HCP LAN
Health Care Payment Learning & Action Network

CLINICAL EPISODE PAYMENT MODELS

CORONARY ARTERY DISEASE

Chapter 5: Coronary Artery Disease

Background

According to the National Center for Chronic Disease Prevention and Health Promotion's Division for Heart Disease and Stroke Prevention, coronary artery disease (CAD) is the most common type of heart disease in America. In the United States in 2010, about 20% of the 65-year-old and over population were living with CAD. This condition is also present in about 7% of the population who are between the ages of 45 and 64. Patients with CAD often experience comorbidities such as diabetes and obesity. The two procedures most commonly used to treat CAD patients—PCI and CABG—account for more than one million procedures done annually in the United States. This amounted to a cost of more than $15 billion of health care spending in 2012. These figures do not take into account the additional costs of hospitalization before and after surgery; according to the U.S. Centers for Disease Control, the average cost of hospitalization for a coronary bypass in 2013 was $38,707 per person. The national expenditures for CAD-related hospitalization in 2013 came to a total of $6.4 billion (Centers for Disease Control and Prevention, 2014).

Patients with CAD experience their illness in many different ways. Some patients are diagnosed due to a "triggering" event, such as an acute myocardial infarction (AMI)—or heart attack. Others are diagnosed following either acute or routine diagnostic testing that results in either the need for medical management or a procedure like PCI or CABG surgery. While CAD has a variety of manifestations and acuities, a common thread that ties almost all CAD patients together is the fact that CAD is a chronic condition; those who are diagnosed with it will likely have to live with it for the remainder of their lives.

The way in which a patient is first diagnosed, as well as the setting in which care is delivered, can have an impact on the cost and intensity of treatment. In cases where a patient needs a CAD-related procedure, multiple providers participate in each patient's treatment course. This can lead to fragmented and uncoordinated care. For example, the typical settings for CAD care include primary and specialty care settings; hospital inpatient and outpatient settings; post-acute care facilities, such as cardiac rehabilitation centers; and patients' homes (via home health). Patients may receive CAD care in more than one setting as their treatment evolves over time. Currently, each of these settings receives payment separately for the services they provide. There are few incentives to support the provision of care management, preventive services, efficient and sparing use of tests and procedures, and coordination of care across these diverse settings. This lack of coordination and incentives for delivering high-value care across the continuum too often results in relatively high rates of adverse drug events, hospital index admissions and re-admissions, diagnostic errors, and lack of appropriate preventive services and follow-up testing for patients with CAD (Riegel, *n.d.*).

It is for precisely this reason that the CEP Work Group chose to develop a condition-level episode model for the management of CAD. While PCI and CABG procedures, and incidences of acute AMI, are significant drivers of CAD-related costs, patients with CAD need a more comprehensive approach to managing their conditions and seeking positive outcomes that help prevent the need for procedures. A number of goals associated with improving outcomes for CAD patients are beyond the realm of a PCI or CABG procedure; for each goal, there are levers that can be moved using the types of financial incentives inherent in episode payment (Table 8).

Table 1: Available Levers for Achieving Outcome Goals

	Goals	Levers
System-Level	• Increasing the rate of provision of the right care at the right time in the right setting • Reducing avoidable complications • Reducing unwarranted and unjustifiable variation in care	• Delivery of imaging diagnostics and low-acuity procedures in the most appropriate and efficient setting • Providing optimal medication management • Coordinated and innovative care transition processes
Patient-Level	• Improving quality of life for patients – Increasing symptom-free days – Reducing acute myocardial infarctions – Rapid return to normal activities • Increasing preventive care and preventing acute events that result in hospitalization • Increasing positive outcomes for acute-care patients	• Innovative delivery of coordinated preventive care • Disease management • Lifestyle changes • Patient-centered discharge processes • Coordination of post-acute care • Coordinated and innovative care transition processes

The Value of Episode Payment for CAD

Traditional FFS creates incentives for providing a high quantity of services and treatments, potentially rewarding both the use of expensive treatments and tests regardless of value to the patient, and avoidable invasive procedures and hospitalizations. Episode payment for CAD establishes a budget that incentivizes the providers managing the patient to more appropriately balance the needs of the patient and the number and type of services provided. Placing accountability for the entire condition with a designated provider also encourages the active management of the patient in order to prevent acute events that lead to worsening health, further procedures, and an increased risk of overall poor outcomes. The goal of person-centered episode payment is to make the patient the focus of care management, ensuring that any efficiencies achieved through improved care coordination and management first and foremost benefit the patient.

Placing accountability for necessary cardiac procedures with a designated provider encourages that provider to ensure the care the patient receives before, during, and after the procedure is as efficient and effective as possible. For example, optimal provision of preventive and care management services has the potential to reduce the need for acute events like AMI and has the potential to reduce the need for procedures such as PCI and CABG. And a bundled payment program creates incentives for more appropriate use of procedures when they are necessary, versus the current volume-based incentives

that can lead to overuse. There are a number of initiatives underway to address the growing cost of care for patients with CAD. While a few are exploring how to efficiently pay for CAD from the condition perspective—for example, Blue Cross Blue Shield of Texas [Blue Cross Blue Shield of Texas, 2016] and the New York State Delivery System Reform Incentive Payment [NYS DSRIP] Program [New York State, 2016]—most are designed to efficiently deliver high-quality PCI and CABG procedures. The procedure-based models in Table 9 are described in more detail in Appendix E.

Table 2: Examples of Current CAD Procedure Episode Models

PCI	CABG
• Arkansas Payment Improvement Incentives Program • Geisinger ProvenCare • Medicare Bundled Payments for Care Improvement (BPCI) • Ohio Health Transformation • PROMETHEUS Payment • Tennessee Health Care Improvement Innovations Initiative	• Arkansas Payment Improvement Incentives Program • Geisinger ProvenCare • Medicare BPCI • PROMETHEUS Payment • Washington State Bree Collaborative

The CAD episode described in this paper combines condition-level management with a "nested" bundle for the payment of a procedure, if one is deemed necessary and appropriate (Figure 9). These two components will be referred to as "condition" and "procedure" in the subsequent recommendations. The goal of this design is to provide incentives for:

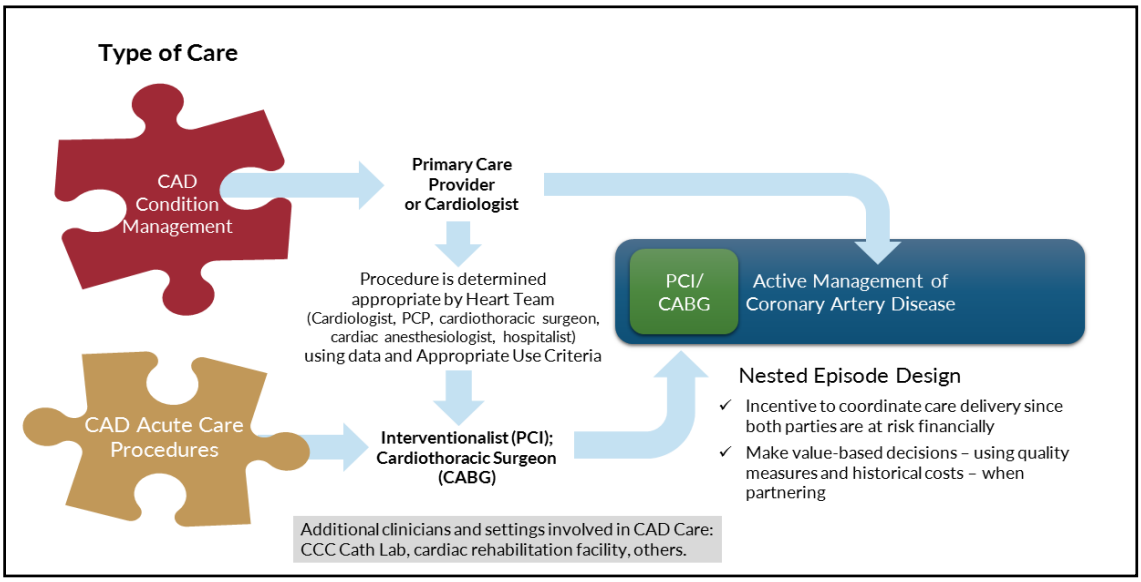
- High-quality CAD condition care and management;
- Appropriate use of CAD procedures; and
- Coordination among the all providers, including those who oversee condition management and those who perform the procedure.

Given the number of procedure-level episode examples available for reference (Appendix E), the discussion presented below focuses primarily on the condition level design recommendations and the issues that arise in the intersection between condition management and procedure provision. The Work Group advises looking to existing procedure-level episodes for specific examples of how to structure a procedure bundle.

The CEP Work Group recognizes that a condition level bundled payment approach for CAD will not exist in a vacuum. Tightly integrated health systems, for example, may already be operating multiple bundles for other conditions and implementing primary care models that require management across chronic conditions. These scenarios will certainly affect how a CAD episode is designed and implemented.

Implementation in markets that are less integrated will similarly be affected by environmental factors. The CEP Work Group believes this approach, while challenging, balances what is feasible and, in some cases, already in practice today, with an aspirational vision that can be adapted to meet future innovations. Figure 9 depicts the settings, providers, and goals that comprise CAD care, all of which informed the Work Group's decision to develop a nested episode model.

Figure 1: Nested CAD Episode



The CAD episode model is designed to:

- Achieve improvements in patient outcomes and each patient's experience of care;
- Incentivize the cardiologist/primary care provider (PCP) to employ low-resource tools such as medication and lifestyle changes to manage the patient's condition in order to avoid the need for procedures;
- Incentivize appropriate use of high-resource procedures such as PCI and CABG to ensure that other non-invasive options are considered where feasible;
- Provide appropriate care to all patients and limit the potential for withholding appropriate CAD management services in order to reduce the risk of complications that could count against the episode price for the accountable provider;
- Incentivize coordination among the PCP and/or cardiologist to coordinate surgeons and other care team members to drive improved patient outcomes when procedures are required;
- Optimize the delivery of procedures within the context of condition management to align incentives across PCPs/cardiologists and intensivists/surgeons; and
- Motivate expanded transparency of clinical quality information—for both providers and patients—to facilitate management of the condition.

Recommendations: Coronary Artery Disease

The CEP Work Group reviewed a range of existing episode payment initiatives (see Appendix E). Based on their experience and the analysis of current initiatives, the Work Group developed recommendations on the elements that reflect the decisions that payers and providers need to make prior to implementation.

For coronary artery disease, it is important for CEP initiatives to include incentives for ongoing condition management to prevent expensive and complex treatments—such as PCI and CABG—whenever possible. Episode payment also ensures a more comprehensive analysis of the appropriateness of these procedures. Further, many efficiencies and improvements in care can also be achieved through episode payment incentives for the provision of follow-up care associated with those procedures, if they are needed. The recommendations below reflect these goals.

1. Episode Definition

The episode is defined as care for a cohort of patients with diagnosed CAD, for a 12-month period that will ultimately align with the benefit year (see Episode Timing). Once aligned with the benefit year, the episode will continue for consecutive periods of 12 months of active care management for as long as a patient is under active management for CAD. PCI and/or CABG procedures deemed necessary during any given 12-month episode period will also be delivered within an episode payment model.

The CAD episode proposed by the CEP Work Group combines condition-level management with a nested procedure bundle. This is an important distinction from the majority of existing CAD-related episode payment models, which focus solely on PCI or CABG. There are two components within the nested episode: The condition episode, which is defined as a 12-month period of active management of, and care for, a patient who is diagnosed with chronic CAD, and the procedure episode.

The CAD condition episode includes payment for 12 months of preventive care, disease management, and any necessary procedures and follow-up care for those procedures. Recognizing that CAD is often a chronic, life-long condition, a new 12-month episode period will begin as the previous period ends, for as long as the patient is in need of active management for Coronary Artery Disease. As will be discussed in the next recommendation on Episode Timing, a patient's initial entry into the episode may last for fewer than 12 months, depending on whether model is designed to roll patients into the episode at the beginning of the month or quarter following diagnosis. However, by their second year of receiving care through this episode, every patient would be in a 12-month condition management time frame, beginning at the start of the plan benefit year.

The nested procedure episode is a sub-bundled payment for the delivery of a CAD-related procedure (PCI or CABG) within the course of the condition episode. For CAD, the procedure episode is defined as an elective or emergent procedure—PCI and/or CABG—for the acute treatment of CAD. The CEP Work Group recommends reviewing existing procedure episode models, such as those summarized above in Table 2, and determining which ones work best within their market.

While the goal of this episode is to be as inclusive as possible, it will only apply to patients who receive a CAD diagnosis. This diagnosis may emerge from either a non-emergent presentation (e.g., shortness of breath that leads to diagnostic testing and a diagnosis of CAD) or an emergent presentation (e.g., an AMI or acute PCI). Identification of patients for this episode is discussed in detail below.

2. Episode Timing

The 12-month condition episode may commence at various points post diagnosis; the procedure episode begins 30-days pre-procedure and lasts 30-90 days post discharge.

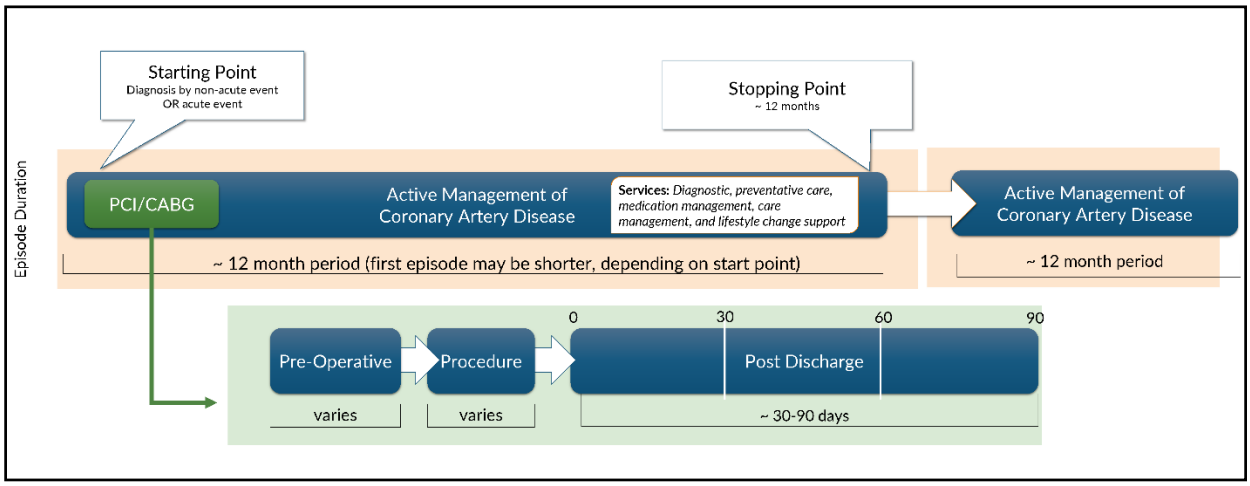
The episode period includes 12 months of care, which—by the patient's second year in the episode at the latest—will run concurrent to an individual's coverage benefit year (Figure 10). It is expected that most patients will continue to be included in a CAD episode for multiple years, given the chronic nature of the condition. There are options regarding at what point the condition episode should begin after CAD diagnosis.

1. **Begin at the Next Benefit Year:** Given that patients are diagnosed with CAD throughout a benefit year, one option is to flag these patients and include them in the episode at the beginning of the next benefit year. This simplifies operationalization of the episode, including the collection of quality measurement data, and reconciliation of payments, and provides purchasers with important information that can be used when negotiating benefit contracts with payers. Within the 12-month period, any procedure that is deemed necessary, using established appropriate use guidelines, should be paid for using an episode payment model. The concern that costly procedures that may not be necessary or appropriate for the patient will be "front loaded" in the time between diagnosis and the start of the episode is the downside to this design. One strategy to mitigate unintended consequences of this design may be to create a resource use monitoring window of several months prior to the start of the benefit.

2. **Begin on the First Day of the Next Month (or First Day of Next Quarter):** While operationally more complex, establishing the episode starting point as the beginning of either the month or the quarter following a diagnosis will address, but not completely eliminate, concerns about potential under or over use of services. In this option, the patient's first year in the episode would be only as long as the remaining number of months in the benefit year. In the following year, the episode start would align with the benefit year, and the patient would experience a full 12-month episode period. This option combines the benefit of reducing potential under or over use of certain services or procedures with the benefit of administrative ease in the patient's second year and beyond.

For payers, one important factor to consider when designing the episode start is the method by which patient settlement and reconciliation is processed. A process in which episodes are settled on a case-by-case basis will accommodate greater flexibility and allow patients to be moved in to an episodic incentive initiative on a rolling basis. If a payer settles episodes based on averages over a performance period, there may be less room for flexibility in the starting point.

Figure 2: CAD Episode Timeline



In the event of PCI or CABG, the start of the episode depends on whether it is acute or non-acute. If it is an elective PCI, the episode begins with a 30-day pre-operative period. The inclusion of a pre-operative period will support coordination across the multiple providers in a patient's care team and serve to reduce unnecessary resource utilization leading up to the procedure. Of course, CAD procedures are not always elective; in the case of an emergency procedure of either PCI or CABG, the episode begins when it is determined that a procedure is necessary and appropriate. That may occur as soon as 24 hours prior to the procedure.

The Work Group did not develop recommendations for the length of the procedure episode. There are a number of existing PCI and CABG models (Figure 10) to which readers can refer to weigh the benefits of extending the procedure episode to 30, 60, or 90 days post discharge. It may also be useful to build in a 30-day look-back period from diagnoses to capture the costs of the work up to obtain the diagnosis. The longer the procedure episode, the more post-acute services will be included. The condition episode will run concurrently with the procedure episode. In other words, the 12-month condition time period will not pause while a patient is experiencing a procedure. This is deliberate, to incentivize seamless transitions between each step in the care cycle: Condition management, surgical procedure, hospitalization, discharge, post-acute care, and again, condition management. However, if a procedure is necessary and the patient has not yet been diagnosed with CAD (so it is not part of the condition-based CAD episode), the procedure-based definitions will apply, and the condition-level episode will commence in either the next month, quarter or benefit year depending on the design of the model.

3. Patient Population

Condition: Patients diagnosed with CAD and in same health plan for full 12 months.
Procedure: Patients deemed to need a PCI or CABG based on determination of appropriateness.

The population of patients who could participate in the condition episode is broad and includes all patients flagged by a provider as diagnosed and under active management for CAD. Individuals who disenroll from their health plan prior to the end of the 12-month episode period will be removed from the episode population.

Health plans should analyze claims from at least the previous 12 months to as far back as 24 months in order to identify all patients who fit this population definition. The goal of this episode model is to improve the value of care delivered to high-need patients. The Work Group recognizes that for individuals who have been living with CAD for many years, active management tends to evolve into an annual visit to the provider for ongoing medication management. While these patients can be included in the episode, doing so may not add additional value. Establishing a minimum number of visits or claims to be eligible for inclusion in an episode payment could be one way to address patients with limited ongoing needed CAD management. This could also strengthen the delivery of care received through primary care models. An important issue for payers and providers to examine when designing a CAD condition episode model is how to address the variation in CAD severity across a patient population. One way to address this is to establish patient cohorts defined by whether a patient's CAD is stable or unstable, or by whether they require medical, surgical, or percutaneous treatment.

The population for the procedure episode comprises patients who are deemed in need of a PCI or CABG procedure in order to manage their CAD. Providers should use such tools as the Appropriate Use Criteria for Coronary Revascularization Guidelines[1] and/or the appropriateness guidelines developed by the Society of Thoracic Surgeons (STS) to determine whether a patient should undergo a non-acute procedure (Patel, 2012; American Association for Thoracic Surgery, 2016).

In addition to appropriate use criteria and guidelines, other models exist for determining—together with a patient—whether a procedure is appropriate. One example is the "Heart Team"[2] approach, created for use in the TransCatheter Aortic Valve Replacement Program. For patients in this program, a Heart Team consists of a variety of clinicians including, but not limited to, a cardiologist and/or primary care provider, cardiothoracic surgeon, cardiac anesthesiologist, and hospitalist. The Heart Team serves to review cases in which a patient is referred for invasive CAD treatment by assessing patient data, consulting with the patient and family, and discussing best options for care. This model would require consideration of appropriate reimbursement within the episode price if included in an episode design.

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[1] The Appropriate Use Criteria Guidelines were developed by a consortium that includes the American College of Cardiology Foundation, the Society for Cardiovascular Angiography and Interventions, the Society of Thoracic Surgeons, the American Association for Thoracic Surgery, the American Heart Association, the American Society of Nuclear Cardiology, and the Society of Cardiovascular Computed Tomography.

[2] Society for Cardiovascular Angiography and Interventions, "The Revascularization Heart Team: Take Patient-Centered Care to Heart, August 26, 2014, *http://www.scai.org/QITTip.aspx?cid=e7ec55bc-8e92-4fcd-8b4d-4cb73bd8af5b*

4. Services

For both the condition and procedure episodes, the services should include core services for CAD management (e.g., lifestyle changes, medication management, and secondary prevention); and core services for the quality delivery of a procedure (e.g., pre-operative diagnostics, drugs and devices, care transition support, and post-acute care including cardiac rehab).

The goal of the episode payment for CAD is to ensure that patients receive all appropriate services needed to improve their quality of life, manage their CAD, and prevent the need for procedures and/or prevent poor health outcomes such as AMI or heart failure, while avoiding inappropriate services. To achieve this, the episode services should strive for inclusivity and comprise the following core services, many of which fall into the category of "secondary prevention" for patients who are diagnosed with CAD following an acute or emergency event:

Overall Management: Services should include appropriate diagnostics, shared-care planning, and coordination of services across various settings and providers.

Medication Management: CAD patients are often put on a long-term medication regimen to control CAD symptoms. These medications may include aspirin, beta blockers, angina control medication, ACE inhibitors post AMI, and lipid management medications. Ensuring that medication is taken appropriately, managing medication side effects and poor outcomes due to contraindications from other medications, is a key part of CAD condition management care.

Lifestyle Support Related to Modifiable Risk Factors: There are a number of risk factors correlated with CAD, including high blood pressure, smoking and tobacco use, diabetes, stress, and weight. Clinical CAD management should include services designed to support lifestyle changes that address these risk factors. Services to support weight loss, stress reduction, smoking and tobacco cessation, and diabetes control are critical to CAD management.

Services Specific to PCI and CABG: The condition episode and the procedure episode should include all pre-operative diagnostics and care planning, drugs and devices related to the procedure, discharge planning, care-transition support, and post-acute care, including cardiac rehab. It is extremely important to include cardiac rehab in the procedure bundle, given that fewer than 20 percent of patients eligible for this care go on to participate in a cardiac rehabilitation program. Refer to resources in Appendix H for more information on specific services included in PCI and CABG episode payment models. One issue to consider is whether a patient who receives a concomitant procedure—such as a valve replacement—during the course of a CABG should be included in the nested procedure episode. Examples of how CABG episode payment has been designed and implemented will provide guidance on questions related to what services and potential concomitant procedures should be considered within the scope of the CAD procedure episode model.

For both condition and procedure episodes, the payment model will rely on strategically selected quality measures to hold providers accountable for delivering appropriate care. The types of services described

above are also services that are provided by primary care providers. It will be critical for those that manage these episodes to coordinate with, and build upon, the care that is already being provided in a primary care context. This will be particularly important if other payment reforms, such as Patient-Centered Medical Homes (PCMH), are in place because those practices will also have accountability for the costs and quality of care for that patient living with CAD. The box at right describes Comprehensive Primary Care Plus (CPC+), one prominent upcoming primary care-related initiative.

A challenge in defining the core services for CAD is the fact that patients with CAD often have comorbidities such as diabetes, hypertension, kidney disease, obesity, and peripheral vascular disease. While a cardiologist is not going to manage a patient's chronic kidney disease care, he or she may have an interest in working with the patient to manage their diabetes or weight, since both will have an impact on the efficacy of their CAD care. The question of what services to include, and whether they are coded for CAD care, diabetes care, or other comorbidities associated with CAD will need to be addressed for multiple reasons. Determining the list of services to include will have a direct bearing on the level at which the episode price is set, and determining how to code services that are relevant to care for CAD and its comorbidities will have a direct bearing on whether a provider is determined to have come under, over, or hit the episode price target at the completion of the episode. For example, there is the potential for coding lifestyle change support services to the diabetes condition—instead of attributing that spending to the CAD episode—if a provider is participating in the CAD episode but not a similar episode for diabetes.

One strategy for determining core services is to include those with a CAD-related diagnosis code. Services that will address needs relevant to CAD and other comorbidities should be included. It is also possible that this will not be an issue for primary care providers who are working within a system that operates multiple episode payment models. Ultimately, whether the implementing organization seeks to develop a discrete CAD episode model (i.e. more narrowly defined service inclusions) or if it has already established other episode payment models that it wants to build upon (i.e. broader set of service inclusions) will determine how broad the service inclusions will be in this episode.

The Comprehensive Primary Care Plus (CPC+) Initiative and CAD Episode Payment

The Center for Medicare and Medicaid Innovation (CMMI) recently announced the Comprehensive Primary Care Plus (CPC+) initiative to support the delivery of care via advanced primary care medical homes. The CPC+ initiative builds on the foundation of the Comprehensive Primary Care (CPC) initiative, which concludes in December 2016.

The hallmark of the CPC+ initiative is its multi-payer payment redesign focus, which will involve coordination across CMS, commercial insurance plans, and state Medicaid agencies to support primary care practices in making significant and fundamental changes in how care delivery occurs, to achieve the goals of 1) access and continuity, 2) care management, 3) comprehensiveness and coordination, 4) patient and caregiver engagement, and 5) planned care and population health.

Given the role that primary care providers play in the care management of patients with CAD, it is possible that CPC+ initiative participants may also consider implementation of this CAD episode model. It will be important to consider the implications of the CPC+ initiative on the episode design and implementation as part of the design process.

5. Patient Engagement

Models should support patient and family involvement in episode payment design, implementation and evaluation; as well as patient and family engagement in all phases of cardiac care, facilitated by Health Information Technology.

Person-centered episode payment models have a strong investment in engaging patients in multiple ways, including through shared care planning, shared decision-making, comparative quality information, care coordination, chronic disease management tools, transparency of payment information, and care transition support. Examples of the types of processes and tools described in this section are in Appendix H. To be effective, communications and resources must be tailored to the health literacy level of patients and families and linguistically and culturally appropriate.

Supported, Shared-Care Planning: Providers should incorporate shared care planning early in the delivery of care. This process should include collaborative provider-patient goal setting related to both the care for CAD as a condition and any goal setting related to a PCI or CABG procedure. Shared care planning also involves ongoing decision making and monitoring, using documented individualized care plans that are accessible to the patient, families, and providers.

Shared Decision Making: Over the course of condition management, a patient—together with a family caregiver ideally—must have the opportunity to engage in shared decision-making during 1) the process of developing a care plan that supports the patients' goals, values, and preferences, including how best to manage their condition through medication and lifestyle approaches; and 2) determining whether to undergo a PCI or CABG procedure. However, the shared decision-making process cannot be a check-the-box activity. There needs to be evidence that the patient and family caregiver were supported by a decision coach or a nurse educator as they worked with a decision aid that meets a threshold score using the International Patient Decision Aids Standards (IPDAS).

Comparative Quality Information: Patients and family caregivers must be provided with information about the procedure complication rates and quality of possible surgeons and possible acute-care facilities. Clearly designated personnel without conflicts of interest should assist patients with identifying eligible providers and in finding and interpreting relevant information about those providers. Transparency of quality information may also allow the patient – together with the provider and family—to make informed decisions on the inclusion of certain providers on the care team.

Coordination Across Provider Settings: Care coordination takes various forms, including the following:

- **Patient-Centered Transitional Care Services:** The CAD model described herein is designed to set up tight-care transition linkages between the providers overseeing a patient's procedure and those overseeing a patient's overall CAD care management, and the patient's primary care providers. Within this care coordination, however, is the often challenging aspect of care known as care transition. Following discharge from a hospital, 49% of patient experience at least one error in medication continuity, diagnostic workup, and/or test follow-up, 19% to 23% of patients suffer an adverse drug event, and in 75% of cases, discharge summaries for a patient do not arrive at the physician's office in time for the follow-up appointment (Tsilimingras & Bates, 2008). A CAD episode

model needs to engage patients in transitional care services to be successful. During the transitional time, providers must communicate with each other, family caregivers must be engaged and involved in post-acute care planning, and patients must be given clear information on how to manage their condition. The following programs reflect a number of different tools and models for transitional care:

- **The Acute Care for Elders (ACE)** program starts discharge planning at the time of admission to the hospital.
- The **Care Transitions Coaching** program at the University of Colorado uses a transition coach to teach patients and caregivers skills that promote and support continuity of care, both in the hospital and for 30 days post discharge.
- The American College of Cardiology and the Institute for Healthcare Improvement's **H2H Hospital to Home Quality Initiative** focuses on post discharge medication management. This ensures the patient has symptom management and a rapid follow-up appointment with their cardiologist or primary care provider to ensure that the patient fully understands the signs and symptoms that require medical attention.

It is also important to discuss the options of in- or out-of-network post-acute or follow-up care with patients and family caregivers. In the Medicare FFS program, this may involve discussions related to choice of post-acute providers, confirming that the patients still have freedom of choice. This is a critical patient conversation because a patient may not wish to see a provider that is within a specified payment arrangement.

Chronic Disease Management Tools: The goal of condition-management care is two-fold. First, it is to help patients make the kind of lifestyle changes that will prevent aggravation of their disease or the need for a procedure. Second, it is to manage a patient's medication protocol. Patient engagement is critical in both areas and requires well-designed educational materials and tools such as in-person coaching, smart phone apps for tracking adherence to lifestyle change activities, and patient support groups to provide both emotional support and tips and tricks from others who have experienced similar concerns to patients diagnosed with CAD. When available, high-quality decision aids should be used to make care management decisions. A study to track the effects of smartphone app usage was conducted by the Mayo Clinic and followed 44 patients participating in

Deploying Meaningful Shared Decision-Making for Patients and Caregivers

Requiring providers to use shared decision-making tools does not necessarily translate into meaningful shared decision-making process between a patient with his or her family caregivers and providers. In order to make the shared decision-making process one that truly supports patient engagement and drives the appropriate use of procedures and other care, provider and patient processes will include the following:

- Acknowledge that there is a decision to be made;
- Explain that there are care options, and each option has a different set of issues to consider;
- Present the best evidence about the pros and cons of the care options; and
- Acknowledge how personal values and preferences might align with the care options.

Following an opportunity for the patient and family caregiver to meet with a decision coach or a nurse educator to review decision tools and get answers to any questions, they should determine together with a care provider the optimal path forward.

cardiac rehab following a heart attack and PCI. Patients were divided into two groups: one that used an app to record their weight and blood pressure daily in a smartphone, and one that did not use the app. The app group experienced greater improvements in those cardiovascular risk factors, and was less likely to be readmitted to the hospital within 90 days of discharge, compared to the non-app group. The app group also received educational activities that supported lifestyle behavior changes. The goal of the app and the study was to both demonstrate the efficacy of cardiac rehab on post-AMI and PCI recovery, and the importance of engaging patients in "owning" their lifestyle behavior changes (Klein, 2014).

Transparency of Reimbursement and Payment Flow: 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 cost sharing or co-pay responsibilities, and the manner in which care will be delivered.

SMARTCare Pilot: The Florida and Wisconsin chapters of the American College of Cardiology developed this pilot project to improve quality of care, enhance access to care, and reduce health care costs by providing tools to help physicians and cardiovascular team members apply guidelines and appropriate use criteria at the point of care. The pilot involves embedding SMARTCare tools—including patient education and shared decision—within every step along the CAD care pathway. SMARTCare is also designed to provide patients and physicians with access to data on clinical quality measures, outcomes, and resource utilization. Among the tools included in the SMARTCare program are the PROMs (TONIC, SAQ7, Heart Quality of Life and Decision Quality Assessment Instrument.

Patients should be involved with all aspects of identifying and achieving care goals and should actively participate in their care planning. They should also be encouraged to engage their primary care provider in their decision-making process, especially those patients with chronic disease. Integration of health information technology that facilitates access to health data, shared-care plans, educational and support tools, and communications with members of the care team can improve the topics discussed in all of the above sections. 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). HIT is also crucial for timely filling of prescriptions, making necessary appointments, communicating with members of the care team between visits, and completing patient-reported measure surveys.

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. Payers should work with the

accountable entity to assess their readiness, and promote collaboration to allow for multiple providers within a CAD 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 risk spreading may take the form of a gain-sharing relationship once a Medicare waiver is in place. 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.

Factors to Weigh in Determining Readiness for Episode Accountability:

- Minimum-volume standards, in acute and post-acute care, for the CAD patient population;
- Ability to deliver, or contract for, the entire bundle of services to be rendered;
- Demonstrated ability to care for CAD 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 medication management/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.

There will need to be accountability placed on the clinician(s) who oversee both the condition management and the PCI or CABG procedures in situations where either procedure is needed. Shared accountability is an important design idea to consider, especially given the importance of a team-based approach to this model. Under this shared accountability umbrella, payers can negotiate with providers and use gain-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(s) in a given market can act most effectively in achieving a CAD episode payment initiative's goals and establish that provider or providers as the accountable entity.

In some instances, the care team may be narrower, particularly if one clinician or clinician organization is able to provide both the condition-management care and conduct the procedure. This may be the case if the cardiology practice also includes cardiac surgeons or if the patient is seen within a health system that integrates both hospital and outpatient services. A more common scenario is when a primary care

provider or cardiologist is managing the CAD before the need for a procedure is deemed necessary and a separate practice is identified to manage the patient's procedure.

The accountable entities in current examples of CAD episode payment vary. Because current models are typically procedure based, it is often the hospital that serves as the accountable entity. Sometimes, it is the physician practice (often the cardiology practice). In many cases, the clinician, when acting as the accountable entity, can have the greatest impact on care redesign because establishing a physician-level quarterback can ease the episode's management process. The clinician can lead the design and implementation of new patient care protocols, and communicate with the patient's post discharge provider more easily than the hospital. Further, discussions with patients regarding appropriateness and expectations on functional improvements are most effective if the physicians are fully engaged.

In the Acute Care Episode (ACE) demonstration the hospital served as the accountable entity, which is consistent with the episode definition as it is limited to hospital and physician care delivered in the hospital for certain cardiothoracic procedures (Centers for Medicare & Medicaid Services, 2016). The rules allowed 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. While the hospital was the accountable entity, it was considered critical to get the physicians involved. The hospitals in that initiative utilized gain-sharing to engage the physicians. The accountable entity in the more recent Bundled Payment for Care Improvement demonstration, which included cardiac care such as CABG, PCI, or AMI, could be a physician practice, hospital, health system, or a so-called convener that would organize the effort across multiple sites. Premier, which is an organization that works with hospitals, and Cogent, which manages hospitalist practices, are two examples of such. It is not surprising that the accountable entities were often hospitals inasmuch as this bundled payment program was also centered upon procedures delivered in the hospital—albeit somewhat broader in several models (Centers for Medicare & Medicaid Services, 2016a).

Ability to Accept Risk: Ability and readiness to accept risk are high priorities among the factors that should be used to determine the accountable entity or entities. 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. Limiting the level of risk associated with the episode can mitigate this limited ability for physician practices to take on risk. Recommendation 7, Payment Flow discusses some strategies for doing this.

In situations where shared accountability is not feasible, other scenarios might include one multi-specialty group holding accountability for both the condition and the procedure, using internal mechanisms for operationalizing joint accountability, or a cardiology practice holding accountability for the entire condition episode, and as part of this accountability, coordinating with a surgical practice if a procedure is deemed necessary. Again, transparent, accessible quality information will help the accountable entity seek out the highest-performing proceduralists. The commonalities of these notional scenarios are that the accountable entity is incentivized to ensure the care in the procedure (if needed) is as efficient as possible, that the hand-offs pre and post procedure are as smooth as possible for the patient, and that the clinician accountable for the full episode seeks to contract with the highest-performing proceduralists.

See the chapter on 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

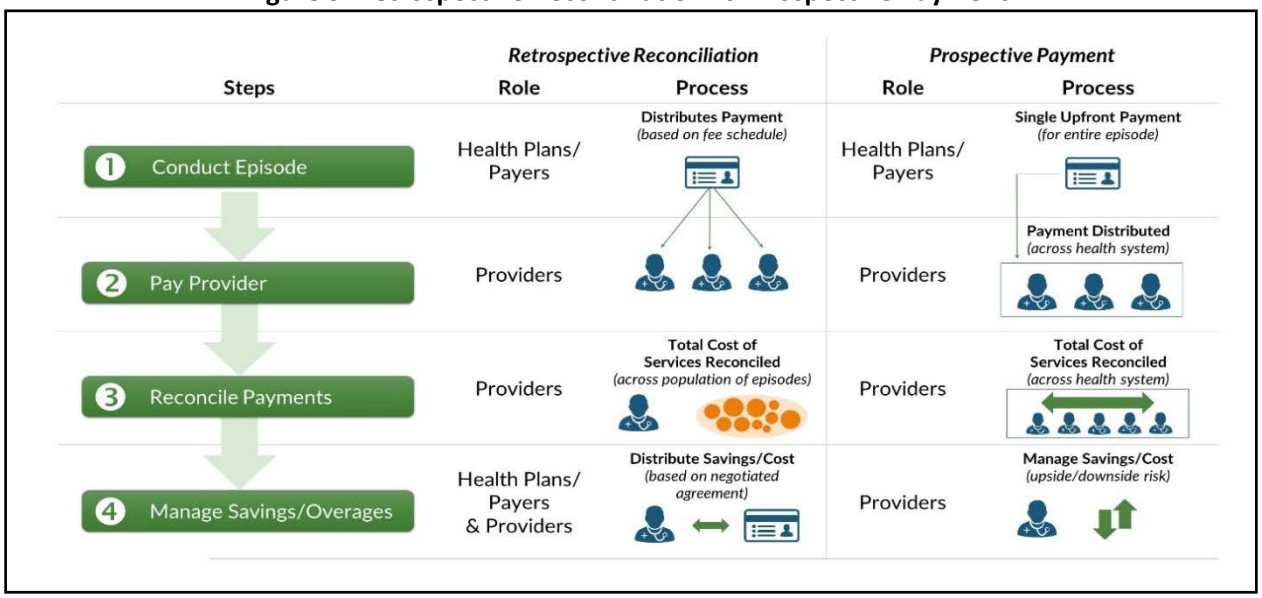
The unique circumstances of the condition-level/nested procedure episode model makes upfront FFS payment to individual providers within the episode, with retrospective reconciliation and potential for shared savings/risk, the more feasible option.

Episode payments are typically dispersed via either prospective payment or retrospective reconciliation (Figure 11).

In **Prospective Payment**, payment is provided for the whole episode, including all services and providers, and paid to the accountable entity, which subsequently pays each provider in turn. This payment typically occurs after the episode has occurred, but is termed "prospective" because the price of the episode is set in a prospective budget ahead of time. 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 are managing the predetermined price.

In **Retrospective Reconciliation**, individual providers are each paid on a typical FFS basis and then the target episode price and the actual average episode price are reconciled 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 after an episode's end, and a final reconciliation is typically conducted within six months of the episode's completion. For this CAD episode, these reconciliations take place in roughly April and June. Based on a specific formula, either negotiated or determined by the payer, the accountable entity can share with the payer in gains and/or losses. Gains or losses are also shared among providers in the episode to encourage collaboration and coordination across settings in some instances. These types of gain-sharing arrangements need to be considered within the constraints of federal laws that may impact their design, which is discussed in further detail in the regulatory infrastructure section of Chapter 6, Operational Considerations.

Figure 3: Retrospective Reconciliation vs. Prospective Payment



While prospective payment is an option in some circumstances, such as when the accountable entity is a health system that already integrates the clinician and facility payment, the Work Group recommends using retrospective reconciliation for this episode model. Retrospective reconciliation is simpler to administer, and 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 because it does not require providers to develop the capacity to pay claims, it allows for better tracking of the resources used in the episode, and it can be built on an existing payment system. Retrospective reconciliation may also continue to engage the payer as a partner as they maintain a more direct interest in the financial success of the program.

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, which is the case in integrated systems. However, prospective payment may also be better at encouraging innovation as providers in a prospective payment program are often not limited by the payer's coverage policy. Increased use of prospective payment can accelerate development of various supporting mechanisms to aid in this process. 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.

An additional consideration in this CAD episode payment approach is whether the accountable entity is the same for both the condition and the procedure. If the payment flow is retrospective reconciliation of FFS payments, and the accountable entities are both expecting to share in gains or losses, the manner in which those gains or losses are split within the time period of the procedure episodes will be a critical issue.

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.

Pricing episodes is significantly complex as a result of the need to both assure the accuracy of estimates and develop a pricing structure that is fair to providers but encourages innovation. The goal should be to establish a price that encourages competition among providers to achieve the best outcomes at the lowest cost. Issues such as accounting for variation in the risk of the population, having a large enough patient population to allow for sufficient variation, the impact of differing fee schedules and negotiating power, shifts in insurers mid-stream, regional variation in availability of types of providers, and ensuring that payments are sufficient to adequately reimburse for high-value services will all need to be taken into consideration. For example, Recommendation 3, Patient Population, describes the importance of using a model such as the "Heart Team" to help make appropriate determinations. Incorporating this model, which is not currently used under traditional FFS reimbursement, will require calculating the reimbursement costs to do this work.

It will also be necessary to identify a price that both reflects current utilization practices and creates an achievable "stretch" goal. Factors such as decreased rates of use of certain testing, procedures, or lower complication and readmission rates may affect the episode price as a result of this. In essence this bakes in a certain level of downside risk, but the provider knows upfront the target they must reach. However, the episode price should not be set so low that providers are discouraged from delivering all necessary care.

The manner in which the episode price is established largely determines the monetary rewards or penalties that an accountable entity may experience. Several key aspects interact in the determination of the episode price. All payers will expect some return on their investments in this payment design and can choose a variety of mechanisms to generate some level of savings. It is also important to consider including costs for the services described in Recommendation 5, Patient Engagement, in the target episode price in order to provide sufficient resources for care coordination, care transitions, shared decision-making, and other strategies.

Balancing Regional and Provider-Specific Data: 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. The payer can also include an estimate of a decrease in costs based on improvements in some cases, such as lower rate of PCI or CABG, or reduced rate of hospital readmissions post AMI. The Work Group recommends balancing regional/multi-provider[3] and provider-specific cost data:

Regional Costs: Using region-level claims data allows the payer to take into account the costs of multiple providers within a region. This emphasizes the fact that one provider's costs may not be representative of the entire region. It also addresses the variability that may exist for a provider with a low volume of cases, as long as the region is large enough to reflect sufficient variability. One issue with using regional claims is that if providers in that region as a whole have already achieved a certain level of efficiency, they may be less able to achieve further savings. These regions—or the providers in them—could argue that an efficient region will be "punished" for its previous work to achieve these efficiencies. On the other hand, if the region has a higher per bundle cost on average than other regions or specific providers within the region, the payer may achieve fewer savings than if the episode price was set at a national or provider-specific level. While basing some part of the price on region, it is also important to note variation across regions and to consider whether variation across the regions is warranted. It is important to look at this closely, and not just "bake in" regional variation if there is not an objective reason for doing so.

Provider Costs: Provider-specific costs are the actual costs for the provider's previous patients. For example, if the cardiology practice is the accountable entity, the payer will conduct the analysis using the current episode definition and apply it to its CAD patients from the past two years. However, this can come with challenges—although these costs may be accurate for a given clinical practice with a given payer, they may build in already gained efficiencies that make it more difficult to achieve savings, or have built-in inefficiencies that limit the savings for the payer.

A combination of provider and regional claims experience should be used as data. This mix will ensure both that the determined episode price takes into consideration the unique historical experience of the specific provider, and that goals are set based on what is feasible in the region. This process will also require risk adjustment to adjust for the unique characteristics of the population the provider serves. Recommendation 9, Type and Level of Risk, discusses this further.

Establishing an appropriate episode price for a condition episode with a nested procedure is far more complex than establishing a price for an episode that includes only a condition or a procedure. For example, a condition bundle is intrinsically complex because it is difficult to estimate the number of beneficiaries in the bundle who will need procedures. Moreover, the costs of any single procedure can be significant. Adding a procedure into a bundle requires creating a budget and accountability for the procedure, as well as an overarching budget for the condition, including an estimate of the number and type of procedures that may be needed. As difficult as this sounds, this episode price structure can set up meaningful incentives that prevent the overuse of expensive procedures, particularly when there are more appropriate alternatives.

In order to develop the CAD episode price, the Work Group recommends that health plans default to an average base price for applying the episode to patients who are new to the plan and for which no historical data exists. Doing this would likely lead to an upfront FFS payment and retrospective

[3] For purposes of this paper, "region" is not defined. The region will be defined as a combination of the experience of multiple providers. We use the term "regional" to reflect this assumption.

reconciliation payment flow, since a plan may want to conduct retrospective adjustments after a certain number of quarters based on patient resource use. The Work Group also recommends that payers track the frequency of diagnostic testing over the first quarter of the episode in a newly diagnosed patient in order to understand and assess pricing in subsequent years.

The price for the procedure episode can be calculated as a percentage allocation carved out from the underlying condition episode price. It is reasonable to assume that an accountable entity will automatically be over budget in any one case where a patient requires a procedure or experiences a complication. However, the episode price will account for a certain number of procedures that may occur across the population as a whole. Only those accountable providers with higher than average rates of procedures, adjusted for patient severity, will have total average actuals that exceed the budgets. Recommendation 9, Type and Level of Risk, describes strategies such as stop-loss, which will address situations in which a provider conducts a greater-than-expected number of procedures. While this overage may be due to lack of historical data in the initial years of the episode model, it will be important to assess whether a provider is conducting procedures that may not be appropriate or necessary.

The procedure episode could be priced with historical data applied to the episode definition for the procedure—the same basic foundation as the condition. It would be necessary to calculate the PCI and the CABG procedures separately. Determining whether to do one or the other would be in the hands of the entity accountable for the overall condition.

Historical data, where available, is essential to determining the episode price. Health plans should ideally use 12 to 24 months of patient historical data. The depth of historical data will differ depending on whether the model is being designed for Medicare, Medicaid, or for a commercial payer. One concern is that there is a wider range in cost and utilization within and across markets for cardiac care than there is in a common procedure episode. One option for starting to develop a full condition episode price with the nested procedures is to begin by pricing the procedure episodes, and building the condition episode around the procedure. This is particularly relevant here, since historical data on procedure price may be most feasible to collect and use. The role of negotiating power is also an issue. Prices will vary based on market share. While negotiating power based on market share is not helpful, CEP can encourage transparency across providers and expose these types of variances to drive market to those who are providing a higher value product.

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. These 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, literacy status, 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.

For further discussion on this topic, please read the paper on Financial Benchmarking, click here.

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 as broad a patient population as possible.

The goal should be to incorporate both upside reward and downside risk when setting an episode price. Without downside risk—where the actual costs exceed the target episode price—the accountable entity and other involved providers have less incentive to redesign care to create efficiencies and improve

patient care. Further, increases in the cost of care delivery from year to year often negate the benefits of upside sharing of savings due to the reliance on historical data. Prospective payment includes both by definition. Retrospective reconciliation with upfront FFS payment can be designed either to only share in savings (upside reward) or to share in losses (downside risk). In some cases, payers will begin with upside reward to allow for the provider to establish the infrastructure and reengineer care practices in order to become capable of managing downside risk in the future.

Payers can utilize strategies to limit that risk or to transition (phase in) to downside risk arrangements over time in order to address concerns related to the level of risk. This is particularly important if the initiative is voluntary and participation would be limited without the option for only upside reward. Decisions about type, level, and timing of upside and downside risk illustrate the tensions between payers and providers: more attractive risk arrangements for payers may be less attractive for providers, and vice versa. Consequently, in the private market, these factors become part of the ongoing negotiations among network participants and payers.

Safety Net Providers and Risk

A primary goal in designing any alternative payment model arrangement is guarding against unintended consequences. In episode payment for coronary artery disease, 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 questions to consider including: 1) will the accountable entity be required to pay the full difference between the total dollars over the established episode price and the actual episode costs back to the payer, or will limits be established? and 2) what is the optimal patient panel size for enabling the adequate spread of risk in the event that the number of procedures provided over the course of the episode is greater than expected? Limits are especially important when the fact that an accountable entity is accountable for care provided by other providers is taken into account. In the case of cardiac care, who accounts for the largest percentage of overall costs? The FFS payment received by the accountable entity—the physician practice—is limited compared to the liability associated with the entire cost of the episode over the estimates for the entire population.

One risk-mitigation strategy already addressed is limiting high-risk cases through exclusions. Following are additional strategies used by various initiatives to limit risk in an episode payment while still maintaining as broad an episode population as is feasible. These are often, but not always, used in tandem.

Risk Adjustment: Risk adjusting the episode price based on the patient severity within the CAD population is one risk-mitigation strategy. Most initiatives will both include a list of included and excluded patients and have a list of factors that would be used to adjust the episode price. There are a variety of approaches to capturing patient characteristics, risk factors, and other parameters that

predict CAD resource use and expenditures. For example, the Health Care Incentives Improvement Institute's evidence-based case rates create a variety of patient-specific episodes that re-calibrate based on various patient-specific severity factors (Health Care Incentives Improvement Institute, 2016). Another example is the Society for Thoracic Surgeons (STS) National Database, which includes more than 5.4 million patient records. The database contributes to the STS Risk Calculator, which allows users to calculate outcomes such as a patient's risk of mortality and length of stay. While risk adjustment methods are limited in their predictive accuracy based on claims alone, over time, these factors and their weights can be updated to become more accurate based on empirical experience. However, risk adjustment can potentially lead to gaming. This will need to be monitored to ensure that codes are not being overused to obtain higher payments rather than to accurately reflect the condition or risk of the patient. For further discussion on this topic, please read the paper on Financial Benchmarking, click here.

Stop-Loss Caps, Risk Corridors, and Capital Requirements: Stop-loss caps are already discussed in the context of the included population as one way to limit the risk of very high-cost patients at an individual patient level. Stop-loss caps can also be used on an aggregate level across the population. Risk corridors limit the exposure of the accountable entity by establishing an upper limit over which the accountable entity will not have to pay back any amount of dollars that the overall costs of the episodes may exceed the established episode price. These corridors can also be placed on the upside reward, so that the incentives to limit care are less than they would otherwise be. Another risk-mitigation strategy is to require the accountable entity to maintain a certain level of capital in order to cover losses. While these types of arrangements are often used to limit insurance risk, the same concepts can also be used in this context to limit service risk.

10. Quality Metrics

Prioritize use of metrics that capture the goals of the episode at both the condition and the procedure levels. These include outcome metrics, patient-reported outcome and functional status measures, and some process measures related to the procedures; use quality scorecards to track performance on quality and inform decisions related payment; and use quality information and other supports to communicate with, and engage patients and other stakeholders.

There are two tiers of measurement necessary in this model—measures that provide information on the quality of condition management, and measures that hold providers accountable for the quality and outcomes specific to a CAD procedure. Both CMS and commercial health plans use existing cardiac care measures of clinical outcomes and clinical processes that address both conditional management care as well as procedure-related care. There should be less focus, however, on process of care measures and, instead, a greater focus on the use of episode-level measures that allow for assessment of patient outcomes across care settings and providers. That said, it is most effective if all stakeholders in the initiative, including providers, agree on the value of the measures.

Given the lack of system-level outcome measures for CAD care, the Work Group recommends using Patient-Reported Outcome Measures (PROMs) to collect information on patients' experience of care from their cardiologist/PCP, from their surgeon in the case of procedures, and from measures of functional status pre and post procedure, and over time with a condition.

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 when selecting the metrics for an episode payment model. The Work Group supports these principles whenever they can be met with measures that incent priority opportunities for improving CAD care. A measure that meets these criteria without the potential for clear benefits among CAD patients is not recommended because it would not be fit for this purpose. The Work Group is not including recommendations for specific metrics at this time.

Potential Measures: Table 10 describes examples of potential measures, most of which are included in the Core Quality Measures Collaborative (CQMC) Consensus Core Set of Cardiovascular Measures Version 1.0 (Centers for Medicare & Medicaid Services, 2016b). The CQMC divides the set into chronic care and acute care accountability and specifies whether the measures themselves are at the hospital or the physician level. The Work Group recommends considering the measures in Table 10 as a menu of potential options for developing a core measure set for CAD episode payment.

Table 3: Potential CAD-Related Quality Measures for Use for Accountability and/or Payment

Measure	Examples
Clinical Outcomes	• Hospital 30-day risk-standardized readmission rate following CABG (NQF# 2558) • Hospital 30-day unplanned risk-standardized readmission rate following CABG (NQF# 2515) • Hospital 30-day risk-standardized readmission rate following AMI (NQF #0505) • Hospital 30-day risk-standardized readmission rate following PCI (NQF # X) • 30-day risk standardized mortality rate following PCI for patients with STEMI (NAF#0536) or without STEMI (NQF# 0535) • Risk adjusted operative mortality for CABG (NQF #0119) • Primary PCI received within 90 of hospital arrival (NQF #0163) • In-hospital Risk Adjusted Rate of Bleeding Events for Patients Undergoing PCI (NQF# 2459) • Potentially Avoidable Complications Measures
Clinical Processes	• Chronic Stable CAD: ACE inhibitor or ARB therapy (NQF# 0066) • Chronic Stable CAD: Antiplatelet therapy (NQF# 0067) or beta blocker therapy (NQF# 0070) • Tobacco Use: Screening and Cessation Intervention (NQF# 0028)

Measure	Examples
	• Therapy with aspirin, P2Y12 inhibitor and statin at discharge following PCI (NQF# 0964)
Care Transition Coordination	• Post discharge appointment for heart failure patients (NQF #2439)
Patient-Reported Outcomes	• CAHPS Clinician and Group Survey • CAHPS Surgical Care Survey • Gains in patient activation scores from 6-12 months (Patient Activation Measure) (NQF# 2483)
Appropriate Use	• Cardiac Stress Imaging Not Meeting Appropriate Use Criteria: Routine testing after PCI (NQF# 0671)
Functional Status	• Seattle Angina Questionnaire • The Continuity Assessment Record and Evaluation (CARE) tool (measures health and functional status upon hospital discharge, changes in severity, and other outcomes)
Measure Concepts for Development	• Mental health status following cardiovascular events • Symptom management measures • Measures of use of cardiac rehabilitation • Follow-up visit after hospitalization by PCP

The goal of episode payment is to achieve improved outcomes for patient. As a result, it is imperative for the CAD episode model to include clinical outcome measures for the purpose of accountability and in order to track whether the care delivered is or is not achieving the goal. However, unlike the LAN recommendations on episode payment for maternity care and elective joint replacement, the Work Group does recommend the inclusion of some clinical process measures for CAD, due to the link that certain process measures have to patient outcomes, and/or their correlation to meaningful care transition efforts.

Quality Scorecard: Incorporating performance on metrics into scorecards for ensuring high-quality care delivery, informing the decisions of the patient, family caregivers, and providers, and using the scorecard to determine payment levels are core features of any episode payment initiative. This information will be critical for engaging patients in decisions related to choice of provider and setting and types of care delivery. Below, we describe in more detail the potential measures that could be used and the manner they would be used, both in a scorecard and for information purposes for patients and other stakeholders.

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. However, the decision on where those thresholds are set or how they are used should be left to the payer and provider to negotiate. Some initiatives vary the level of shared savings based on performance metrics, while others also use minimum performance levels as a threshold for receiving any portion of the savings. In a prospectively paid initiative, it may be useful to withhold some portion of the prospective payment and base its payment or level of payment on the reporting of and performance on the quality scorecard.

A rich source of measure data for developing a quality scorecard exists within cardiac care-related registries, such as the Society of Thoracic Surgeons' (STS) National Database. The STS registry was established in 1989 as an initiative of cardiothoracic surgeons seeking to improve the safety and outcomes of care. The registry affords cardiothoracic surgeons across the nation a standardized format for collecting a set of data elements required to systematically measure and compare surgical outcomes. The system employs robust risk adjustment and benchmarks that both enable comparison across providers and over time, and that form the basis for sharing best practices and motivating continuous quality improvement. Moreover, since 2010, the STS has facilitated the public reporting of results of surgical quality and outcomes for procedures such as CABG and aortic valve replacement (AVR), among others. The work of the STS and others within the National Quality Registry Network (NQRN) could be a major contribution to the potential for incorporating clinically rich outcome measures for priority conditions and procedures into CEP models.

Quality Information to Communicate and Engage with Patients: In addition to using information on quality to determine payment, it is important to many stakeholders to have access to data on quality. As discussed under Recommendation 5, Patient Engagement, patients need quality data on the performance of different providers—primary care, cardiology, surgeons, and intensivists—to inform their choices. Patients also need information about the different facilities in which their procedures may take place.

One example of public reporting of cardiac surgery performance at both the hospital and the surgeon level is the STS Public Reporting Initiative. Though the STS' initial efforts focused on CABG performance, it has also added quality data on Aortic Valve Replacement (AVR) surgery. The STS uses a composite CABG score that includes 11 different components of clinical care, which include both mortality and morbidity rates and adherence to NQF-endorsed quality measures. Its star-rating system is designed to allow patients to view a provider's performance against the average performance of all STS database participants.

Employers, purchasers, and payers also need these data both to develop provider networks and to help employees make these choices. Employees need to understand the bundle and what their role is in providing high-quality care.

Finally, episode payment design must build in the capacity to collect, analyze, and provide data; and to support CAD patients and consumers in identifying and interpreting this information. The use of patient navigators—for whom some existing initiatives have substituted community health workers—can be helpful in providing this support. First, however, the information itself must be available. It is important, therefore, to establish cross-cutting efforts to define metrics and systems for data collection and analysis. It is a significant burden, however, for each initiative to define its own metrics, collection system, and scorecard. 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 Chapter 6, Operational Considerations. To read the LAN White Paper on Performance Measurement, click here.