2014c). Healthwise includes information about care options—including the pros and cons of each—and how to consider a patient's values and preferences as they relate to the care options.

   In addition to an initial shared decision-making, there should be evidence of ongoing engagement of patients in the discussion of care options and subsequent decisions related to the joint replacement procedure, if one is deemed appropriate. Primary care providers can perform this role, and in doing so, provide greater continuity of care to their patients. These providers could also support patients in reviewing comparative quality information about choice of surgeon, surgical facility, rehab services, and home health services at a time when the patient still have time to make proactive decisions about his or her treatment.

Ideally, both of these processes should be integrated into discussions with patients about appropriateness of care, and patients should be able to weigh in with their own values about the potential risks and benefits of the treatment options.

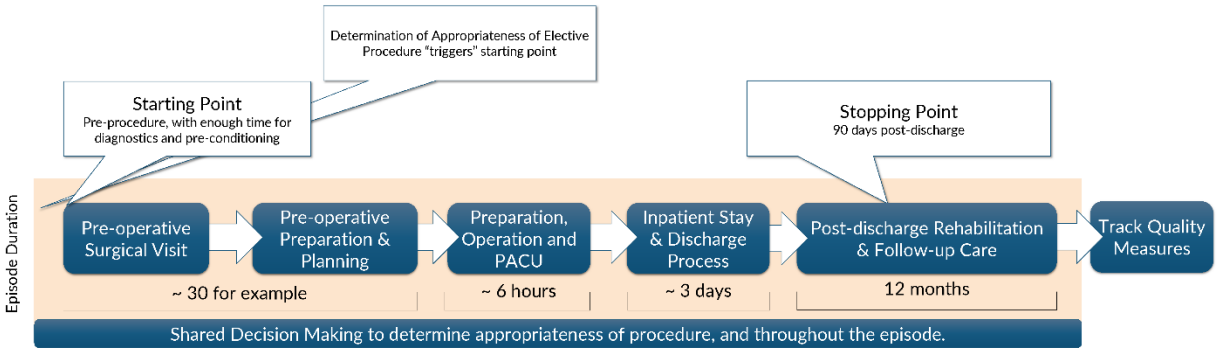
The Implementation Resources (Appendix F) includes information on Appropriate Use Criteria developed by organizations such as the American Association of Orthopedic surgeons. Providers and payers will need to determine how best to apply appropriateness criteria while avoiding the potential for limiting necessary care.

Finally, while functional status assessments and coaching/education are critical to making the initial determination that a procedure is necessary and appropriate, these are activities that should occur across the continuum of care to ensure that care is having the intended effect and that patients' preferences are reflected in the course of care.

2. Episode Timing

The episode should start pre-procedure (e.g. 30 days), and end 90 days post discharge (Figure 4) in order to include the most resource-intensive aspects of care for elective joint replacement patients. Accountability for functional improvement and performance measurement goes beyond 90 days.

Figure 1: Episode Timing



Source: Derived from Premier, Inc., and Institute for Healthcare Improvement. *Integrated Care Pathway for Total Joint Arthroplasty.* Charlotte, NC: Premier, Inc. and Cambridge, MA: Institute for Healthcare Improvement; 2013. (Available at www.premierinc.com and www.ihi.org)

Start and End Points

Optimally, the start and end points should be established based on the time when unwarranted (i.e. not evidence-based) variation in care begins and ends **and** when the opportunity to impact quality and outcomes is greatest (Figure 4). While defining start and end points is necessary, incentives can be created for services to be scheduled either before or after the dates in order to improve patient outcomes and decrease the costs of the episode. Therefore, an analysis of utilization patterns and outcomes should be built into the data analytics and monitored frequently in order to ensure that patient care is not inappropriately affected.

Episode Start Point: The episode should begin pre-procedure (as opposed to starting at the point-of-procedure), in order to create an incentive for reducing unnecessary or duplicative imaging and other diagnostics. The critical issue when determining the episode start point is ensuring that it provides an appropriate amount of time to achieve this goal, without creating perverse incentives to over- or under-deliver appropriate pre-operative care. Alternatively, the episode design could include care that is not directly related to the procedure. Based on the design of current initiatives, a reasonable starting point

may be 30 days pre-procedure. Operationally, this requires creating a look-back period, which an elective procedure by definition makes feasible.

An important factor to consider when setting the start point is the patient population. Older adults and Medicare beneficiaries may need a different time window than their younger counterparts who are covered by commercial insurance.

Episode End Point: The length of the episode after surgery is a critical decision point. This is because poor post discharge care coordination around auxiliary services such as post-acute care, rehabilitative treatment, home and community-based services and supports, and even delivery of medicines can be a significant contributor to costs and reduced patient outcomes. Based on the principle that the episode design should be patient-centered, and acknowledging the challenges patients experience during the rehabilitation period, the recommendation is for the episode to end 90 days post discharge. Even though costs may not vary as much in the latter days of the episode, the risk of significant complications continues throughout the 90 days; in fact, for many people, the recuperation period often exceeds that time period.

Current models feature end points that vary from 30 days to 90 days. This recommendation balances the ability of the accountable party to have some control over the patient's care (which would support a shorter episode) with the recognition that patients can benefit enormously from professional support in coordinating clinical and other post-operative services during recovery, which extends well beyond 30 days post discharge. One factor to consider in determining episode length is the specificity of the definition of the episode, including the inclusions or exclusions, as the more narrowly it is defined, the more comfortable providers will be with a longer episode.

Accountability: Quality measurement may include data for up to 12 months post discharge, even though the episode payment period ends 90 days post discharge.

3. Patient Population

The episode should apply to the broadest-possible pool of patients, using risk and severity adjustment to account for age and complexity.

Stakeholder views on which patients should be eligible for these episodes may vary significantly. Within the context of *elective* joint replacement, the patient population to which the episode payment applies should be broad.

Ideally, focusing on a broad population within the context of elective joint replacement will also motivate innovations in care and care coordination that will benefit the highest-risk patients, who are also highest in resource use. **Appropriately specified risk and severity adjustment algorithms applied to the episode price** are critical to this recommendation if the episode is to gain buy-in from providers.

It may also be useful to enlist the support of the primary care provider to ensure the proposed surgery episode is integrated within the context of the patient's other health concerns. It is also valuable to engage the family in shared decision making.

If concerns arise regarding the appropriateness decision, an appeals process should be established for those patients whose circumstances or risk cannot be identified through available data and might not otherwise be eligible. It is important to acknowledge that ineligibility for the episode does not necessarily mean the person would not receive care; their care would simply not be included in the episode payment initiative. This design will support the LAN's goals, while at the same time discouraging providers from "cherry-picking" the lowest-risk patients. A flip side to "cherry-picking" is the inappropriate selection of cases where conservative management is a more appropriate alternative to surgery.

4. Services

All services needed by the patient that are related to the joint replacement procedure should be covered by the episode price.

Stakeholder views on which services should be included may vary significantly. Payers may want to define the episode more broadly to capture as much variation and, thus, potential efficiencies as possible. Providers, on the other hand, may prefer more narrowly defined episodes so that care needs—and the associated costs—that are completely unrelated to total hip or total knee replacement do not weigh into the target price or quality metric goals for the episode. For example, a patient who receives a total knee replacement and requires a coronary artery bypass graft (CABG) procedure within the 90 days post-joint replacement discharge window should not have the costs of the CABG associated with the joint replacement episode. Too narrow an episode definition, however, might make the costs of implementation as compared to the value created not worth the effort.

This paper does not include specific MS-DRG codes to guide the selection of included service because the two relevant DRG codes (469 and 470) apply to all lower extremity joint arthroplasty procedures and specify only those procedures performed in an inpatient hospital setting. Thus, using these codes to define the services included in the episode may 1) result in including patients that do not meet the patient population or episode definition in this model; and 2) exclude outpatient procedures, which is not the intent.

Included Services: The episode payment should include delivery of all services billed in the defined time period *that are related to the elective joint replacement procedure*. Most initiatives (Appendix C) include all related services that occur within the defined time frame, including, but not limited to costs involving physicians, hospital/ambulatory surgical centers, devices, labs, home health services, skilled nursing facilities, physical therapy, and sometimes pharmaceuticals. Including pharmaceuticals and devices in the episode price and definition is important because they can be an expensive portion of the bundle.

There are two approaches to determining which services are considered part of the episode:

Define the Excluded Services: One approach focuses on defining a list of excluded services. For example, exclusions from the Comprehensive Care for Joint Replacement (CJR) Model final rule include hemophilia clotting factors furnished during the inpatient hospitalization, and acute surgery for unrelated conditions, such as appendectomy (Medicare Program; Comprehensive Care for Joint Replacement Payment Model for Acute Care Hospitals Furnishing Lower Extremity Joint Replacement

Services, 2015). These excluded services are identified based on Medicare Severity Diagnosis-Related Groups (MS-DRGs) and International Classification of Diseases-Clinical Modification (ICD-CM) diagnosis codes. If an initiative focuses solely on exclusions, recognize that the list is likely to be extremely long to avoid situations whereby patients or providers delay important services until after the episode ends. For example, if preventive services cannot be delayed simply because they are due to be performed during the episode of joint replacement and they are not specifically excluded, those costs would be considered part of the episode costs.

Define the Included Services: Other models rely on very specific lists of included services and exclude anything not on that list. Defining what is included, rather than excluded, might be more effective and easier to manage. Payers and providers should look to existing resources that provide evidence-based information about service inclusions and exclusions.

Patients with Multiple Concurrent Conditions: One challenge in establishing service boundaries is how to deal with complex patients with multiple concurrent conditions. For example, a patient with diabetes and coronary artery disease who receives a joint replacement may also require additional services related to their chronic illness within the 90-day episode period. While some of those services may clearly be outside the scope of the knee or hip replacement, others (e.g., treatment for a post-op heart attack) may be less clear.

The significant rise in joint replacements among patients who are obese and have co-morbid conditions such as diabetes and heart disease makes this a significant concern for payers and providers. While risk adjustment may address this in part, it is necessary to include sufficient accountability within the episode so as to appropriately care for common complications such as myocardial infarction, infection, deep vein thrombosis, etc. These are within the purview of the accountable entity if the appropriate involvement of the providers responsible for the ongoing care of these conditions is obtained throughout the time frame of the episode. For example, the tight control of diabetes has been shown to decrease the risk of these same complications.

5. Patient Engagement

Require use of shared decision-making and patient engagement tools, transparency of performance and the payment model, shared care planning, access to full health records, care coordination, and patient-reported quality measures in patient-facing materials to maximize opportunities to engage patients and families in advancing high-value care, both for themselves and overall.

As detailed in Recommendation 1 (Episode Definition) and Recommendation 2 (Episode Timing), the episode payment must be designed in a way that adds value for patients and their families and determines the best course of care. To summarize, accountable entities must provide:

- Evidence that a provider used a standardized, validated functional status assessment tool to determine that the patient was an appropriate candidate for a total hip or knee replacement; and

- Evidence that the patient, possibly along with a family caregiver, worked through a high-quality decision aid, with a decision coach or nurse educator, as needed and desired.

In addition, patients and family caregivers should be provided the following in a non-biased and transparent manner:

Comparative Provider Quality Information: Patients and family caregivers should have access to information about the procedure-related complication rates of possible surgeons and possible acute-care facilities; outcomes such as reduction in pain, gains in functional status, and quality of life; and information on the quality of possible post-acute care facilities and home health agencies. Patients should receive help shortly after deciding to have a procedure in identifying participating surgeons, facilities, and agencies, and in finding and interpreting relevant information about them. Such help should be available through clearly designated personnel without conflicts of interest. It is optimal for the patient to learn about, visit, and assess the quality and suitability of post-acute care options, including home health, skilled nursing facilities, and inpatient rehabilitation facilities, prior to admission for surgery. In addition, the accountable entity should identify providers included in the model and provide that list to patients.

Deploying Shared Decision-Making Tools in a Way that is Meaningful for Patients and Family Caregivers

Meaningful shared decision making requires both high-quality decision aids and a process that supports their use. This process can be described via the following steps: These aids support providers and patients in discussing the following:

1) Acknowledging that there is a decision to be made;

2) Explaining that there are care options, and each option has a different set of issues to consider;

3) Presenting the best evidence about the pros and cons of the care options; and

4) Acknowledging how personal values and preferences might align with the care options.

This conversation should be followed by a subsequent opportunity for the patient and family caregiver to meet with the care provider to get answers to any questions, decide about the optimal path forward, and initiate shared care planning.

Reimbursement Transparency: Patients and family caregivers need transparent information on how providers are being reimbursed in an episode payment model; the impact that episode payment may have on the patient's co-pay and co-insurance responsibilities and other cost sharing; and the manner in which care will be delivered.

Coordination Across Care Settings: In the private sector, this may mean engaging with patients and family caregivers about in- or out-of-network post-acute or follow-up care. In the Medicare FFS program, this may involve discussions related to choice of post-acute providers, after confirming that the patients still have freedom of choice. Regardless of payer, this involves providers and patients working together to identify participating and accessible post-acute care options, understanding their quality ratings, and making a wise choice. This is a critical patient conversation as it may be the case that a patient will not wish to see a provider that is within a specified payment arrangement.

Supported Care Planning: Providers should incorporate shared care planning into the delivery of care, which includes collaborative provider-patient goal setting prior to the procedure and ongoing decision making and monitoring using documented individualized care plans that are accessible to both patient

and providers. Patients with comorbid conditions that may affect their outcome should be encouraged to engage their primary care provider in their decision-making process.

Access to Health Care Information: For patient engagement to occur, patients (and, as desired, family caregivers) should have full access to health records to help understand and manage their condition and care. The goal is to provide infrastructure and support for gathering, storing, and using health data. One example of a tool that is providing access to these data is the successful Open Notes project, which is providing a growing proportion of patients to full access to their electronic health records (Bell et al., 2015; Esch et al., 2016; Walker, Meltsner, & Delbanco, 2015).

6. Accountable Entity

The accountable entity should be chosen based on readiness to re-engineer change in the way care is delivered to the patient and to accept risk. In this model, the accountable entity will likely require a degree of shared accountability, given the number of clinicians working to care for a patient.

Overall Readiness: The question of readiness to both re-engineer the care delivery model for the patient, and in the process, accept the financial risk they might incur, is central to the determination of what entity or entities should be accountable. There are a number of key requirements needed for success regardless of which entity (or entities) are held accountable (Table 5). Payers should work with the accountable entity to assess their readiness, and promote collaboration to allow for multiple providers within an elective total joint replacement care team to share the risk and reward in such a manner that all are engaged in creating a seamless, efficient, patient-centered care process. This process can require active participation across the continuum by aligning incentives across contracts in the private sector, because the payer often has contracts directly with providers. Medicare allows for full freedom of choice of provider in FFS, and the spreading of risk may take the form of a gain-sharing relationship. This is particularly important in a relationship whereby the providers are still paid a FFS with a retrospective reconciliation, because the accountable entity has limited ability to obtain buy-in from other providers in the episode without direct incentives for them to collaborate.

Factors to Weigh in Determining Readiness for Episode Accountability:

- Minimum volume standards;
- Ability to deliver, or contract for, the entire bundle of services to be rendered;
- Demonstrated ability to care for total joint replacement patients;
- Effective discharge planning capacities, including systems to include rehabilitation physicians and extenders early in the discharge planning process to help in identifying the proper trajectory of patients and their care;
- Ability to manage transitions or handoffs from one setting to another when necessary (e.g. entry, transitions, and discharge);
- Ability to track quality indicators and patient outcomes across an array of services and settings;

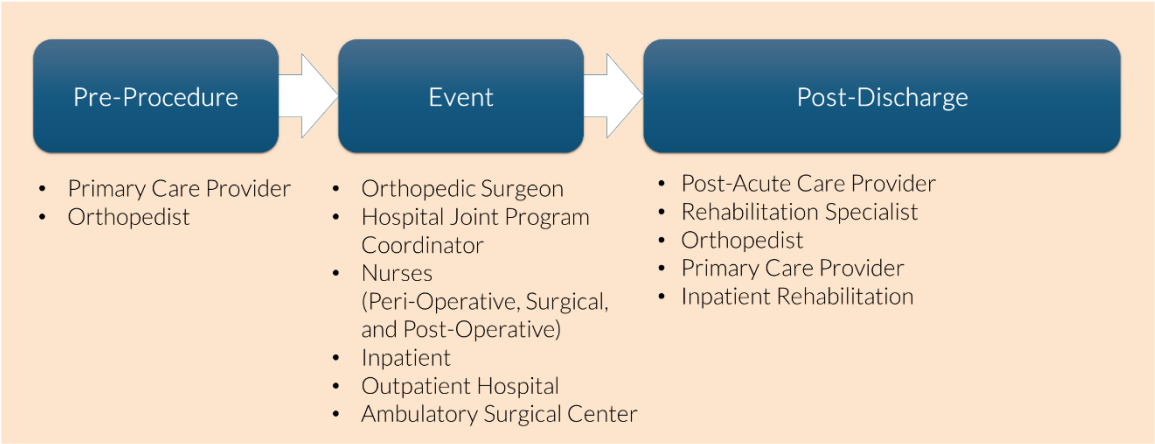
- Demonstrated dedication of the hospital, physicians, nurses, therapists, and other clinical professionals' time to the programs;
- Capacity to monitor patient clinical status and coordinate medical management and reconciliation as patients progress across acute and post-acute care settings;
- Ability to coordinate with other community services to foster the patient's independence;
- Necessary financial systems to administer payment across multiple entities; and
- Ability to tolerate financial risk, including post discharge outcomes, such as readmissions, and understand its own risk exposure.

Shared Accountability Across a Care Team: An ideal design would allow for shared accountability across multiple providers representing pre-operative, surgical, and post-acute care (Figure 5). These providers include not just orthopedic surgeons working in an inpatient setting, but also care settings such as emergency departments, ambulatory surgical centers (ASCs), outpatient hospitals, skilled nursing facilities (SNFs), inpatient rehabilitation facilities (IRFs), and other Post-Acute Care providers. They may also include other clinicians such as hospitalists and telehealth clinicians. Regardless of which entity is determined to be ultimately accountable, there must be recognition there are a number of key requirements needed for success. Payers should work with the accountable entity to assess its readiness to: 1) promote and support coordinated, collaborative care; and 2) allow for multiple providers within a joint replacement care team to share the risk and reward in such a manner that all are engaged in creating a seamless, efficient, patient-centered care process. It is useful to recognize that post-acute care entities may be set up to meet these criteria. [3]

In the private sector, the payer often has contracts directly with providers. Thus, this design, in which there is one accountable entity but multiple provider entities share risk and/or reward, will require active coordination across providers serving all parts of the care continuum. It will also require an alignment of incentives—by the payer or the accountable entity—across provider contracts, to all work toward a shared savings and high quality performance goal. In the public sector, with a payer such as Medicare that allows for traditional Medicare beneficiaries full freedom of choice of provider in FFS, the risk spreading may take the form of a gain-sharing relationship among providers who have received a Medicare waiver that allows them to do so. This is particularly important in a relationship whereby the providers are still paid FFS with a retrospective reconciliation, because the accountable entity has limited ability to obtain buy-in from other providers in the episode without direct incentives for them to collaborate.

[3] The CMS Bundled Payments for Care Improvement (BPCI) Initiative includes two models (Model 2 and Model 3) that include Post-Acute Care, with Model 3 defined as having the PAC provider serve as the accountable entity.

Figure 2: Examples of Joint Replacement Accountable Entities, Based on Care Team



Ability to Engineer Change: The pre-procedure orthopedic surgeon may be most able to effect change in an elective joint replacement episode, given his or her role in determining appropriateness, and engaging the patient in care planning and post discharge PAC decision-making. However, assigning accountability to the orthopedic surgeon may not be feasible in some markets. Risk levels may vary depending on the attributes of the accountable entity. While it is important that one entity be the primary accountable party, it is also important that care is provided using a team-based approach. Payers can use their negotiations with providers and use gain-sharing and loss-sharing to enable a system in which all providers who touch the patient share some level of accountability. Payers will need to assess which provider in a given market can act most effectively in achieving a joint replacement episode payment initiative's goals and establish that provider as the accountable entity.

Public and private models are mixed. Sometimes the hospital is the accountable entity, but sometimes it is the physician practice (often the orthopedic surgeon or practice). In many cases, the clinician can have the greatest impact on care re-design, because establishing a physician-level champion can ease the episode's management process. The clinician can lead the design and implementation of new patient care protocols; determine the best prosthetic devices; and communicate with the patient's post discharge provider more easily than the hospital. Further, the discussions with patients regarding appropriateness and expectations on functional improvements are most effective if the physicians are fully engaged.

Ability to Accept Risk: Some physician practices may have less ability to assume downside risk than larger practices or other better capitalized providers, such as hospitals or health systems that integrate hospital and physician care. This limited ability for physician practices to take on risk can be mitigated by limiting the level of risk associated with the episode. Strategies for doing so are discussed in the next recommendation.

In the CJR program (Medicare Program; Comprehensive Care for Joint Replacement Payment Model for Acute Care Hospitals Furnishing Lower Extremity Joint Replacement Services, 2015), CMS determined that the hospital—in comparison to other health care facilities—is best positioned to manage the care in an effective manner. This is based on the idea that hospitals have resources to coordinate and manage care, **and** hospital staff are involved in discharge planning and PAC recommendations for recovery. The regulations allow the hospital to opt to share a portion of gains or losses with other providers that are

part of the delivery of care for patients, including physicians or other post-acute providers. In the Acute Care Episode demonstration implemented by CMS, while the hospital was the accountable entity, it was considered critical to get the physicians involved. In that initiative, hospitals were able to utilize gain-sharing to engage physicians.

See the Chapter 6, Operational Considerations, for a discussion on two related issues. First, in the data infrastructure section is a discussion of the structures necessary to facilitate coordination and communication across members of the care team and between clinicians and patients. Second, in the regulatory environment section, is the discussion of how state laws may affect how much risk providers are allowed to incur. For example, some states' laws and regulations are supportive of hospitals to serve as the accountable entity, rather than a physician or physician practice.

7. Payment Flow

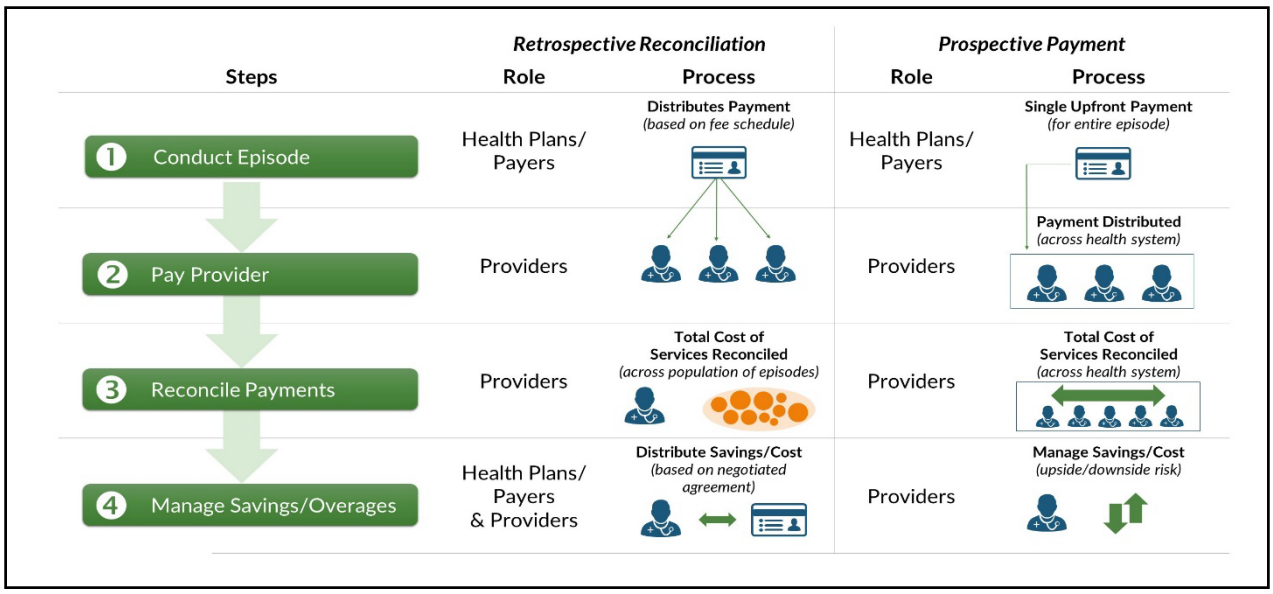
The unique circumstances of the episode initiative will determine the payment flow. The two primary options are: 1) a prospectively established price that is paid as one payment to the accountable entity; or 2) upfront FFS payment to individual providers within the episode with retrospective reconciliation and a potential for shared savings/losses.

Episode payments are typically dispersed via either prospective payment or retrospective reconciliation (Figure 6).

In **Prospective Payment**, payment is provided for the entire episode of care, including all services and providers, and paid to the accountable entity to subsequently pay each provider in turn. This payment typically occurs after the episode has occurred but is termed "prospective," as the price of the episode is established prospectively based on what is deemed to be appropriate care for the episode, and the savings or losses are not shared with the payer—they are simply a function of how well the accountable entity (and the providers with whom it coordinates) manage to the pre-determined price.

In **Retrospective Reconciliation**, individual providers are each paid on a typical FFS basis, and then there is a reconciliation between the target episode price and the actual average episode price after a period of time across all the episodes attributed to a provider. An initial reconciliation is typically conducted by the end of the first quarter following an episode's end; a final reconciliation is typically conducted within six months of the episode's completion. For this episode, this translates to April and June. Based on a specific formula, either negotiated or established by the payer, the accountable entity can share in gains and/or losses with the payer and/or the patient. In some instances, gains or losses are also shared among providers in the episode to encourage collaboration and coordination across settings. These types of gain-sharing arrangements need to be considered within the parameters of federal laws that may impact their design. See Chapter 6, Operational Considerations.

Figure 3: Retrospective Reconciliation vs. Prospective Payment



Prospective payment is generally felt to provide a stronger stimulus for care redesign through greater coordination of care across providers and care delivery settings, but it is only an option in some circumstances. These may include when the accountable entity is a health system that already integrates the clinician and facility payment. However, retrospective reconciliation is simpler to administer, as it requires fewer changes from current practice where the prevailing model is an open, non-integrated system. In addition, retrospective reconciliation is more prevalent in current episode initiatives, as it does not require providers to develop the capacity to pay claims; allows for better tracking of the resources used in the episode; and can be built on an existing payment system.

As a practical matter, it may be more difficult to implement a single prospective payment when multiple providers involved in delivering the care do not already have mechanisms for administering payment among themselves, such as is the case in integrated systems. Increased use of prospective payment can accelerate development of various supporting mechanisms to aid in this process.

Nevertheless, prospective payment has advantages in that it is a clear break from legacy FFS payment and may encourage greater coordination and innovation in episode payment. For example, in a prospective payment initiative, it may be more feasible to be flexible in delivering otherwise uncovered, value-added services, or to deliver services that—while covered under traditional FFS—are underutilized, such as coordination services that link patients recovering from an elective joint replacement with community supports, transportation, and other wrap-around services that are instrumental to ensuring patients receive the post-acute care and rehabilitation therapy that they need to achieve a positive outcome.

Currently, most episode of care payment models flow through a retrospective reconciliation system due to the challenges inherent in operationalizing prospective payment in the prevailing open, non-integrated health care environment. As noted above, retrospective reconciliation is more prevalent in current episode initiatives, as it does not require providers to develop the capacity to pay claims, keeps better track of the resources used in the episode (using administrative claims), and can be built on a legacy payment system. However, the recommendation is to consider prospective payment where possible. Prospective payment is a clear break from legacy FFS payment and may serve as a foundation

for greater innovation in the quality and coordinated care delivery needed to make episode payment successful. Further, if a prospective payment is shared among providers, it negates the incentives of the FFS payment and creates important buy-in for care redesign.

Prospective payment may work best in the context of a health system that already integrates hospital and physician care, as the monetary relationship among the key providers is already established. However, even under prospective payment, it is critical to maintain a record of specific services delivered that may still involve some degree of FFS payment. This will allow for analyses of best practices that lead to greater efficiencies, including lower levels of complications and functional improvement. One caution on prospective payment in a FFS Medicaid program is that there may be regulatory barriers for one provider assigning payment to another. Legal counsel should be sought in this scenario.

8. Episode Price

The episode price should strike a balance between provider-specific and multi-provider/regional utilization history. The price should 1) acknowledge achievable efficiencies already gained by previous initiatives; 2) reflect a level that potential provider participants see as feasible to attain; and 3) include the cost of services that help achieve the goals of episode payment.

The episode price is critical. It ultimately determines the monetary rewards or penalties that a provider may experience. It can also play a role in creating the incentives that determine how care is delivered and whether the goals of the episode are prioritized. There are several key aspects that interact in the establishment of the episode price, described below.

Look-Back Period for Historical Data: The appropriate look-back period for historical data should be set according to two variables: number of cases that occurred, and the number of years. For elective joint replacement, a two-year period should yield a sufficient number of cases on which to determine a reasonable episode price. Severity adjustment (described more fully below) can be employed to explain much of the variation in costs of care that are within a reasonable distance from the average cost within that time period. It should be noted that there is no way to completely eliminate measurement error in this process, but it can be reduced by using a large enough sample size; thus, the reliance on number of cases may be prioritized over the number of look-back years.

One challenge with defining a look-back period by years and/or number of cases is that the number of years and cases will vary depending on whether the episode is broadly defined (i.e. includes a wider range of services) or more narrowly defined (i.e. includes a smaller range of services). To address this challenge, implementers may think about the look-back for historical data within the context of setting a target margin of error. This margin can be defined as a factor of the number of cases, and the underlying distribution and variability of episode costs. A more broadly defined episode will require more cases in order to achieve a reasonable margin of error, while a more narrowly defined episode will be able to fall within that margin by using fewer cases.

Balancing Regional and Provider-Specific Data: Once the look-back period is determined, the cost data should reflect a mix of provider and regional claims experience. The goal of including regional, rather

than market-level data is to ensure that there is enough variation in episode cost. This mix will also ensure that the established episode price takes into consideration the unique experience of the specific provider, and that the goals are set based on what is feasible in the region. Risk adjustment will be needed during this process to adjust for the unique characteristics of the population the provider serves. If the payer is a national payer, it may be more difficult to address specific provider issues and will require consideration of the use of national claims experience to ensure equity across regions. Over time, as performance becomes less variable, it may be useful to lessen the proportion of the episode look-back period that is based on the organization's specific experience.

Regional Costs: As noted above, using regional-level claims data allows the payer to take into account the costs of multiple providers within a region, reflecting the fact that one provider's costs may not be fully representative of what is possible in that region. It also addresses the variability that may exist for a provider with a low volume of cases. However, the concern with using regional claims is that, if as a whole, providers in that region have already achieved a certain level of efficiency, they may be less able to achieve further savings or will achieve lower savings. In essence, these regions (or the providers in them) will argue that an efficient region will be "punished" for their previous work to achieve these efficiencies. On the other hand, if the region, on average, has a higher per bundle cost than other regions (or specific providers within the region), the payer may not achieve as great a level of savings than if the episode price was to be set at a national or provider-specific level. In situations where a region is not large enough to reflect sufficient variation across providers, a larger region may need to be defined.

Provider Costs: Provider-specific costs are the actual costs for the previous patients of the provider now responsible for the patient episode. For example, if a hospital is accountable, the analysis would be conducted using the current episode definition and applying it to patients who received joint replacements over the last two years. The challenge is that while these costs may be accurate for a given institution, they may build in already gained efficiencies that make it more difficult for an already-efficient group of providers to achieve savings or build in inefficiencies that limit the savings for the payer. Another challenge is in using provider costs in a way that does not inhibit traditionally high performers from continuing to strive for excellence and improvement. One way to address this is to use multi-provider cost averages, which can create a "pay for performance" model, versus a "pay for improvement" model which can benefit poor performers disproportionately.

Incentivize More Efficient Levels of Practice: In addition to historical provider and region-level data, the episode price should be based on the performance of the better performers in a particular market, such that all providers can see that the episode price and the quality metric performance thresholds are feasible to achieve. If a provider's performance is already at a relatively efficient level, it will need to see some reward for that achievement at the same time that low performers will have an incentive to improve.

The episode price can be revised over time to ensure continual improvement by both the more and less efficient providers. In this way, the episode price automatically integrates savings and simultaneously incentivizes a compression of variation in cost and quality across all providers. Finally, the episode price should take into account services that are historically under reimbursed, and thus, underused, but are of high value to the patient. Care coordination, patient engagement, shared decision-making, and assessment of patient-reported pain and function are examples of services that could fall under this category.

Other Factors Impacting Episode Price

There are many other factors that should be used in developing the episode price, though the ability to do so will depend on the availability of data and analytic tools. For further discussion on this topic, please read the paper on Financial Benchmarking, click here.

Factors impacting price include:

Socio-Economic Status of the Patient Population: There are a number of socio-economic factors that have a significant impact on a patient's health status prior to the joint replacement procedure, access to care, and post-procedure rehabilitation and follow-up care. These include income, health literacy, living status (living alone, living in a community without family or other supports nearby), availability of transportation (both in general, and to care settings), and others. Certain socio-economic factors may align with a specific payer category, whether it be Medicare or commercial payers.

Public vs. Private Payers: There are differences between public and private payers that should be acknowledged and reflected in the episode pricing. In addition to the socio-economic status of the patient population, as described above, there is also a difference in how overall pricing is set. For private commercial payers, pricing is an element of negotiation; in the public payer realm, prices are set by the public payer. Either way, this will impact the level at which the episode price is set, as will the market in which the payer operates. Most private sector payers will need to negotiate with providers on the episode price, particularly if participation is voluntary. If the initiative requires participation, it may be easier to establish an episode price, as is the case for the CJR.

Trusted Empirical Data: One challenge is the ability for payers and providers to understand the variation in the costs of the episode across their region. Determining the appropriate price requires empirical data from a trusted source. The availability of these data to identify the opportunities for efficiencies is critical to the success of these initiatives.

Episode Payment Flow: The episode price can be set retrospectively in an episode model for which retrospective reconciliation is the selected payment flow. Similarly, the price can be set prospectively in a model designed around prospective payment. Thus, setting the episode price and the payment flow should be part of an integrated process.

Patient and Family Definitions of Value: Information on the types of services that are most valued by patients and their families should be considered in determining the episode price. This information would not typically be captured via historical data, but rather via engagement between providers and their patients, as well as between purchasers and their employees.

Multiple Ways to Build in Savings for EJR Episodes: One commercial bundled payment model, the PROMETHEUS payment model, builds in an assumption of a lower level of costs for complications and readmissions and adjusts the episode price accordingly. On the other hand, the original Geisinger model's ProvenCare™ warranty strategy built in an assumed 50% decrease in complications into its warranty price. Meanwhile, other payers build in savings, regardless of whether the calculation is based on provider or region-specific estimates or decreases in readmissions or complications. CMS built in a set discount factor of three percent and allowed for the episode price for the CJR to be set using a mix of hospital specific and regional data, shifting to a more regional approach over a five-year period. The provider's performance on key quality metrics can be utilized to lower the discount factor if its performance is high enough.

9. Type and Level of Risk

The goal should be to utilize both upside reward and downside risk. Transition periods and risk mitigation strategies should be used to encourage broad provider participation and support inclusion of as broad a patient population as possible.

The goal when setting an episode price should be to incorporate both upside reward and downside risk. Absent downside risk (where the actual costs of care exceed the target episode price), the accountable entity and other providers involved have less incentive to make the necessary changes in how care is delivered to create efficiencies and improve patient outcomes. Further, increases in the cost of care from year to year often negate the benefits of upside sharing of savings, particularly when the episode price is based on historic data. However, taking on downside risk may be difficult for smaller providers, including many physician practices, that are also the most able to make the necessary changes in a joint replacement episode of care.

To address these concerns, payers can utilize strategies to limit that risk or to transition (phase in) the downside risk over time. This is particularly important if the initiative is voluntary and participation would be limited absent the option for upside reward only. Decisions about type, level, and timing of upside reward and downside risk illustrate tensions between payers and providers: certain risk arrangements may be more acceptable to payers than to providers, and vice versa. Consequently, in the private market, these factors become part of the ongoing negotiations among network participants and payers. Regardless of the mechanism used to limit risk, it is critical that the methodology for developing that mechanism be transparent, as well as modifiable, depending on the timing of the procedure.

Safety Net Providers and Risk

A primary goal in designing any alternative payment model arrangement is guarding against unintended consequences. In episode payment for elective joint replacement, the unintended consequence that concerns all providers – but perhaps safety net providers most of all – is the potential for decreased access to care for patients with poor health status, which puts them at increased risk for poor outcomes. This may be correlated with lower socio-economic status if the provider feels that it will not be possible to provide the full continuum of care and achieve positive outcomes within the episode price. Safety net providers in particular may need time to develop adequate reporting and staffing infrastructure; and build relationships across historically siloed organizations in order to feel prepared to take on the risk in an episode payment model.

Mechanisms for Limiting Risk: The level at which those risk limits are set is a critical design element. There are a number of issues to consider, such as whether the accountable entity will be required to pay the *full* difference back to the payer between the established episode price and the actual episode costs or whether limits will be established. Limits are especially important considering that a provider is often also accountable for care provided by several other providers across the episode. What the accountable entity is paid through FFS payment is typically not sufficient for them to pay back a payer if the costs over the episode price are due to higher-than-

expected utilization of other providers' services across the episode. Therefore, following are strategies used by various initiatives to limit risk in an episode payment:

Risk Adjustment: Risk adjusting the episode price, based on the severity within the population in the elective joint replacement bundle, is one risk-mitigation strategy. There are a variety of approaches to capturing patient characteristics, disease status, and other parameters that predict episode expenditures. For example, the Health Care Incentives Improvement Institute's (HCI3) evidence-based case rates (Health Care Incentives Improvement Institute, [n.d.]) create a variety of patient-specific episodes that re-calibrate based on various patient-specific severity factors. Another example, the Medicare Payment Advisory Commission, in its analysis of bundling, utilized various risk adjustment tools,[4] including markers of functional status and co-morbidities, to adjust the underlying episode for their analysis. For further discussion on this topic, please read the paper on Financial Benchmarking, click here.

Stop-Loss Caps, Risk Corridors, and Capital Requirements: Other options for limiting the level of risk include: Limits at both the individual and aggregate levels that could be included as stop-loss insurance; risk corridors that limit exposure and gains (CJR includes a ramp up of the exposure from an upper limit of 5% of the target price to 20% of the target price by year five (5) of the model); and some level of capital requirements to cover the losses. Another consideration may be to limit the risk for any entity to some portion of the overall costs of the episode based on the accountable entity's role in the episode.

Interaction Between Risk Mitigation Strategies: Illustrating the interaction between risk adjusting the episode price and other risk mitigation strategies, for one existing joint replacement episode payment initiative, a payer decided not to risk adjust the price, but, instead, established a risk corridor that capped exposure at 115% of the episode price. This method limits provider exposure, avoids the complexity of risk adjusting, and provides a set target.

10. Quality Metrics

Prioritize use of metrics that capture the goals of the episode, including outcome metrics, particularly patient-reported outcome and functional status measures; use quality scorecards to track performance on quality and inform decisions related to payment; and use quality information and other supports to communicate with, and engage patients and other stakeholders.

Episode payment encourages better communication and coordination of care across providers. This puts the patient at the center of the care across settings and helps achieve the goal of improving quality, providing positive patient experiences and patient outcomes, and doing it all within a defined price to reduce unnecessary care.

[4] http://www.medpac.gov/documents/contractor-reports/sept13_episodebundle_contractor.pdf?sfvrsn=0

Quality measurement is critical to achieving all of these goals. Quality measures may be used to hold providers accountable for the quality of care being given, the level of resource use, and a patient's experience with the care. Accountability requires the use of process measures as well as outcome measures (clinical and patient-reported). It also requires measures that reflect care across settings as well as within individual provider settings. Patients need provider-specific performance scores to assist them with selecting individual providers, and providers need to know that patients are experiencing positive outcomes across all settings within the episode.

The CEP Work Group recommends using Patient-Reported Outcome Measures (PROMs) and measures of functional status pre- and post-procedure for accountability purposes, and additional clinical outcome measures should be considered for both accountability and payment.

In selecting the metrics for an episode payment model, it is important to recognize the preference for alignment of measures across programs, use of nationally endorsed measures, and a limited, tight set of measures with a low burden of collection. The CEP Work Group supports these principles whenever they can be met with measures that incent priority opportunities for improving elective joint replacement care. A measure that meets these criteria without the potential for clear benefits for patients would not be fit for this purpose and is not recommended. The Work Group is not including recommendations for specific quality metrics at this time.

Measuring and tracking performance on quality are critical for the success of clinical episode payment. Measures of quality must be identified, and the manner in which information on the performance on quality will be used must be defined. To do so requires:

- Selecting **clinical and patient-reported outcome measures, and functional status measures** to track provider performance for services delivered within the episode to ensure that the fiscal savings incentives do not incentivize lower quality care but improve quality;
- Creating a **quality scorecard** with performance thresholds or benchmarks against which performance is assessed and used to inform payment; and
- Using quality metrics for **communicating information to consumers and patients** in a way that is meaningful and supports patient engagement.

Prioritize Use of Outcome Measures (Clinical and Patient-Reported), and Functional Status Measures

Defining quality metrics for episodes can be challenging. Many quality measurement metrics are designed for measuring the quality of care in a single setting of care and not for observing quality over multiple settings. For example, with hip and knee replacement, complications in a hospital do not measure what may have happened in a post-acute setting where the improvement in functioning is a primary goal. Another issue is that some metrics were designed for broader topics, such as patient experience surveys of a hospital experience, and may not be designed to capture key attributes of the patient experience specific to joint replacement episodes that occur over time and over multiple settings and providers.

There are metrics available today for measuring the quality of the surgery, aspects of the patient experience, and to assess pain and functioning pre- and post-procedure (as described in Recommendation 1, Episode Definition). Patient experience survey measures should include questions about patients' experience with pain and pain management; functional status assessments should include measures of ambulatory function, and should be conducted immediately post-procedure and at six-month intervals through the duration of the 12-month quality measurement cycle.

There is not a standard number of measures that should or must be used to support elective joint replacement episode payment. The prevailing wisdom is to seek to use less measures, but make those measures more powerful in terms of how much information they impart about the care delivered. Examples include standardized and consensus-based measures of complication rates and hospital readmissions, which can provide information about the relationship between reducing costs of care and the effects on quality. Standardized measures of complications and readmissions are aligned with the goals for lower costs as the lower the rates of complications and readmissions, the lower the costs of the episode.

Finally, all outcome measures used to determine payment or reported to patients must be accurately risk adjusted to account for a range of complexity in the patient mix. In considering which measures to implement, one resource is the Orthopedic Measures Core Set, Version 1.0 (Table 5), developed by the Core Quality Measures Collaborative (CQMC) is not meant to be an exhaustive list of what is available. Rather, it is a core set of measures developed by a multi-stakeholder effort aligned at implementation by private and public payers.

Table 2: CQMC Consensus Core Set: Orthopedic Measures, Version 1.0

Consensus Core Set: Orthopedic Measures, Version 1.0[5]

• Hospital-level risk-standardized complication rate (RSCR) following elective primary total hip arthroplasty (THA) and/or total knee arthroplasty (TKA)
• Hospital-level 30-day, all-cause risk-standardized readmission rate (RSRR) following elective primary THA
• Surgical Care Consumer Assessment of Healthcare Providers and Systems (CAHPS):
  • Information to help you prepare for surgery;
  • How well surgeon communicates with patients before surgery;
  • Surgeon's attentiveness on day of surgery;
  • Information to help you recover from surgery;
  • How well surgeon communicates with patients after surgery;
  • Helpful, courteous, and respectful staff at surgeon's office; and
  • Rating of surgeon.

Source: Core Quality Measures Collaborative; https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/QualityMeasures/Core-Measures.html.

Patient Experience of Care: Given the central role of care coordination to episode payment, payers use patient experience surveys to assess whether patient-provider interactions are supporting the goals of the payment initiative. For example, the CJR initiative plans to utilize the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) (Centers for Medicare & Medicaid Services, 2014)

[5] The CQMC is currently overseeing a work group on Patient Reported Outcome and Patient Experience measures, which is reviewing the following measures related to hip and knee replacement.

patient experience survey for this purpose. Surgical-CAHPS (S-CAHPS), which is designed for surgical episodes, is more specific to the present context and is included in the CQMC's orthopedic core set (Centers for Medicare & Medicaid Services, 2016).

PROMs: Patient-reported outcomes, particularly those related to functioning and pain, are critical in elective joint replacement episodes because these are the two key problems the procedures are designed to solve. Functioning and pain should be measured both pre- and post-procedure. Given that a patient assessment should be done as a requirement for a patient to be included in an episode payment initiative, the same tool should be used prior to the procedure and at defined intervals after the procedure to ensure standardization and measure improvement. Several assessment instruments are utilized in post-acute settings that include these types of items and can be evaluated to determine their utility in joint replacement episode payment. At this time, the CEP Work Group recommends that a patient's change in functional status should not affect payment, rather payment should be based on the use of these pre- and post-procedure assessment tool).

As part of this work, the CQMC is reviewing NQF measures 0422 (Functional status: knee impairments, using Focus on Therapeutic Outcomes knee PROM) and 0423 (Functional status: hip impairments, using Focus on Therapeutic Outcomes hip PROM). The CQMC work group is also reviewing NQF 2653: Average change in functional status following total knee replacement surgery, using the Oxford Knee Score.

Quality Scorecards

Most episode payment initiatives use a quality scorecard with defined thresholds that a provider must meet or exceed in order to receive either the full reimbursement for an episode or the full shared savings possible. However, decisions on where those thresholds are set or how they are used should be up to the payer and provider to negotiate (this applies to the commercial market; see below for comparison with the public sector). Some initiatives vary the level of shared savings based on performance on the metrics, while others also use minimum performance levels as a threshold for receiving any portion of the savings. Issues that must be considered when developing quality scorecard thresholds include:

Collecting Sufficient Data: It is important to collect sufficient data to inform the threshold levels. This is of particular concern when it comes to using measures such as a functional status tool. Since use of these tools is relatively recent, there may not be enough information on where the threshold should be set.

Driving Quality and Patient Safety Improvement: While in the initial years of episode payment the thresholds may be set to allow for the greatest opportunity for sharing savings, the goal should be to set thresholds at a point that incentivizes innovation in care improvement over time, which ultimately will drive quality and patient safety improvement.

Lack of Alignment: There may not be alignment between public sector and commercial sector episode payment models when it comes to a quality scorecard design. Commercial payers have a different ability to negotiate payment related to performance with their providers than CMS or the states. In addition, the threshold levels may vary given the difference in their populations, which may make alignment across sectors challenging. However, efforts such as the CQMC, which represents collaboration among CMS, AHIP, and the National Quality Forum, are seeking to address this issue.

Note that quality measures are needed for use in payment and for consumer information; however, one concern is that providers may not be as willing to take on patients at risk for poor outcomes if these

types of outcome measures are used in tandem with payment. Another concern is whether stakeholders have confidence in the quality of the metric itself.

Quality Information to Communicate and Engage with Patients

In addition to using information on quality to determine payment, it is important for other stakeholders to have access to data on quality. To be informed on the outcomes across settings, patients need quality data (ideally prior to making the joint replacement procedure decision) about the physicians, surgeons, hospital, and post-acute care providers, particularly if they have a choice of provider teams and/or settings in which to receive care. Currently, there are gaps in the availability of such data, as well as a lack of research on the extent to which consumers (or payers) find such information useful.

To make optimal use of available comparative quality information, consumers should have access to personnel who can help them identify and interpret information relevant to their circumstances, and who are not unduly conflicted, allowing them to provide helpful, disinterested advice and recommendations to the patient.

Employers and purchasers need to make data on quality available to employees to support their use of providers that offer bundled payment for joint replacement. Specifically, employees need to understand the bundle and what their role is in receiving high-quality care.

Primary care providers hoping to enter into bundled payment contracts will want data about specialty physician quality performance in order to determine which bundled arrangements would be most beneficial to their patient population.

Finally, episode payment design must build in the capacity to collect, analyze, and provide data and support patients in identifying and interpreting this information. It is important, therefore, to establish cross-cutting efforts to define metrics and systems for data collection and analysis. But it is a significant burden for each initiative to define its own metrics, collection system, and scorecard. Consequently, one place to look would be the CQMC process for defining metrics and the use of existing reporting mechanisms, such as Hospital Compare, Physician Compare, Nursing Home Compare, and Home Health Compare, which provide relevant information on the quality of their care on hip and knee replacements and rehabilitative services. Clinical registries also have experience with collecting and analyzing rich data on complications and other outcomes for joint replacement. Broader efforts are needed to build the necessary infrastructure for meaningful development and use of quality performance information, and building these systems is one of the key challenges discussed in the Operational Considerations section of this White Paper.